INTAKE PROJECT 2020: TOXICITY AND BIOASSAY ANALYSIS OF ARTIFICIAL TURF AND RUBBER CRUMB

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ACRONYMS AND ABBREVIATIONS

°C:	Degrees Celsius
ASTM:	American Society of Testing and Materials
DL:	Detection Limit
EC_{50}:	Effective Concentration that results in a 50% reduction in a sub-lethal endpoint
g:	Grams
LC_{50}:	Lethal Concentration that results in a 50% reduction in survival
L:	Liter
µm:	Micrometer
mg:	Milligram
mg/L:	Milligrams per liter
MIG:	Mean Individual Growth
mL:	Milliliter
mm:	Millimeter
NOEC:	No Observed Effect Concentration
PAHs:	Polycyclic Aromatic Hydrocarbons
RL:	Reporting Limit
SD:	Standard Deviation
SVOC:	Semivolatile Organic Compound
TCLP:	Toxicity Characteristic Leaching Procedure
UIA:	Un-ionized ammonia
USEPA:	United States Environmental Protection Agency
WA:	Washington State
WAC:	Washington Administrative Code
WDOE:	Washington (State) Department of Ecology

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1. INTRODUCTION

EcoAnalysts conducted biological toxicity testing with artificial turf and rubber crumb samples collected at Electron Hydro's facility along the Puyallup River in Pierce County, WA as part of an investigative study following in-river use of turf. Samples were evaluated for biological effects following guidance provided by the United States Environmental Protection Agency (USEPA), American Society of Testing and Materials (ASTM) International, and Washington State Department of Ecology (WDOE) while chemical analysis was conducted following EPA methods and guidance. This report presents and synthesizes the results of the bioassay testing and chemistry performed for the investigation.

2. METHODS

All chemistry was performed by an accredited analytical lab (Analytical Resources Incorporated in Tukwila, WA). All other analyses were conducted by EcoAnalysts' WDOE-accredited ecotoxicology laboratory in Port Gamble, WA. Bioassay test methods followed guidance provided by the USEPA, ASTM International, and WDOE, detailed in Table 2-1. Three tests were selected by the USEPA for the investigation as being the most relevant: a 10-day survival and growth test with the freshwater amphipod *Hyalella azteca*, a 96-hr survival elutriate suspended particulate phase test with *H. azteca*, and a 96-hr survival dangerous waste test with juvenile rainbow trout (*Oncorhynchus mykiss*).

2.1 Sample Collection

All samples were collected by EcoAnalysts staff. Artificial turf samples were collected from two locations: the "source pile" where artificial turf was stored prior to in-river deployment and the "recovered pile" located at the Electron Hydro office where the turf deployed in the river was stored after recovery. Representative turf samples were randomly collected from the top, middle, and bottom of the turf rolls or piles and cut into approximately 3x3 cm pieces (Figure 2-1). These were then composited to form two sample composites: SC-PT-Comp (Source Pile Turf Composite) and RP-PT-Comp (Recovered Pile Turf Composite). Rubber crumb was removed from SC-PT-Comp and tested separately as SC-RC-Comp (Source Pile Rubber Crumb Composite). Turf samples recovered from in-river deployment were void of any rubber crumb. As such, crumb was also analyzed from turf that had been deployed in the river, but remained under cover prior to recovery, and which was subsequently stored at the intake and forebay locations of the Electron Hydro facility. This recovered crumb did not have a "top, middle, and bottom", therefore samples were randomly collected from various sections to form the representative sample composite, RP-RC-Comp (Recovered Pile Rubber Crumb Composite). Additionally, two sediment samples were collected upstream and downstream of the in-river turf location (the "intake") for chemical analysis and a quantitative analysis of potential crumb granules within the downstream sediment; bioassay testing was not performed on these samples.

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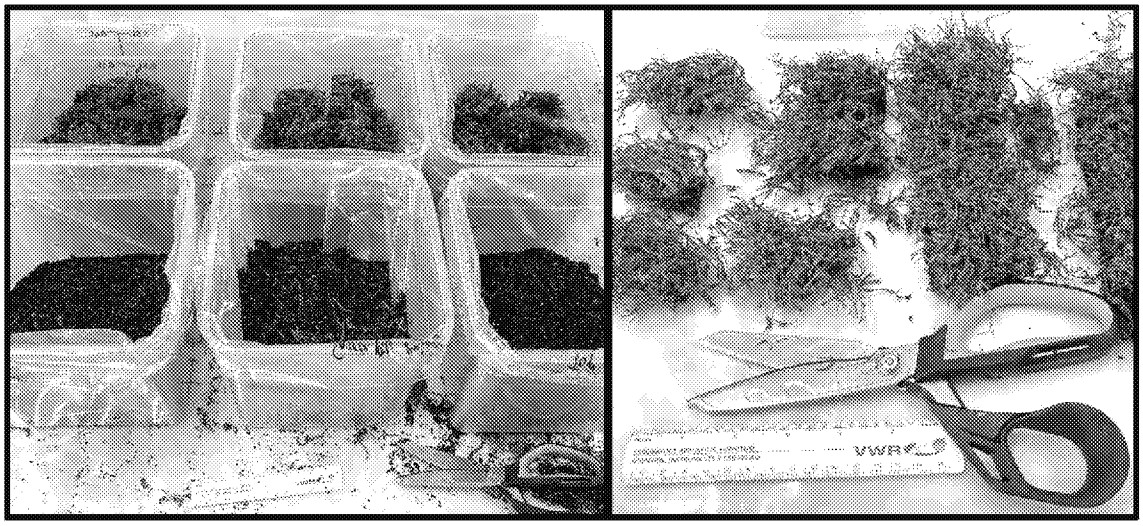

Figure 2-1. Source Pile Plastic Turf and Rubber Crumb Prior to Compositing (Left) and Plastic Turf 3x3 cm Pieces (Right)

Samples were collected on December 31st, 2020 and received at EcoAnalysts on January 1st, 2021. An overview of the samples collected, the compositing scheme, and methods followed for each is presented in Table 2-1 and Table 2-2. Samples were stored in a walk-in cold room at 4 ± 2°C in the dark. All tests were conducted within the eight-week holding time.

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Table 2-1. Comprehensive Sample and Testing Plan

Sample Source	Sample Location	Sample Medium	Sample Name	Composite Name	Analysis Required	Method[1]
Original Source Pile	Top	Rubber Crumb (Collected from Associated Turf Sample)	Turf – Source Pile (Top)-RC	SC-RC-Comp	metal, mercury, PAH	Standard Methods
					TCLP	SW 846 Method 1311
	Middle		Turf – Source Pile (Mid)-RC		Hyalella 96hr Survival	ASTM Method 1391-03 (2014), EPA-821-R-02-012 (2002)
					Hyalella 10d Survival & Growth	ASTM Method E1706-20
	Bottom		Turf – Source Pile (Bott)-RC		Rainbow Trout Dangerous Waste 80-12	WDOE 80-12 Revised September 2020, Publication no. 80-12
Original Source Pile	Top	Plastic Turf (Rubber Crumb Removed)	Turf – Source Pile (Top)	SC-PT-Comp	metal, mercury, PAH	Standard Methods
					TCLP	SW 846 Method 1311
	Middle		Turf – Source Pile (Mid)		Hyalella 96hr Survival	ASTM Method 1391-03 (2014), EPA-821-R-02-012 (2002)
					Hyalella 10d Survival & Growth	ASTM Method E1706-20
	Bottom		Turf – Source Pile (Bott)		Rainbow Trout Dangerous Waste 80-12	WDOE 80-12 Revised September 2020, Publication no. 80-12

[1] See ARI report in Appendix for chemical analysis methods

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Table 2-2. Comprehensive Sample and Testing Plan (cont.)

Sample Source	Sample Location	Sample Medium	Sample Name	Composite Name	Analysis Required	Method[1]
Recovered from River Piles[2]	Intake area[3]	Rubber Crumb	Granules - Intake Field Composite[4]	RP-RC-Comp	metal, mercury, PAH	Standard Methods
					TCLP	SW 846 Method 1311
	Forebay area[3]		Granules - Forebay Field Composite[4]		Hyalella 96hr Survival	ASTM Method 1391-03 (2014), EPA-821-R-02-012 (2002)
					Hyalella 10d Survival & Growth	ASTM Method E1706-20
					Rainbow Trout Dangerous Waste 80-12	WDOE 80-12 Revised September 2020, Publication no. 80-12
Recovered from River Pile	Electron Hydro Office[3]	Plastic Turf	Turf - Recovered Pile Field Composite[4]	RP-PT-Comp	metal, mercury, PAH	Standard Methods
					TCLP	SW 846 Method 1311
					Hyalella 96hr Survival	ASTM Method 1391-03 (2014), EPA-821-R-02-012 (2002)
					Hyalella 10d Survival & Growth	ASTM Method E1706-20
					Rainbow Trout Dangerous Waste 80-12	WDOE 80-12 Revised September 2020, Publication no. 80-12
River	Upstream	Sediment	Sediment - Upstream	NA	Metals, mercury, PAH, rubber crumb count	Standard Methods
	Downstream	Sediment	Sediment - Downstream	NA	Metals, mercury, PAH, rubber crumb count	Standard Methods

[1] See ARI report in Appendix for chemical analysis methods

[2] The artificial turf recovered from the river and stored at the Electron Hydro office location was void of rubber crumb. To facilitate analysis, crumb was analyzed from turf that was deployed in the river, but remained under cover, prior to recovery, and subsequently stored at the intake and forebay locations.

[3] The material that was recovered from the river is not stored in such a way as to have a top, middle, and bottom. Samples were randomly selected from various sections to provide a representative sample.

[4] Representative samples were collected and composited in the field during sample collection.

2.2 Chemistry and Sediment Rubber Crumb Count

Chemical analysis was conducted on all samples to measure total metals, mercury, and semivolatile organic compounds or SVOCs (which includes polycyclic aromatic hydrocarbons or PAHs). In addition, samples underwent chemical analysis using the toxicity characteristic leaching procedure (TCLP), which simulates the leaching process and mobility of organic and inorganic analytes through landfills. TCLP measurements were compared to EPA-mandated regulatory levels. SVOCs (including PAHs) were analyzed following EPA method 8270E while metals were analyzed following EPA method 6010C. Mercury analysis was conducted under EPA method 7470A and 7471B. The TCLP method followed was SW-846 Test Method 1311.

A representative sediment sample was collected both upstream and downstream from the in-river turf location (called the "intake"). These two samples underwent chemical analysis of total metals, mercury, and SVOCs. The sediment samples were also inspected for the presence of rubber crumb particles. This process was performed by examining aliquots of sediment distributed in a petri dish using a dissection microscope at approximately 7X magnification. A total of 50mL of sample sediment was examined and any particles that were of similar size and shape to the rubber crumb granules seen in the source material were removed and counted.

2.3 10-day Amphipod Survival and Growth Bioassay

The 10-day amphipod survival and growth test was conducted with *Hyalella azteca*. The organisms were supplied by Aquatic BioSystems in Fort Collins, CO and were held in reconstituted freshwater. They were acclimated to then held at 23 ± 2°C prior to test initiation.

The amphipod bioassay was conducted as a 10-day static-renewal exposure with eight replicates for each test treatment and control. The control treatment was silica sand that was thoroughly rinsed with deionized water and amended with approximately 2 mL of hydrated peat moss (<500µm). Approximately 100 mL of sample were placed into each 300-mL glass chamber with 175 mL of reconstituted freshwater of hardness measuring 120 – 140 mg/L $CaCO_3$ (Figure 2-2).

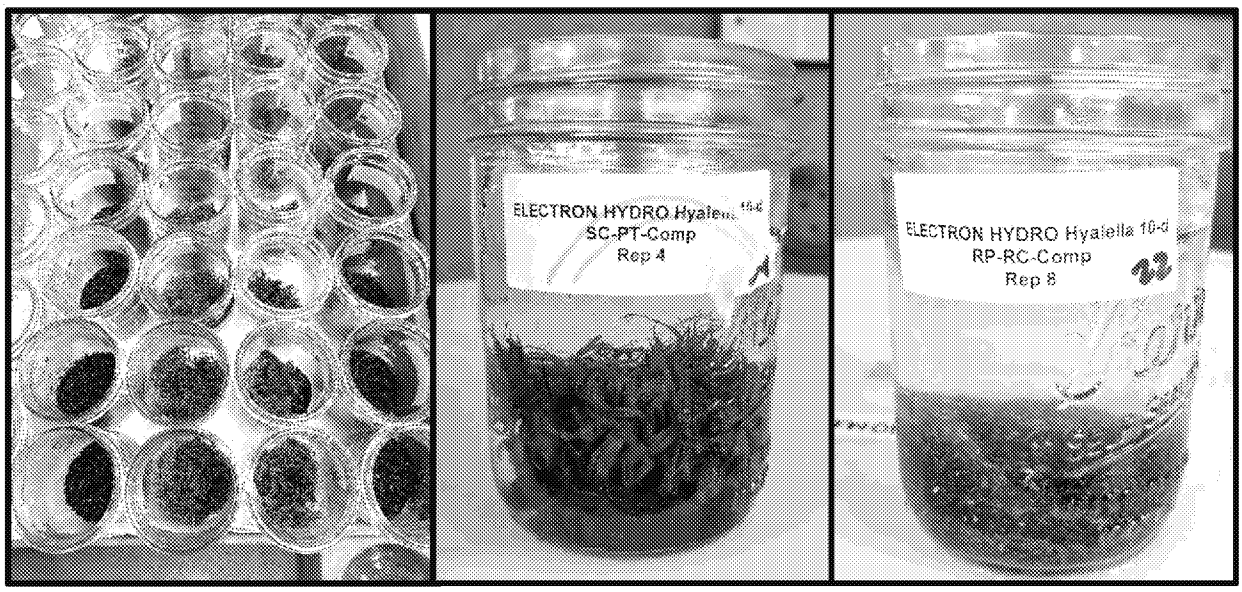

Figure 2-2. 10-day Amphipod Survival and Growth Chambers

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An additional surrogate chamber for each treatment was set up for water quality measurements on days 0-10 to limit the impact of disturbance on the test organisms. Test chambers were placed into randomly assigned positions and allowed to equilibrate to test conditions overnight. The test chambers were outfitted with an automated water delivery system to facilitate twice daily water renewals (Figure 2-3). Each test chamber was fed daily a mix of ground TetraMin™ and YCT (a mixture of yeast, wheat grass, and trout chow), with weekly incremental increases in the ground solids.

Figure 2-3. 10-day Amphipod Survival and Growth Bioassay Setup

Water quality measurements were conducted daily and included dissolved oxygen, temperature, conductivity, and pH. Overlying water hardness, alkalinity, and ammonia were measured on Day 0 and 10. All water quality instruments were calibrated daily or on their recommended schedule. Records of instrument calibration were retained in the laboratory logs.

To initiate the test, 10 organisms (aged 7-days old) were randomly allocated to each of the test chambers. Eighty organisms (4 replicates of 20) were set aside for initial dry weight measurements to compare to final control weights for the growth endpoint.

At test termination, sample from each test chamber was sieved through a 0.5-mm screen to recover all organisms. The organisms and any retained material not passing through the sieve were transferred to a glass sorting tray and the number of surviving and dead amphipods was enumerated. Surviving amphipods from each replicate were rinsed with deionized water and placed in pre-weighed aluminum boats and dried at 60 °C for 24 hours (or 100 °C for 6+ hrs) to determine dry weights. Dry weight per replicate was used to determine the biomass. The dry weight was divided by the number of survivors to determine individual growth per replicate. The replicates were then averaged to derive the mean individual growth (MIG). Test acceptability criteria were ≥ 85% mean control survival and a MIG of at least 2.5x the initial weight (or ≥ 0.050 mg/ind if the initial weight is < 0.020 mg/ind).

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2.4 96-hr Amphipod Survival Elutriate Bioassay

The 96-hr survival elutriate test was conducted with *H. azteca*. Test organisms were obtained from Aquatic Indicators in St. Augustine, FL and held in reconstituted freshwater at 20 ± 1°C. This test was performed on elutriate samples prepared using a 4:1 dilution by volume of freshwater to sample material. The water used for elutriate preparation was reconstituted freshwater of moderate hardness (80 – 100 mg/L $CaCO_3$). Sample material from the project composites was combined with reconstituted freshwater and vigorously agitated with a tabletop rotary mixer for one hour. Following one hour of settling, the supernatant was gently decanted and screened through a 0.5mm screen to prevent inclusion of large particulates such as rubber crumb granules and plastic grass threads. This supernatant represents the 100% test concentration (Figure 2-4). Subsequent test dilutions (50 and 10%) were created by mixing freshwater with the 100% supernatant for the water-column test.

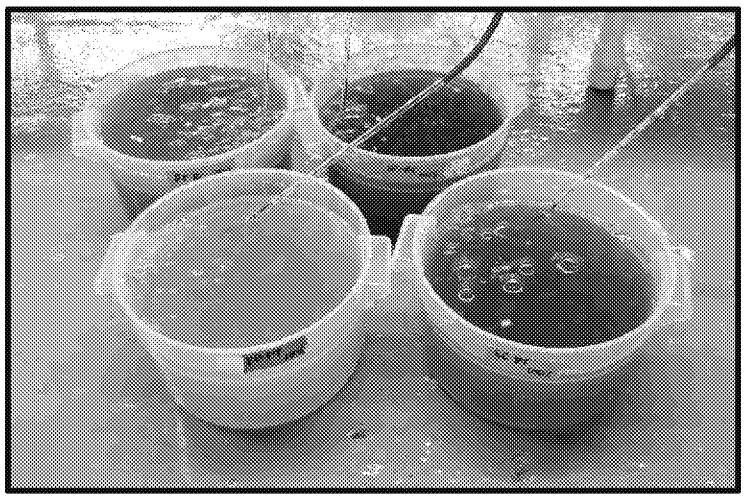

Figure 2-4. 100% Elutriate Concentrations for the 96-hr Amphipod Survival Bioassay

The test was performed under static conditions with one renewal occurring at 48-hrs (Figure 2-5). Ten animals (10 days old) were placed in each replicate with four replicates per elutriate treatment as well as a surrogate chamber for water quality measurements. The control treatment consisted of reconstituted freshwater only. A piece of 0.25mm nylon screen was placed in the bottom of each chamber to provide substrate for the test organisms. Once initiated, test organisms were fed at 48-hrs (2-hrs prior to renewal) with a mixture of YCT and TetraMin™. Daily water quality monitoring of test chambers was carried out for pH, dissolved oxygen, conductivity, and temperature. Chlorine, hardness, and alkalinity measurements were conducted in the control and highest concentrations per treatment prior to test initiation. In addition, chlorine was measured at 48-hrs and at test termination. All water quality instruments were calibrated daily or on their recommended schedule. Records of instrument calibration were retained in the laboratory logs.

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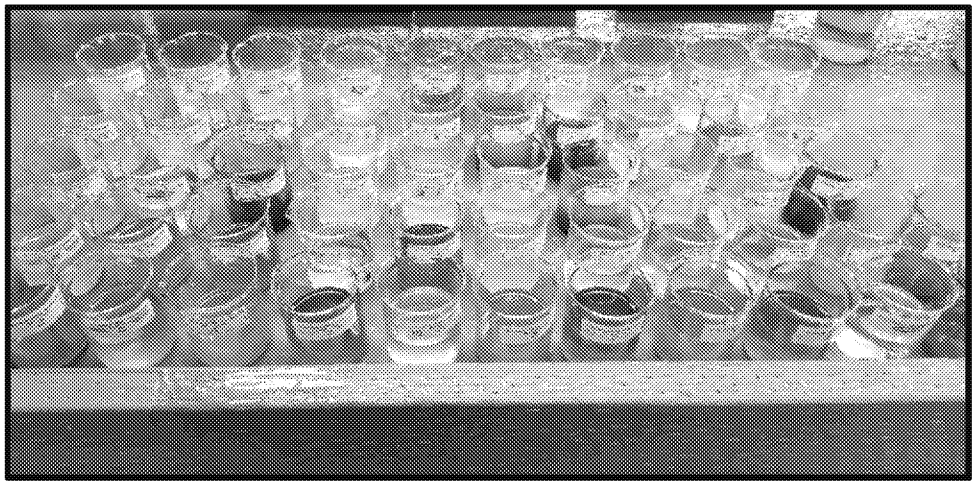

Figure 2-5. 96-hr Amphipod Survival Elutriate Bioassay Setup

The test was terminated at 96 hours when final survival and mortality counts were obtained. Due to turbidity in the samples, all organisms were screened from each chamber to ensure accurate counts were conducted. The test control acceptability criterion was ≥ 90% survival.

2.5 96-hr Rainbow Trout Survival Dangerous Waste Bioassay

The 96-hr survival dangerous waste bioassay was conducted with 36-day old rainbow trout, *O. mykiss*. Organisms were obtained from Thomas Fish in Anderson, CA and were held in carbon-filtered tap water at 12 ± 2°C prior to test initiation. Fish were fed trout chow during the holding period ad libitum but feeding was ceased within 48-hrs of testing.

The dangerous waste bioassay was conducted as a static exposure with three replicates for each test treatment and control. Prior to test initiation, a subsample was weighed from each sample composite and placed into certified pre-cleaned glass jars with dilution water consisting of carbon-filtered tap water (Figure 2-6). Once capped (PFTE with Teflon liners), jars were mechanically mixed for 18-hrs at 23 ± 2°C and rinsed into 7.5 L test chambers to create final test concentrations measuring 10 and 100 mg/L.

Figure 2-6. Sample Mixing Jars for 96-hr Rainbow Trout Survival Dangerous Waste Bioassay

Total volume per test chamber was 6 L. The mixing jars and their cap liners were placed into test chambers. The control treatment was similarly treated but with the absence of any test sample (carbon-

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filtered tap water only and a blank jar). Test chambers were randomized, and ten organisms were placed into each (Figure 2-7).

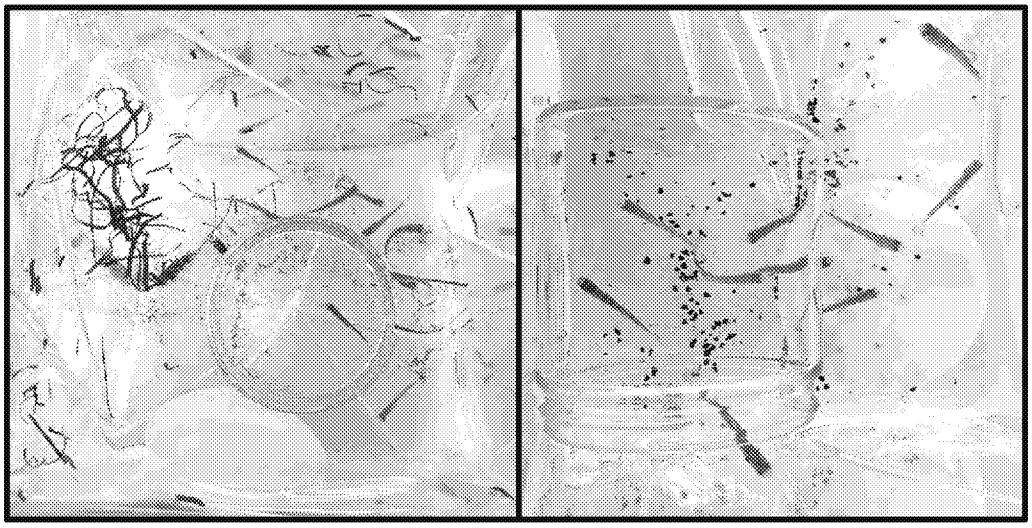

Figure 2-7. Test Chambers for 96-hr Rainbow Trout Survival Dangerous Waste Bioassay

Water quality measurements were taken daily in an alternating replicate for each test treatment and included dissolved oxygen, temperature, conductivity, and pH. Hardness and alkalinity was measured in each treatment on Day 0. All water quality instruments were calibrated daily or on their recommended schedule. Records of instrument calibration were retained in the laboratory logs.

The test was terminated at 96-hrs and final survival counts were obtained. Organisms from one control replicate were blotted dry to obtain wet weight and standard length measurements. The test control acceptability criterion was ≥ 90% survival.

2.1 Water for Bioassay Testing

Freshwater diluent used for the 96-hr elutriate test with *H. azteca* was prepared using the EPA method for standard, synthetic moderately hard, reconstituted water, using the reagent grade chemicals (USEPA 2002). Water for the 10-day *H. azteca* test was also synthetic, reconstituted water, but the preparation followed a method found in Environment Canada (2017). Carbon-filtered tap water was used as the freshwater diluent for the dangerous waste test with *O. mykiss*. Extensive testing on a variety of test species has shown that there is no significant potential for toxicity or bioaccumulation of contaminants from these water supplies. Chemical analysis of the water source is conducted and reviewed on an annual basis.

2.2 Bioassay Data Analysis and QA/QC

All water quality and endpoint data were entered into Excel spreadsheets or by hand onto bench datasheets. Water quality parameters were summarized by calculating the mean, minimum, and maximum values for each test treatment. Endpoint data were calculated for each replicate and the mean values and standard deviations were determined for each test treatment.

All hand-entered data was reviewed for data entry errors, which were corrected prior to summary calculations. A minimum of 10% of all calculations and data sorting were reviewed for errors. Review counts were conducted on any apparent outliers.

For the 10-day *H. azteca* test, statistical comparisons were made using BioStat software. All data were tested for normality using the Shapiro-Wilk test and equality of variance using Levene's test. Data reported as percent mortality or survival were transformed using an arcsine square root transformation

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prior to statistical analysis. Growth data with unequal variance were log10 transformed prior to statistical analysis. Determinations of statistical significance were based on one-tailed Student's t-tests with an alpha of 0.05. For samples failing to meet assumptions of normality, a Mann-Whitney test was conducted to determine significance. For those samples failing to meet the assumptions of normality and equality of variance, a t-test on rankits was used.

To evaluate the relative sensitivity of the organisms, reference toxicity tests were performed using standard reference toxicants (Lee 1980). A water-only reference-toxicant test was conducted concurrently with the *H. azteca* tests using copper chloride while a water-only reference toxicant test was performed concurrently with the *O. mykiss* test using sodium dodecyl sulfate. The reference-toxicant tests were used to ensure animals used in the test were healthy and of similar sensitivity to prior test batches.

Statistical analyses of all dose-response tests were performed using CETIS Comprehensive Toxicity Data Analysis and Database Software version 1.9.4.3. Comparisons between the lab control and each test concentration were performed following recommended USEPA decision matrices (USEPA 2002).

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3. BIOASSAY RESULTS

The results of the biological testing, including a summary of test results and water quality observations, are presented in this section. All data, laboratory bench sheets, and statistical analyses are provided in Appendix A while chain of custody forms and pre-test documents are supplied in Appendix B.

3.1 10-day Amphipod Survival and Growth Bioassay

The 10-day survival and growth bioassay test with *H. Azteca* was validated with 96% survival in the control, which met the performance criterion of ≥ 85% survival and indicated that the test conditions were suitable for adequate amphipod survival. Mean survival in the Source Pile samples was 0-3% and was 76-94% in the Recovered Pile samples.

Mean control individual growth upon test termination measured 0.092 mg/ind while initial weight was 0.078 mg/indiv, indicating the control failed to meet the growth criterion of ≥ 2.5x initial weight. However, mean individual growth in the Recovered Pile samples was 0.110-0.131 mg/ind and outperformed the control treatment. Biomass was also higher in the Recovered Pile samples, with values of 1.00-1.02 mg vs. 0.89 mg in the control. Biomass and growth in the SC-PT-Comp sample were 0.01 mg and 0.04 mg/ind (one replicate of SC-PT-Comp only due to 0% survival in the other replicates); the growth endpoints could not be calculated in SC-RC-Comp due to 0% survival. All endpoint results are summarized in Table 3-1.

Water quality parameters were within the acceptable limits throughout the duration of the test, with the exception of minor temperature deviations on Day 1 when temperature in one of the treatments had fallen below the recommended range of 23 ± 1°C (Table 3-2). Upon discovery, the temperature of the water bath heating unit for the test was increased and remained within range for the remaining 9 days. This deviation in temperature was still within the 23 ± 3°C instantaneous temperature limit and within tolerance of the species and was not expected to have significantly affected the test results. No significant change in water hardness and alkalinity was measured in any of the test samples over the test duration (Table 3-3).

Ammonia concentrations observed in the test were minimal or immeasurable, indicating ammonia should not have been a contributor to any adverse biological effects observed in the test treatments (Table 3-4)

A reference-toxicant test (positive control) was performed on the batch of test organisms utilized for this study. The reference-toxicant test control met the test acceptability criterion and the LC_{50} value was within control chart limits (±2 standard deviations from the laboratory historical mean). This indicates that the test organisms used in this study were of similar sensitivity to those previously tested. A summary of all test conditions is provided in Table 3-5.

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Table 3-1. Test Results for 10-day Survival and Growth Test with *Hyalella azteca*

Treatment	Replicate	Number Initiated	Number Surviving	Survival (%)	Mean Survival (%) *	SD	Biomass per Replicate (mg)	Mean Biomass (mg)*	SD	Dry Weight per Indv. (mg)	Mean Indv. Growth (mg/ind) *	SD
Control	1	10	10	100	96	5.2	0.68	0.89	0.25	0.07	0.092	0.024
	2	10	9	90			0.60			0.07		
	3	10	10	100			1.15			0.12		
	4	10	9	90			0.57			0.06		
	5	10	10	100			1.22			0.12		
	6	10	9	90			1.07			0.12		
	7	10	10	100			0.92			0.09		
	8	10	10	100			0.89			0.09		
Source Pile: Plastic Turf (SC-PT-Comp)	1	10	0	0	3 *	7.1	0	0.01*	0.03	--	0.040 [1]	NA
	2	10	2	20			0.08			0.04		
	3	10	0	0			0			--		
	4	10	0	0			0			--		
	5	10	0	0			0			--		
	6	10	0	0			0			--		
	7	10	0	0			0			--		
	8	10	0	0			0			--		
Source Pile: Rubber Crumb (SC-RC-Comp)	1	10	0	0	0 *	0.0	0	0*	NA	--	NA	NA
	2	10	0	0			0			--		
	3	10	0	0			0			--		
	4	10	0	0			0			--		
	5	10	0	0			0			--		
	6	10	0	0			0			--		
	7	10	0	0			0			--		
	8	10	0	0			0			--		

* Statistically less than the control treatment ($\alpha = 0.05$)

[1] Unable to calculate statistical significance due to low replication

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Table 3-1. Test Results for 10-day Survival and Growth Test with Hyalella azteca (cont.)

Treatment	Replicate	Number Initiated	Number Surviving	Survival (%)	Mean Survival (%) *	SD	Biomass per Replicate (mg)	Mean Biomass (mg)*	SD	Dry Weight per Indv. (mg)	Mean Indv. Growth (mg/indv) *	SD
Recovered Pile: Plastic Turf (RP-PT-Comp)	1	10	9	90	94	7.4	1.02	1.02	0.13	0.11	0.110	0.021
	2	10	10	100			1.03			0.10		
	3	10	9	90			0.93			0.10		
	4	10	10	100			1.04			0.10		
	5	10	10	100			1.13			0.11		
	6	10	9	90			0.90			0.10		
	7	10	8	80			1.26			0.16		
	8	10	10	100			0.84			0.08		
Recovered Pile: Rubber Crumb (RP-RC-Comp)	1	10	6	60	76 *	14.1	1.08	1.00	0.45	0.18	0.131	0.050
	2	10	9	90			0.92			0.10		
	3	10	9	90			0.91			0.10		
	4	10	8	80			0.94			0.12		
	5	10	6	60			0.65			0.11		
	6	10	9	90			2.03			0.23		
	7	10	8	80			0.59			0.07		
	8	10	6	60			0.86			0.14		

* Statistically less than the control treatment ($\alpha = 0.05$)

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ED_005624_00000029-00018

Table 3-2. Water Quality Summary for 10-day Survival and Growth Test with *Hyalella azteca*

Treatment	Dissolved Oxygen (mg/L) > 2.5 mg/L			Temperature (°C) 23 ± 1°C			Conductivity (µS/cm)			pH 7 - 9 units		
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Control	7.4	5.3	9.0	22.2	21.5	22.8	457	443	464	7.6	7.3	7.8
SP-PT-Comp	6.9	4.7	8.7	22.3	21.6	22.9	457	445	468	7.5	7.2	7.7
SP-RC-Comp	6.8	4.6	8.3	22.3	21.6	22.9	452	433	461	7.5	7.2	7.6
RP-PT-Comp	7.2	5.1	8.8	22.3	21.6	23.0	459	441	467	7.5	7.3	7.7
RP-RC-Comp	5.9	3.1	8.3	22.0	**21.3**	22.6	462	444	480	7.4	7.2	7.7

Bold value = measurement outside of recommended parameters

Table 3-3. Overlying Water Hardness and Alkalinity Summary for 10-day Survival and Growth Test with *Hyalella azteca*

Treatment	Hardness			Alkalinity		
	Day 0 (mg $CaCO_3$/L)	Day 10 (mg $CaCO_3$/L)	Variance (%)	Day 0 (mg $CaCO_3$/L)	Day 10 (mg $CaCO_3$/L)	Variance (%)
Control	124	129	3.9	50	52	3.8
SP-PT-Comp	126	136	7.4	51	53	3.8
SP-RC-Comp	117	133	12.0	48	52	7.7
RP-PT-Comp	125	134	6.7	48	53	9.4
RP-RC-Comp	123	135	8.9	44	54	18.5

Table 3-4. Overlying Water Ammonia Summary for 10-day Survival and Growth Test with *Hyalella azteca*

Treatment	Total Ammonia (mg/L Total)		Unionized Ammonia (mg/L)	
	Day 0	Day 10	Day 0	Day 10
Control	0.008	0.036	0.000	0.000
SP-PT-Comp	0.000	0.029	0.000	0.000
SP-RC-Comp	0.000	0.030	0.000	0.000
RP-PT-Comp	0.000	0.025	0.000	0.000
RP-RC-Comp	0.000	0.014	0.000	0.000

EH-USA002103
ED_005624_00000029-00019

Table 3-5. Test Condition Summary for 10-day Survival and Growth Test with *Hyalella azteca*

Test Conditions		
Date Sampled	December 31, 2020	
Date Received	January 1, 2021	
Test Dates	January 15 – 25, 2021	
Sample Storage Conditions	4°C, dark	
Days of Holding Recommended: ≤8 weeks (56 days)	15 Days	
Source of Control Sediment	Commercial silica sand with added peat moss	
Test Species	*Hyalella azteca*	
Supplier	Aquatic BioSystems in Fort Collins, CO	
Date Acquired	January 13, 2021	
Age Class	7 days old	
Test Procedures	ASTM Method E1706-20	
Test Location	EcoAnalysts Port Gamble Laboratory	
Test Type/Duration	10-Day static	
Control Water	Reconstituted Freshwater (Environment Canada 2017)	
Test Lighting	9 – 92 foot candles, 16-hr light / 8-hr dark	
Test Chamber	300 mL Glass Chamber	
Replicates per Treatment	8 + 2 surrogates (one used for WQ measurements throughout the test)	
Organisms per Replicate	10	
Exposure Volume	100 mL sample/ 175 mL water	
Feeding	Day 0-6: 1 mL YCT + 0.25 mg ground TetraMin Day 7-9: 1 mL YCT + 0.50 mg ground TetraMin	
Water Renewal	Twice daily	
Test Dissolved Oxygen	Recommended: > 2.5 mg/L	Observed: 3.1 – 9.0 mg/L
Test Temperature	Recommended: 23 ± 1°C	Observed: 21.3 – 23.0°C
Test Conductivity	Unspecified	Observed: 433 – 480 µS/cm
Test pH	Unspecified	Observed: 7.2 – 7.8
Control Performance Standard ASTM	Recommended: ≥ 85% survival	Observed: 96.3% survival; Pass
	Recommended: Final MIG ≥ 2.5x initial weight (or ≥ 0.050 mg/indiv if initial weight is < 0.020 mg/indiv)	Observed: Final: 0.092 mg/indiv Initial: 0.078 mg/indiv Fail
Reference Toxicant LC_{50} (copper)	LC_{50} = 115.3 µg/L	
Mean; Acceptable Range (copper)	307.7; 71.8 – 1317 µg/L	
Deviations from Test Protocol	Temperature, control growth	

EH-USA002104
ED_005624_00000029-00020

3.2 96-hr Amphipod Survival Elutriate Bioassay

The elutriate bioassay test with *H. azteca* was validated with 93% survival in the control, meeting the test survival acceptability criterion of ≥ 90% (EPA 2002). Mean survival in the Source Pile treatments was 0-63%; it was 88-95% in the Recovered Pile treatments. The LC_{50} for SC-PT-Comp was found to be 16.31%; it was 3.39% for SC-RC-Comp. Due to high survival, the LC_{50} for both Recovered Pile treatments was > 100%. A summary of the test results for all samples is shown in Table 3-6.

All water quality parameters were within the acceptable limits throughout the duration of the test (Table 3-7). Chlorine in the 100% elutriate concentrations ranged from 0.00-0.70 mg/L for the duration of testing. Day 0 hardness measured 84-102 mg CaCO3/L while alkalinity measured 60-66 mg CaCO3/L (Table 3-8).

A reference-toxicant test (positive control) was performed on the batch of test organisms utilized for this study. The reference-toxicant test met the test acceptability criteria. The EC_{50} value was near the upper threshold control chart limit, however, indicating this batch of test organisms may have been somewhat less sensitive than historical batches. A summary of all test conditions is presented in Table 3-9.

Table 3-6. Test Results for 96-hr Survival Elutriate Test with *Hyalella azteca*

Treatment	Concentration (%)	Rep	Number Initiated	Survivors	Mean Survival (%)	SD	Statistically Less Than Control?	LC_{50} Value[1] (%)
Control		1	10	10	93	9.6		
		2	10	10				
		3	10	8				
		4	10	9				
Source Pile: Plastic Turf (SC-PT-Comp)	10	1	10	6	63	25.0	Yes	16.31
		2	10	7				
		3	10	3				
		4	10	9				
	50	1	10	1	8	5.0	Yes	
		2	10	1				
		3	10	1				
		4	10	0				
	100	1	10	0	8	9.6	Yes	
		2	10	2				
		3	10	1				
		4	10	0				
Source Pile: Rubber Crumb (SC-RC-Comp)	10	1	10	3	18	9.6	Yes	3.39
		2	10	1				
		3	10	2				
		4	10	1				
	50	1	10	1	8	9.6	Yes	
		2	10	0				
		3	10	2				
		4	10	0				
	100	1	10	0	0	0.0	Yes	
		2	10	0				
		3	10	0				
		4	10	0				

[1]LC_{50} = Lethal Concentration that results in a 50% reduction in survival

EH-USA002105
ED_005624_00000029-00021

Table 3-6. Test Results for 96-hr Survival Elutriate Test with Hyalella azteca (cont.)

Treatment	Concentration (%)	Rep	Number Initiated	Survivors	Mean Survival (%)	SD	Statistically Less Than Control?	LC_{50} Value[1] (%)
Recovered Pile: Plastic Turf (RP-PT-Comp)	10	1	10	8	90	8.2	No	>100
		2	10	9				
		3	10	9				
		4	10	10				
	50	1	10	10	95	10.0	No	
		2	10	8				
		3	10	10				
		4	10	10				
	100	1	10	8	93	9.6	No	
		2	10	10				
		3	10	9				
		4	10	10				
Recovered Pile: Rubber Crumb (RP-RC-Comp)	10	1	10	9	88	12.6	No	>100
		2	10	10				
		3	10	9				
		4	10	7				
	50	1	10	10	93	9.6	No	
		2	10	10				
		3	10	8				
		4	10	9				
	100	1	10	9	93	5.0	No	
		2	10	10				
		3	10	9				
		4	10	9				

[1]LC_{50} = Lethal Concentration that results in a 50% reduction in survival

EH-USA002106
ED_005624_00000029-00022

Table 3-7. Water Quality Summary for 96-hr Survival Elutriate Test with *Hyalella azteca*

Treatment	Concen-tration (%)	Dissolved Oxygen (mg/L) ≥ 4.0 mg/L			Temperature (°C) 20 ± 1			Conductivity (µS/cm)			pH (units)		
		Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Control		8.3	6.7	9.3	19.7	19.1	20.1	334	324	340	8.0	7.6	8.4
SC-PT-Comp	10	8.5	7.4	9.1	19.6	19.2	19.9	346	320	378	8.0	7.6	8.3
	50	8.5	7.7	9.2	19.7	19.2	20.1	349	322	366	7.9	7.6	8.1
	100	8.4	7.6	9.2	19.7	19.3	20.1	340	324	352	7.9	7.6	8.0
SC-RC-Comp	10	8.6	7.8	9.2	19.7	19.2	20.2	339	320	356	7.9	7.6	8.1
	50	8.5	7.7	9.2	19.8	19.4	20.2	330	319	337	7.9	7.6	8.1
	100	8.0	5.8	9.2	19.9	19.6	20.0	328	316	341	7.7	7.5	7.9
RP-PT-Comp	10	8.5	7.7	9.1	19.7	19.3	20.2	332	322	339	7.7	7.5	7.9
	50	8.3	7.5	9.2	19.7	19.3	20.0	342	330	350	7.8	7.6	8.0
	100	7.5	5.8	9.2	19.7	19.3	20.0	355	339	369	7.8	7.6	8.0
RP-RC-Comp	10	8.0	6.3	9.3	19.6	19.0	20.0	329	321	333	7.8	7.6	8.3
	50	7.9	6.4	9.2	19.7	19.2	20.1	330	322	337	7.8	7.6	8.1
	100	7.8	6.0	9.1	19.7	19.5	20.0	332	321	341	7.8	7.6	8.1

Table 3-8. Chlorine, Hardness and Alkalinity Summary for 96-hr Survival Elutriate Test with *Hyalella azteca*

Treatment	Concentration (%)	Chlorine (mg/L)			Hardness (mg $CaCO_3$/L)	Alkalinity (mg $CaCO_3$/L)
		Day 0	Day 2	Day 4	Day 0	Day 0
Control		0.00	0.02	0.02	88	66
SC-PT-Comp	100	0.04	0.02	0.10	88	62
SC-RC-Comp	100	0.00	0.00	0.00	84	63
RP-PT-Comp	100	0.26	0.16	0.00	102	60
RP-RC-Comp	100	0.24	0.70	0.02	91	63

Table 3-9. Test Condition Summary for 96-hr Survival Elutriate Test with *Hyalella azteca*

Test Conditions		
Date Sampled	December 31, 2020	
Date Received	January 1, 2021	
Test Dates	February 1 – 5, 2021	
Sample Storage Conditions	4°C, dark	
Days of Holding Recommended: ≤8 weeks (56 days)	32 Days	
Test Species	*Hyalella azteca*	
Supplier	Aquatic Indicators in St. Augustine, FL	
Date Acquired	January 29, 2021	
Age Class	10 days old	
Test Procedures	ASTM Method 1391-03 (2014) EPA-821-R-02-012 (USEPA 2002)	
Test Location	EcoAnalysts Port Gamble Laboratory	
Test Type/Duration	96-hr static (renewal at 48-hr)	
Control Water	Reconstituted Moderately-Hard Freshwater (USEPA 2002)	
Test Lighting	50 – 100 foot candles; 16-hr light / 8-hr dark	
Test Chamber	400 mL Glass Beaker	
Replicates per Treatment	4 + 1 surrogate (surrogate used for WQ measurements throughout the test)	
Organisms per Replicate	10	
Exposure Volume	200 mL	
Feeding	2-hrs prior to test renewal at 48-hrs: 1 mL YCT + 0.25 mg TetraMin per chamber	
Water Renewal	Test solution renewal at 48-hrs	
Test Dissolved Oxygen	Recommended: ≥ 4.0 mg/L	Observed: 5.8 – 9.3 mg/L
Test Temperature	Recommended: 20 ± 1 °C	Observed: 19.0 – 20.2 °C
Test Conductivity	Unspecified	Observed: 316 – 378 µS/cm
Test pH	Unspecified	Observed: 7.5 – 8.4
Control Performance Standard	Recommended: ≥ 90% survival	Observed: 93%; Pass
Reference Toxicant LC_{50} (copper)	LC_{50} = 1320 µg/L	
Mean LC_{50}; Acceptable Range (copper)	302.5; 68.00 – 1346 µg/L	
Deviations from Test Protocol	None	

EH-USA002108
ED_005624_00000029-00024

3.3 96-hr Rainbow Trout Survival Dangerous Waste Bioassay

The dangerous waste test with *O. mykiss* was validated by 100% survival in the control, meeting the acceptability criterion of ≥ 90%. Survival in both concentrations of all four samples was 100% (Table 3-10). It was noted during the 96-hr exposure that test organisms were observed consuming the sample particles (plastic turf and/or rubber crumb); this did not impact survival during the test duration, however. The average fish wet weight for the test organisms employed in this bioassay was 0.403 g resulting in a biological loading of 0.7 g/L, which was within the suggested loading of less than 0.8 g fish per L of exposure volume (Table 3-11).

Water quality parameters were within recommended limits throughout the test with the exception of pH (Table 3-12). In the Control the pH ranged from 6.7 to 8.2, outside of the recommended range of 7.4-7.8 for the dilution water. The sample pH ranged from 6.7-8.1 and was within the pH of 6-9 that is an acceptable range for both project samples and organism tolerance. Despite this deviation, pH did not affect survival results. Water hardness in the test measured 88-102 mg $CaCO_3$/L while water alkalinity measured 90-99 mg $CaCO_3$/L (Table 3-13).

A reference-toxicant test (positive control) was performed on the batch of test organisms utilized for this study. The reference-toxicant test control met the test acceptability criterion and the EC_{50} value was within control chart limits (±2 standard deviations from the laboratory historical mean). This indicates that the test organisms used in this study were of similar sensitivity to those previously tested. A summary of all test conditions is provided in Table 3-14.

EH-USA002109
ED_005624_00000029-00025

Table 3-10. Test Results for 96-hr Survival Dangerous Waste Test with *Oncorhynchus mykiss*

Treatment	Concentration (mg/L)	Rep	Number Initiated	Survivors	Mean Survival (%)	SD
Control		1	10	10	100	0.0
		2	10	10		
		3	10	10		
Source Pile: Plastic Turf (SC-PT-Comp)	10	1	10	10	100	0.0
		2	10	10		
		3	10	10		
	100	1	10	10	100	0.0
		2	10	10		
		3	10	10		
Source Pile: Rubber Crumb (SC-RC-Comp)	10	1	10	10	100	0.0
		2	10	10		
		3	10	10		
	100	1	10	10	100	0.0
		2	10	10		
		3	10	10		
Recovered Pile: Plastic Turf (RP-PT-Comp)	10	1	10	10	100	0.0
		2	10	10		
		3	10	10		
	100	1	10	10	100	0.0
		2	10	10		
		3	10	10		
Recovered Pile: Rubber Crumb (RP-RC-Comp)	10	1	10	10	100	0.0
		2	10	10		
		3	10	10		
	100	1	10	10	100	0.0
		2	10	10		
		3	10	10		

Table 3-11. Control Rep 1 Organism Weight and Standard Length Summary for *Oncorhynchus mykiss*

Control Organism	Length (mm)	Mean Length (mm)	Weight (g)	Mean Weight (g)
1	33	32.2	0.421	0.403
2	34		0.454	
3	33		0.410	
4	30		0.348	
5	32		0.429	
6	34		0.465	
7	33		0.436	
8	32		0.372	
9	33		0.471	
10	28		0.228	

Table 3-12. Water Quality Summary for 96-hr Survival Dangerous Waste Test with *Oncorhynchus mykiss*

Treatment	Concen-tration (mg/L)	Dissolved Oxygen (mg/L) > 5.4 mg/L			Temperature (°C) 12 ± 2			Conductivity (µS/cm)			pH (units) 7.2 – 7.8		
		Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Control		8.9	8.0	10.6	12.5	12.1	13.1	208	195	215	7.4	**6.7**	**8.2**
SC-PT-Comp	10	8.8	8.1	10.4	12.6	12.2	13.0	209	200	215	7.3	6.7	7.7
	100	9.0	8.5	10.4	12.8	12.4	13.3	208	198	215	7.4	6.8	7.9
SC-RC-Comp	10	8.8	8.5	9.8	12.7	12.3	13.1	208	196	221	7.4	7.2	7.6
	100	8.8	8.0	10.4	12.8	12.1	13.5	208	195	216	7.5	7.2	7.8
RP-PT-Comp	10	9.0	8.4	10.2	12.7	12.2	13.0	207	195	215	7.7	7.4	8.0
	100	8.9	8.4	10.3	12.7	12.2	13.7	207	195	213	7.7	7.5	8.0
RP-RC-Comp	10	8.9	8.3	10.5	12.6	12.2	13.4	207	194	217	7.8	7.5	8.1
	100	8.9	8.0	10.6	12.4	12.0	13.1	209	197	217	7.8	7.5	8.1

Bold value = measurement outside of recommended parameters

EH-USA002111
ED_005624_00000029-00027

Table 3-13. Water Hardness and Alkalinity Summary for 96-hr Survival Dangerous Waste Test with *Oncorhynchus mykiss*

Treatment	Concentration (mg/L)	Hardness (mg $CaCO_3$/L)	Alkalinity (mg $CaCO_3$/L)
		Day 0	Day 0
Control		102	93
SC-PT-Comp	10	98	92
	100	90	93
SC-RC-Comp	10	92	90
	100	91	98
RP-PT-Comp	10	88	90
	100	88	94
RP-RC-Comp	10	90	99
	100	90	92

EH-USA002112
ED_005624_00000029-00028

Table 3-14. Test Condition Summary for 96-hr Survival Dangerous Waste Test with *Oncorhynchus mykiss*

Test Conditions		
Date Sampled	December 31, 2020	
Date Received	January 1, 2021	
Test Dates	January 22 – 26, 2021	
Sample Storage Conditions	4°C, dark	
Holding Time Recommended: < 8 weeks (56 days)	22 Days	
Test Species	*Oncorhynchus mykiss*	
Supplier	Thomas Fish in Anderson, CA	
Date Acquired	January 12, 2021	
Age Class	36 days old	
Test Procedures	WDOE 80-12 (Revised Sept. 2020), Publication No. 80-12	
Test Location	EcoAnalysts Port Gamble Laboratory	
Test Type/Duration	96 hour static test	
Control Water	Carbon-filtered Tap Water	
Test Lighting	50 – 100 foot candles (16 hr light: 8 hr dark)	
Test Chamber	7.5-Liter Tub	
Replicates per Treatment	3	
Exposure Volume	6 L	
Feeding	None	
Water Renewal	None	
Test Dissolved Oxygen	Recommended: > 5.4 mg/L	Observed: 8.0 – 10.6 mg/L
Test Temperature	Recommended: 12 ± 2 °C	Observed: 12.0 – 13.7 °C
Test Conductivity	Unspecified	Observed: 194 – 221 µS/cm
Test pH	Recommended: 7.2 – 7.8	Observed: 6.7 – 8.2
Control Performance Standard	Recommended: Survival ≥ 0.90	Observed: 100%; Pass
Reference Toxicant Endpoint	Sodium dodecyl sulfate	
Reference Toxicant EC_{50}	5.71 mg/L	
Mean; Acceptable Range	4.11; 12.74 – 6.18 mg/L	
Deviations from Test Protocol	Dilution water pH	

EH-USA002113
ED_005624_00000029-00029

4. CHEMISTRY RESULTS

The chemistry results are summarized in Appendix B and discussed in this section. A copy of the full analytical laboratory prepared chemistry report is provided in Appendix D.

4.1 Analytical Chemistry

Total SVOC solids were higher in the Source Pile treatments than the Recovered Pile treatments, measuring 13,812.2 and 97,551.3 ug/kg in SC-PT-Comp and SC-RC-Comp, respectively compared to 2,740.4 and 50,551.6 ug/kg in RP-PT-Comp and RP-RC-Comp, respectively. Of the solid SVOCs detected, the most abundant in all four composite treatments was Bis(2-ethylhexyl) Phthalate or "DEHP", measuring between 1,360 ug/kg (RP-PT-Comp) to 80,900 ug/kg (SC-RC-Comp). Chrysene and pyrene (solids) were usually the second and third most abundant solid SVOCs present. TCLP SVOCs were not detected in any of the four composite treatments.

Total metals (solids) were highest in sample SC-PT-Comp due to an abundance of barium measuring 200 mg/kg. Total metals in the other three composite treatments were measured at 17.6 mg/kg to 52.0 mg/kg. The most abundant TCLP metal in the composites was barium, which ranged from 0.0391 mg/L to 0.256 mg/L. TCLP mercury was not detected in any of the project samples.

The only solid SVOC analyte detected in the upstream and downstream sediment samples was DEHP (measuring 88.7 ug/kg in the Upstream sample) and Diethyl phthalate (measuring 29.8 ug/kg in the Downstream sample). TCLP SVOCs were not detected in either of the sediment samples. Total metals (solids) were 20.5 mg/kg and 36.5 mg/kg in the downstream and upstream samples, respectively. Barium was the only TCLP metal detected and measured 0.105 mg/L in the downstream sample and 0.114 mg/L upstream.

All samples were extracted and analyzed within the recommended hold times. Initial analysis of Bis(2-ethylhexyl) Phthalate (DEHP) in samples SC-PT-Comp, SC-RC-Comp, and RP-RC-Comp resulted in concentrations that exceeded the upper limit of the calibration range of the analytical equipment. These were flagged in the laboratory-provided report with an "E" qualifier and were re-run after dilution (100, 50, or 10x). Results obtained after the dilution are valid and presented in this report. Bis(2-ethylhexyl) Phthalate measured in sample SC-PT-Comp was flagged with a "Q" qualifier, indicating that even after dilution there were continuing calibrations that did not meet acceptance criteria. This is also true for Benzo(a)pyrene results detected in samples SC-RC-Comp and RP-RC-Comp.

Analytes that were non-detectable were flagged with "U" qualifiers. Analytes that were measured below the reporting limit (RL) but above the DL are estimates and are flagged with "J" qualifiers.

4.2 Rubber Crumb in Sediments: Quantitative Analysis

A quantitative analysis of potential rubber crumb granules within the upstream and downstream sediments was performed on 50-mL subsamples. These subsamples were analyzed under a dissecting microscope for any rubber crumb granules similar in size and shape of those collected in the composite samples. No evidence of rubber crumb granules was seen in either upstream or downstream subsample.

5. DISCUSSION

5.1 Bioassays

Overall, biological effects were seen with the Source Pile samples in both amphipod tests. The Source Pile Plastic Turf treatment (SC-PT-Comp) was found to be statistically less than the associated control for survival and biomass in the 10-day amphipod bioassay as well as survival in the 96-hr amphipod elutriate bioassay. The Source Pile Rubber Crumb treatment (SC-RC-Comp) was also found to be statistically less than the control in the 96-hr elutriate bioassay as well as the survival and biomass endpoints in the 10-day bioassay. Due to limited datapoints from low survival in the source pile treatments, the individual growth endpoint could not be calculated. The Recovered Pile Plastic Turf treatment (RP-PT-Comp) was not found to be statistically less than the associated control in any of the bioassays conducted. The Recovered Pile Rubber Crumb treatment (RP-RC-Comp) was found to be statistically less than the control for the survival endpoint in the 10-day amphipod bioassay but not for either growth endpoint; it was not statistically less than the control in the 96-hr elutriate test. All four treatments passed the 96-hr rainbow trout survival dangerous waste bioassay.

5.2 Chemistry

The most abundant solid SVOC measured during the chemistry analysis of the four treatment composites was Bis(2-ethylhexyl) Phthalate or DEHP, a common plasticizer added during production to create flexibility in rigid plastics. DEHP measurements were highest in the rubber crumb treatments at 42,900 µg/kg (Recovered Pile Rubber Crumb treatment) and 80,900 µg/kg (Source Pile Rubber Crumb treatment). Total metals (solids) were highest in the Source Pile Plastic Turf treatment due to an unusually high amount of barium of 200 mg/kg. In two of the four composite treatments lead was the most abundant metal in solids; the highest measurement was 35.8 mg/kg in the Recovered Pile Rubber Crumb treatment. The only solid SVOC measured in the sediment samples collected upstream and downstream of the original in-river turf location (the "intake") was Bis(2-ethylhexyl) Phthalate or DEHP in the upstream sample (measuring 88.7 µg/kg) and Diethyl phthalate in the downstream sample (measuring 29.8 µg/kg).

SVOCs analyzed via the TCLP method resulted in non-detects of all analytes measured for all treatments and were below TCLP regulatory levels provided by the USEPA (USEPA 1994) and WAC for material classified as dangerous waste (WAC 173-303-090) (Table 5-1). Most TCLP metals were not detected in the treatments; those that were, were far below regulatory levels (Table 5-2). Notably, TCLP mercury was not detected in any of the samples.

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Table 5-1. TCLP SVOCs Within Treatments Compared to Regulatory Levels

TCLP SVOC Analyte	Regulatory Level[1] (mg/L)	Measurement per Treatment (mg/L)					
		SC-PT-Comp	SC-RC-Comp	RP-PT-Comp	RP-RC-Comp	Sediment: Upstream	Sediment: Downstream
2-Methylphenol	200.0	ND	ND	ND	ND	ND	ND
Hexachloroethane	3.0	ND	ND	ND	ND	ND	ND
4-Methylphenol	200.0	ND	ND	ND	ND	ND	ND
Nitrobenzene	2.0	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	0.5	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	2.0	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	400.0	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.13	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	0.13	ND	ND	ND	ND	ND	ND
Pentachlorophenol	100.0	ND	ND	ND	ND	ND	ND
Pyridine	5.0	ND	ND	ND	ND	ND	ND

[1] USEPA 1994 and WAC 173-303-090

Table 5-2. TCLP Metals Within Treatments Compared to Regulatory Levels

TCLP Metal Analyte	Regulatory Level[1] (mg/L)	Measurement per Treatment (mg/L)					
		SC-PT-Comp	SC-RC-Comp	RP-PT-Comp	RP-RC-Comp	Sediment: Upstream	Sediment: Downstream
Arsenic	5.0	ND	ND	0.0339	ND	ND	ND
Barium	100.0	0.256	0.0391	0.128	0.0813	0.114	0.105
Cadmium	1.0	0.0069	ND	0.005	ND	ND	ND
Chromium	5.0	ND	ND	ND	ND	ND	ND
Lead	5.0	0.0442	0.0263	ND	ND	ND	ND
Selenium	1.0	ND	ND	ND	ND	ND	ND
Silver	5.0	ND	ND	ND	ND	ND	ND
Mercury	0.2	ND	ND	ND	ND	ND	ND

[1] USEPA 1994 and WAC 173-303-090

6. SUMMARY

A summary of the biological tests conducted on the samples is provided below (Table 6-1). Significant effects were seen in the Source Pile treatments of the plastic turf and rubber crumb for both amphipod bioassays. No effect was observed in any of the bioassays with the Recovered Pile Plastic Turf treatment. A significant effect to survival occurred with the Recovered Pile Rubber Crumb treatment in the 10-day amphipod bioassay, but no effect to growth was observed. Both Recovered Pile treatments did not instigate a survival effect in the 96-hr amphipod elutriate bioassay. A significant survival effect in the rainbow trout dangerous waste bioassay did not occur with any of the treatments.

All TCLP chemical analytes measured were either non-detects or below the regulatory levels in all four composite samples as well as the two sediments collected (upstream and downstream of the in-river turf "intake" location). No noticeable rubber crumb granules were found in the two sediment samples.

Table 6-1. Summary of Bioassay Evaluation

Treatment	Bioassay				
	10-day Amphipod Survival & Growth			96-hr Amphipod Survival Elutriate	96-hr Rainbow Trout Survival Dangerous Waste
	Survival (%)	Biomass per Replicate (mg)	Growth per Individual (mg/ind)	LC_{50} (%)	Survival (%)
Source Pile: Plastic Turf (SC-PT-Comp)	3*	0.01*	0.040*	16.31	100
Source Pile: Rubber Crumb (SC-RC-Comp)	0*	0*	N/A	3.39	100
Recovered Pile: Plastic Turf (RP-PT-Comp)	94	1.02	0.110	>100%	100
Recovered Pile: Rubber Crumb (RP-RC-Comp)	76*	1.00	0.131	>100%	100

* Endpoint statistically less than Control treatment

LC_{50} = Lethal Concentration that results in a 50% reduction in survival

EH-USA002117
ED_005624_00000029-00033

7. REFERENCES

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EH-USA002118

ED_005624_00000029-00034

APPENDIX A

Bioassay Test Data, Statistical Comparisons, and
Reference-Toxicant Test Results

ECO ANALYSTS, INC.

10 Day SP Test Pretest

CLIENT	PROJECT	PROJECT MANAGER	SPECIES
Electron Hydro	Intake Project 2020	M. Knowlen	*Hyalella azteca*

	Oven Event 1	Oven Event 2	Calculated Dry Weights
Date/Time/Initals In Oven:	1/14/21 1630 MK	1/15/2021 1515 NL	
Oven Temp °C:	100	100	
Date/Time/Initials Out Oven into Dessicator:	1/15/21 0845 MS	1/16/2021 0820 NL	
Date/Time/Initials Weighed:	1/15/21 1015 MS	1/25/21 0910 MS	

Rep/Boat #	Number Animals Weighed	Tare Wt. (mg)	Total Dry Wt. (mg)	Dry Weight per Replicate (mg)	Dry Weight per Individual (mg)	Mean Individual Dry Weight (mg)	SD	Comments
1	20	254.35	255.62	1.27	0.0635			
2	20	248.16	249.09	0.93	0.0465			
3	20	293.61	296.28	2.67	0.1335			
4	20	255.98	257.39	1.41	0.0705	0.078	0.04	

EcoAnalysts, Inc.

10 Day SP Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LOCATION	PROTOCOL
Electron Hydro	Intake Project 2020	*Hyalella azteca*	Port Gamble / Bath 9	ASTM E1706-20 ,
PROJECT MANAGER	**TEST TYPE/DURATION**	**PROJECT NUMBER**	**TEST START DATE**	**TEST END DATE**
M. Knowlen	10-Day Solid Phase	PG1495	January 15, 2021	January 25, 2021

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 2.5	TEMP (°C) 22 - 24	Conductivity (µS/cm)	pH 6 - 9	Hardness (mg $CaCO_3$/L)	Alkalinity (mg $CaCO_3$/L)	Water AM	Renewal PM	Feed Day 0-6: Daily 1.0 mL YCT + 0.25 mg TetraMin® Day 7-9: 1.0 mL YCT + 0.5 mg TetraMin®	Notes
Control	**0**	Surr	29	MS/NL	01/15/21	8	8.9	21.5	446.0	7.8	124.0	50.0	MK		MK	
Control	**1**	Surr	29	NL	01/16/21	8	9.0	21.6	454.0	7.8			Auto	Auto	NL	Increased bath temp a half of a degree. Temp will be measured in afternoon. NL/SH 1/16/2021 Bath heater was increased in temperature to compensate for the low temperatures of the chambers. NL/SH 1/16/2021
Control	**2**	Surr	29	NL	01/17/21	8	8.5	22.3	455.0	7.7			Auto	Auto	NL	
Control	**3**	Surr	29	MS	01/18/21	8	8.5	21.7	459.0	7.6			MS	Auto	MS	
Control	**4**	Surr	29	SH	01/19/21	8	8.3	22.7	461.0	7.7			AUTO	AUTO	SH	
Control	**5**	Surr	29	NL	01/20/21	8	7.9	22.8	462.0	7.6			Auto	Auto	NL	
Control	**6**	Surr	29	NL	01/21/21	9	6.2	22.7	454.0	7.5			Auto	Auto	NL	
Control	**7**	Surr	29	NL	01/22/21	8	6.5	21.9	462.0	7.5			Auto	Auto	NL	
Control	**8**	Surr	29	NL	01/23/21	8	6.1	22.6	464.0	7.5			Auto	Auto	NL	
Control	**9**	Surr	29	NL	01/24/21	8	5.3	22.7	463.0	7.6			Auto	Auto	NL	
Control	**10**	Surr	29	MS	01/25/21	8	6.6	21.8	443.0	7.3	129.0	52.0				

EcoANALYSTS, INC.

10 Day SP Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LOCATION	PROTOCOL
Electron Hydro	Intake Project 2020	*Hyalella azteca*	Port Gamble / Bath 9	ASTM E1706-20 ,
PROJECT MANAGER	**TEST TYPE/DURATION**	**PROJECT NUMBER**	**TEST START DATE**	**TEST END DATE**
M. Knowlen	10-Day Solid Phase	PG1495	January 15, 2021	January 25, 2021

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 2.5	TEMP (°C) 22 - 24	Conductivity (µS/cm)	pH 6 - 9	Hardness (mg $CaCO_3$/L)	Alkalinity (mg $CaCO_3$/L)	Water AM	Renewal PM	Feed Day 0-6: Daily 1.0 mL YCT + 0.25 mg TetraMin® Day 7-9: 1.0 mL YCT + 0.5 mg TetraMin®	Notes
SC-PT-Comp	**0**	Surr	17	MS/NL	01/15/21	8	8.7	21.6	455.0	7.6	126.0	51.0	MK		MK	
SC-PT-Comp	**1**	Surr	17	NL	01/16/21	8	8.7	21.6	461.0	7.6			Auto	Auto	NL	Increased bath temp a half of a degree. Temp will be measured in afternoon. NL/SH 1/16/2021 Bath heater was increased in temperature to compensate for the low temperatures of the chambers. NL/SH 1/16/2021
SC-PT-Comp	**2**	Surr	17	NL	01/17/21	8	8.1	22.4	460.0	7.7			Auto	Auto	NL	
SC-PT-Comp	**3**	Surr	17	MS	01/18/21	8	8.1	22.0	456.0	7.4			MS	Auto	MS	
SC-PT-Comp	**4**	Surr	17	SH	01/19/21	8	7.8	22.7	460.0	7.5			AUTO	AUTO	SH	
SC-PT-Comp	**5**	Surr	17	NL	01/20/21	8	7.4	22.9	455.0	7.5			Auto	Auto	NL	
SC-PT-Comp	**6**	Surr	17	NL	01/21/21	9	5.5	22.8	445.0	7.3			Auto	Auto	NL	
SC-PT-Comp	**7**	Surr	17	NL	01/22/21	8	5.8	22.1	457.0	7.4			Auto	Auto	NL	
SC-PT-Comp	**8**	Surr	17	NL	01/23/21	8	6.0	22.6	468.0	7.5			Auto	Auto	NL	
SC-PT-Comp	**9**	Surr	17	NL	01/24/21	8	4.7	22.7	463.0	7.5			Auto	Auto	NL	
SC-PT-Comp	**10**	Surr	17	MS	01/25/21	8	5.5	21.9	445.0	7.2	136.0	53.0				

EcoANALYSTS, INC.

20 Day SP Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LOCATION	PROTOCOL
Electron Hydro	Intake Project 2020	*Hyalella azteca*	Port Gamble / Bath 9	ASTM E1706-20 ,
PROJECT MANAGER	**TEST TYPE/DURATION**	**PROJECT NUMBER**	**TEST START DATE**	**TEST END DATE**
M. Knowlen	10-Day Solid Phase	PG1495	January 15, 2021	January 25, 2021

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 2.5	TEMP (°C) 22 - 24	Conductivity (µS/cm)	pH 6 - 9	Hardness (mg $CaCO_3$/L)	Alkalinity (mg $CaCO_3$/L)	Water AM	Renewal PM	Feed Day 0-6: Daily 1.0 mL YCT + 0.25 mg TetraMin® Day 7-9: 1.0 mL YCT + 0.5 mg TetraMin®	Notes
SC-RC-Comp	**0**	Surr	39	MS/NL	01/15/21	8	8.0	21.7	459.0	7.4	117.0	48.0	MK		MK	
SC-RC-Comp	**1**	Surr	39	NL	01/16/21	8	8.1	21.6	461.0	7.5			Auto	Auto	NL	Increased bath temp a half of a degree. Temp will be measured in afternoon. NL/SH 1/16/2021 Bath heater was increased in temperature to compensate for the low temperatures of the chambers. NL/SH 1/16/2021
SC-RC-Comp	**2**	Surr	39	NL	01/17/21	8	8.2	22.3	457.0	7.6			Auto	Auto	NL	
SC-RC-Comp	**3**	Surr	39	MS	01/18/21	8	7.9	21.9	454.0	7.5			MS	Auto	MS	
SC-RC-Comp	**4**	Surr	39	SH	01/19/21	8	8.3	22.5	456.0	7.6			AUTO	AUTO	SH	
SC-RC-Comp	**5**	Surr	39	NL	01/20/21	8	7.6	22.9	451.0	7.6			Auto	Auto	NL	
SC-RC-Comp	**6**	Surr	39	NL	01/21/21	9	6.0	22.8	449.0	7.5			Auto	Auto	NL	
SC-RC-Comp	**7**	Surr	39	NL	01/22/21	8	5.1	22.2	454.0	7.4			Auto	Auto	NL	
SC-RC-Comp	**8**	Surr	39	NL	01/23/21	8	4.6	22.5	448.0	7.2			Auto	Auto	NL	
SC-RC-Comp	**9**	Surr	39	NL	01/24/21	8	4.7	22.6	453.0	7.5			Auto	Auto	NL	
SC-RC-Comp	**10**	Surr	39	MS	01/25/21	8	6.1	22.0	433.0	7.3	133.0	52.0				

EcoANALYSTS, INC.

20 Day SP Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LOCATION	PROTOCOL
Electron Hydro	Intake Project 2020	*Hyalella azteca*	Port Gamble / Bath 9	ASTM E1706-20 ,
PROJECT MANAGER	**TEST TYPE/DURATION**	**PROJECT NUMBER**	**TEST START DATE**	**TEST END DATE**
M. Knowlen	10-Day Solid Phase	PG1495	January 15, 2021	January 25, 2021

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 2.5	TEMP (°C) 22 - 24	Conductivity (µS/cm)	pH 6 - 9	Hardness (mg $CaCO_3$/L)	Alkalinity (mg $CaCO_3$/L)	Water AM	Renewal PM	Feed Day 0-6: Daily 1.0 mL YCT + 0.25 mg TetraMin® Day 7-9: 1.0 mL YCT + 0.5 mg TetraMin®	Notes
RP-PT-Comp	**0**	Surr	19	MS/NL	01/15/21	8	8.8	21.6	467.0	7.7	125.0	48.0	MK		MK	
RP-PT-Comp	**1**	Surr	19	NL	01/16/21	8	8.7	21.6	463.0	7.7			Auto	Auto	NL	Increased bath temp a half of a degree. Temp will be measured in afternoon. NL/SH 1/16/2021 Bath heater was increased in temperature to compensate for the low temperatures of the chambers. NL/SH 1/16/2021
RP-PT-Comp	**2**	Surr	19	NL	01/17/21	8	8.2	22.5	458.0	7.7			Auto	Auto	NL	
RP-PT-Comp	**3**	Surr	19	MS	01/18/21	8	8.1	21.9	459.0	7.5			MS	Auto	MS	
RP-PT-Comp	**4**	Surr	19	SH	01/19/21	8	8.2	22.8	463.0	7.6			AUTO	AUTO	SH	
RP-PT-Comp	**5**	Surr	19	NL	01/20/21	8	7.6	23.0	463.0	7.6			Auto	Auto	NL	
RP-PT-Comp	**6**	Surr	19	NL	01/21/21	9	5.8	22.9	455.0	7.4			Auto	Auto	NL	
RP-PT-Comp	**7**	Surr	19	NL	01/22/21	8	6.7	22.0	460.0	7.4			Auto	Auto	NL	
RP-PT-Comp	**8**	Surr	19	NL	01/23/21	8	5.7	22.7	463.0	7.5			Auto	Auto	NL	
RP-PT-Comp	**9**	Surr	19	NL	01/24/21	8	5.1	22.7	461.0	7.5			Auto	Auto	NL	
RP-PT-Comp	**10**	Surr	19	MS	01/25/21	8	6.1	22.0	441.0	7.3	134.0	53.0				

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10 Day SP Test WQ Data Sheet

CLIENT	PROJECT	SPECIES	LOCATION	PROTOCOL
Electron Hydro	Intake Project 2020	*Hyalella azteca*	Port Gamble / Bath 9	ASTM E1706-20 ,
PROJECT MANAGER	**TEST TYPE/DURATION**	**PROJECT NUMBER**	**TEST START DATE**	**TEST END DATE**
M. Knowlen	10-Day Solid Phase	PG1495	January 15, 2021	January 25, 2021

WATER QUALITY DATA

SAMPLE ID	DAY	REP	JAR #	TECHNICIAN	Date	Meter	DO (mg/L) > 2.5	TEMP (°C) 22 - 24	Conductivity (µS/cm)	pH 6 - 9	Hardness (mg $CaCO_3$/L)	Alkalinity (mg $CaCO_3$/L)	Water AM	Renewal PM	Feed Day 0-6: Daily 1.0 mL YCT + 0.25 mg TetraMin® Day 7-9: 1.0 mL YCT + 0.5 mg TetraMin®	Notes
RP-RC-Comp	**0**	Surr	11	MS/NL	01/15/21	8	8.3	21.5	456.0	7.6	123.0	44.0	MK		MK	
RP-RC-Comp	**1**	Surr	11	NL	01/16/21	8	7.9	21.3	469.0	7.5			Auto	Auto	NL	Increased bath temp a half of a degree to get chamber in temp range. Temp will be measured in afternoon. NL/SH 1/16/2021 Bath heater was increased in temperature to compensate for the low temperatures of the chambers. NL/SH 1/16/2021
RP-RC-Comp	**2**	Surr	11	NL	01/17/21	8	7.6	21.8	464.0	7.7			Auto	Auto	NL	
RP-RC-Comp	**3**	Surr	11	MS	01/18/21	8	7.5	21.8	462.0	7.3			MS	Auto	MS	
RP-RC-Comp	**4**	Surr	11	SH	01/19/21	8	7.4	22.4	480.0	7.4			AUTO	AUTO	SH	
RP-RC-Comp	**5**	Surr	11	NL	01/20/21	8	6.9	22.6	467.0	7.3			Auto	Auto	NL	
RP-RC-Comp	**6**	Surr	11	NL	01/21/21	9	4.0	22.4	451.0	7.2			Auto	Auto	NL	
RP-RC-Comp	**7**	Surr	11	NL	01/22/21	8	3.2	21.6	458.0	7.3			Auto	Auto	NL	
RP-RC-Comp	**8**	Surr	11	NL	01/23/21	8	3.1	22.2	463.0	7.4			Auto	Auto	NL	
RP-RC-Comp	**9**	Surr	11	NL	01/24/21	8	3.9	22.2	468.0	7.5			Auto	Auto	NL	
RP-RC-Comp	**10**	Surr	11	MS	01/25/21	8	5.6	21.9	444.0	7.2	135.0	54.0				

EcoAnalysts, Inc.

10 Day SP Test Obs Sheet

CLIENT	PROJECT	PROJECT NO.	PROJECT MANAGER	LOCATION
Electron Hydro	Intake Project 2020	PG1495	M. Knowlen	Port Gamble / Bath 9

PROTOCOL	SPECIES
ASTM E1706-20 ,	*Hyalella azteca*

Observation Key
#FOS = Num Floating on Water Surface
#E = Num Emerged from Sediment
#M= Number of Mortalities
L=Anoxic Surface
G=Growth
D=No Air Flow (DO?)
N=Normal
TC= Too Cloudy to Observe
U = Excess Food

ENDPOINT DATA & OBSERVATIONS

			Technician	NL	NL	MS	SH	NL	NL	NL	NL	NL	MS	
			Date	01/16/21	01/17/21	01/18/20	01/19/21	01/20/21	01/21/21	1.22.2021	01/23/21	01/24/21	01/25/21	
CLIENT ID	**REP**	**Jar #**	**Day**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Comments**
Control	1	15		N	N	N	N	N	N	N	N	N	N	
Control	2	30		N	N	N	N	N	N	N	N	N	N	
Control	3	3		N	N	N	N	N	N	N	N	N	N	
Control	4	41		N	N	N	N	N	N	N	N	N	N	
Control	5	5		N	N	N	N	N	N	N	N	N	N	
Control	6	32		N	N	N	N	N	N	N	N	N	N	
Control	7	9		N	N	N	N	N	N	N	N	N	N	
Control	8	25		N	N	N	N	N	N	N	N	N	N	

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10 Day SP Test Obs Sheet

CLIENT	PROJECT	PROJECT NO.	PROJECT MANAGER	LOCATION
Electron Hydro	Intake Project 2020	PG1495	M. Knowlen	Port Gamble / Bath 9

PROTOCOL	SPECIES
ASTM E1706-20 ,	*Hyalella azteca*

Observation Key
#FOS = Num Floating on Water Surface
#E = Num Emerged from Sediment
#M= Number of Mortalities
L=Anoxic Surface
G=Growth
D=No Air Flow (DO?)
N=Normal
TC= Too Cloudy to Observe
U = Excess Food

ENDPOINT DATA & OBSERVATIONS

			Day	1	2	3	4	5	6	7	8	9	10	
			Technician	NL	NL	MS	SH	NL	NL	NL	NL	NL	MS	
			Date	01/16/21	01/17/21	01/18/20	01/19/21	01/20/21	01/21/21	1.22.2021	01/23/21	01/24/21	01/25/21	
CLIENT ID	**REP**	**Jar #**												**Comments**
SC-PT-Comp	1	27		N	N	N	N	N	N	N	N	N	N	
SC-PT-Comp	2	43		N	N	N	1FOS	N	N	N	N	N	N	
SC-PT-Comp	3	6		N	N	N	N	N	N	N	N	N	N	
SC-PT-Comp	4	7		N	N	N	N	N	N	N	N	N	N	
SC-PT-Comp	5	14		N	N	N	N	N	N	N	N	N	N	
SC-PT-Comp	6	1		N	N	N	N	N	N	N	N	N	N	
SC-PT-Comp	7	24		N	N	N	N	N	N	N	N	N	N	
SC-PT-Comp	8	26		N	N	N	N	N	N	N	N	N	N	

EcoAnalysts, Inc.

10 Day SP Test Obs Sheet

CLIENT	PROJECT	PROJECT NO.	PROJECT MANAGER	LOCATION
Electron Hydro	Intake Project 2020	PG1495	M. Knowlen	Port Gamble / Bath 9

PROTOCOL	SPECIES
ASTM E1706-20 ,	*Hyalella azteca*

Observation Key
#FOS = Num Floating on Water Surface
#E = Num Emerged from Sediment
#M= Number of Mortalities
L=Anoxic Surface
G=Growth
D=No Air Flow (DO?)
N=Normal
TC= Too Cloudy to Observe
U = Excess Food

ENDPOINT DATA & OBSERVATIONS

			Day	1	2	3	4	5	6	7	8	9	10	
			Technician	NL	NL	MS	SH	NL	NL	NL	NL	NL	MS	
			Date	01/16/21	01/17/21	01/18/20	01/19/21	01/20/21	01/21/21	1.22.2021	01/23/21	01/24/21	01/25/21	
CLIENT ID	**REP**	**Jar #**												**Comments**
SC-RC-Comp	1	12		N	1FOS	2FOS	N	N	N	N	N	N	N	
SC-RC-Comp	2	42		N	N	N	N	N	N	N	N	N	N	
SC-RC-Comp	3	37		N	N	1FOS	N	N	N	N	N	N	N	
SC-RC-Comp	4	4		N	N	N	N	N	N	N	N	N	N	
SC-RC-Comp	5	44		3FOS	N	N	N	N	N	1FOS	N	N	N	
SC-RC-Comp	6	40		1FOS	N	N	1FOS	N	N	N	N	N	N	
SC-RC-Comp	7	16		N	N	N	N	N	N	N	N	N	N	
SC-RC-Comp	8	10		N	N	N	1FOS	N	N	N	N	1FOS	N	

EcoAnalysts, Inc.

10 Day SP Test Obs Sheet

CLIENT	PROJECT	PROJECT NO.	PROJECT MANAGER	LOCATION
Electron Hydro	Intake Project 2020	PG1495	M. Knowlen	Port Gamble / Bath 9

PROTOCOL	SPECIES
ASTM E1706-20 ,	*Hyalella azteca*

Observation Key
#FOS = Num Floating on Water Surface
#E = Num Emerged from Sediment
#M= Number of Mortalities
L=Anoxic Surface
G=Growth
D=No Air Flow (DO?)
N=Normal
TC= Too Cloudy to Observe
U = Excess Food

ENDPOINT DATA & OBSERVATIONS

CLIENT ID	REP	Jar #	Day	1	2	3	4	5	6	7	8	9	10	Comments
			Technician	NL	NL	MS	SH	NL	NL	NL	NL	NL	MS	
			Date	01/16/21	01/17/21	01/18/20	01/19/21	01/20/21	01/21/21	1.22.2021	01/23/21	01/24/21	01/25/21	
RP-PT-Comp	1	38		N	N	N	N	N	N	N	N	N	N	
RP-PT-Comp	2	28		N	N	N	N	N	N	N	N	N	N	
RP-PT-Comp	3	36		N	N	N	N	N	N	N	N	N	N	
RP-PT-Comp	4	8		N	N	N	N	N	N	N	N	N	N	
RP-PT-Comp	5	23		N	N	N	N	N	N	N	N	N	N	
RP-PT-Comp	6	35		N	N	N	N	N	N	N	N	N	N	
RP-PT-Comp	7	13		N	N	1FOS	N	N	N	N	N	N	N	
RP-PT-Comp	8	20		N	N	N	N	N	N	N	N	N	N	

EcoAnalysts, Inc.

10 Day SP Test Obs Sheet

CLIENT	PROJECT	PROJECT NO.	PROJECT MANAGER	LOCATION
Electron Hydro	Intake Project 2020	PG1495	M. Knowlen	Port Gamble / Bath 9

PROTOCOL	SPECIES
ASTM E1706-20 ,	*Hyalella azteca*

Observation Key
#FOS = Num Floating on Water Surface
#E = Num Emerged from Sediment
#M= Number of Mortalities
L=Anoxic Surface
G=Growth
D=No Air Flow (DO?)
N=Normal
TC= Too Cloudy to Observe
U = Excess Food

ENDPOINT DATA & OBSERVATIONS

			Day	1	2	3	4	5	6	7	8	9	10	
			Technician	NL	NL	MS	SH	NL	NL	NL	NL	NL	MS	
			Date	01/16/21	01/17/21	01/18/20	01/19/21	01/20/21	01/21/21	1.22.2021	01/23/21	01/24/21	01/25/21	
CLIENT ID	**REP**	**Jar #**												**Comments**
RP-RC-Comp	1	33		N	N	N	N	N	N	N	N	N	N	
RP-RC-Comp	2	21		N	N	N	N	N	N	N	N	N	N	
RP-RC-Comp	3	18		N	N	N	N	N	N	N	N	N	N	
RP-RC-Comp	4	31		N	N	N	N	N	N	N	N	N	N	
RP-RC-Comp	5	34		N	N	N	N	N	N	N	N	N	N	
RP-RC-Comp	6	2		N	N	N	N	N	N	N	N	N	N	
RP-RC-Comp	7	45		N	N	N	N	N	N	N	N	N	N	
RP-RC-Comp	8	22		N	N	N	N	N	N	N	N	N	N	

10 Day SP Test Survival Summary

EcoAnalysts, Inc.

CLIENT	PROJECT	PROJECT NUMBER
Electron Hydro	Intake Project 2020	PG1495
PROJECT MANAGER	**SPECIES**	
M. Knowlen	*Hyalella azteca*	

Sample ID	Rep	Jar #	Date Recovered/ Initials: 1/25/21 MK			Comments
			# Initiated	# Alive	# Dead	
Control	1	15	10	10	0	
Control	2	30	10	9	0	
Control	3	3	10	10	0	
Control	4	41	10	9	0	
Control	5	5	10	10	0	
Control	6	32	10	9	0	
Control	7	9	10	10	0	
Control	8	25	10	10	0	
SC-PT-Comp	1	27	10	0	0	
SC-PT-Comp	2	43	10	2	0	
SC-PT-Comp	3	6	10	0	0	
SC-PT-Comp	4	7	10	0	0	
SC-PT-Comp	5	14	10	0	0	
SC-PT-Comp	6	1	10	0	0	
SC-PT-Comp	7	24	10	0	0	
SC-PT-Comp	8	26	10	0	0	

10 Day SP Test Survival Summary

EcoAnalysts, Inc.

CLIENT	PROJECT	PROJECT NUMBER
Electron Hydro	Intake Project 2020	PG1495
PROJECT MANAGER	**SPECIES**	
M. Knowlen	*Hyalella azteca*	

Sample ID	Rep	Jar #	Date Recovered/ Initials: 1/25/21 MK			Comments
			# Initiated	# Alive	# Dead	
SC-RC-Comp	1	12	10	0	0	
SC-RC-Comp	2	42	10	0	0	
SC-RC-Comp	3	37	10	0	0	
SC-RC-Comp	4	4	10	0	2	
SC-RC-Comp	5	44	10	0	0	
SC-RC-Comp	6	40	10	0	1	
SC-RC-Comp	7	16	10	0	0	
SC-RC-Comp	8	10	10	0	1	
RP-PT-Comp	1	38	10	9	0	
RP-PT-Comp	2	28	10	10	0	
RP-PT-Comp	3	36	10	9	0	
RP-PT-Comp	4	8	10	10	0	
RP-PT-Comp	5	23	10	10	0	
RP-PT-Comp	6	35	10	9	0	
RP-PT-Comp	7	13	10	8	0	
RP-PT-Comp	8	20	10	10	0	
RP-RC-Comp	1	33	10	6	0	
RP-RC-Comp	2	21	10	9	0	
RP-RC-Comp	3	18	10	9	0	
RP-RC-Comp	4	31	10	8	0	
RP-RC-Comp	5	34	10	6	0	
RP-RC-Comp	6	2	10	9	0	
RP-RC-Comp	7	45	10	8	0	
RP-RC-Comp	8	22	10	6	0	

EcoAnalysts, Inc.

10 Day SP Test Weights Summary

CLIENT	PROJECT
Electron Hydro	Intake Project 2020

PROJECT NUMBER	PROJECT MANAGER	SPECIES
PG1495	M. Knowlen	*Hyalella azteca*

	Oven Event 1	Oven Event 2	Muffle Furnace
Date/Time/Initials In Oven:	1/22/21 1425 JL	1/25/21 1620	
Oven Temp °C:	64.00	100.00	
Date/Time/Initials Out Oven into Dessicator:	1/23/21 1630 NL	1/26/20 0820 MS	
Date/Time/Initials Weighed:	1/25/21 0840 MS	1/26/21 1154 RE	

Sample ID	Rep	Boat #	Tare Wt. (mg)	Total Dry Wt. (mg)	Total Ashed Wt. (mg)	Comments
Control	1	1	169.61	170.29		
Control	2	3	116.04	116.64		Rep 2 in boat 3
Control	3	2	154.53	155.68		Rep 3 in boat 2
Control	4	4	145.91	146.48		
Control	5	5	166.76	167.98		
Control	6	6	142.55	143.62		
Control	7	7	138.24	139.16		
Control	8	8	143.73	144.62		
SC-PT-Comp	1	9	133.07	--		No survivors
SC-PT-Comp	2	10	159.03	159.11		
SC-PT-Comp	3	11	129.13	--		No survivors
SC-PT-Comp	4	12	148.38	--		No survivors
SC-PT-Comp	5	13	120.46	--		No survivors
SC-PT-Comp	6	14	117.64	--		No survivors
SC-PT-Comp	7	15	135.92	--		No survivors
SC-PT-Comp	8	16	129.18	--		No survivors
SC-RC-Comp	1	17	139.59	--		No survivors
SC-RC-Comp	2	18	159.18	--		No survivors
SC-RC-Comp	3	19	142.96	--		No survivors
SC-RC-Comp	4	X1	146.83	--		No survivors
SC-RC-Comp	5	21	153.31	--		No survivors
SC-RC-Comp	6	22	148.26	--		No survivors
SC-RC-Comp	7	23	134.27	--		No survivors
SC-RC-Comp	8	24	134.71	--		No survivors

EcoAnalysts, Inc.

10 Day SP Test Weights Summary

CLIENT	PROJECT
Electron Hydro	Intake Project 2020

PROJECT NUMBER	PROJECT MANAGER	SPECIES
PG1495	M. Knowlen	*Hyalella azteca*

	Oven Event 1	Oven Event 2	Muffle Furnace
Date/Time/Initials In Oven:	1/22/21 1425 JL	1/25/21 1620	
Oven Temp °C:	64.00	100.00	
Date/Time/Initials Out Oven into Dessicator:	1/23/21 1630 NL	1/26/20 0820 MS	
Date/Time/Initials Weighed:	1/25/21 0840 MS	1/26/21 1154 RE	

Sample ID	Rep	Boat #	Tare Wt. (mg)	Total Dry Wt. (mg)	Total Ashed Wt. (mg)	Comments
RP-PT-Comp	1	25	135.15	136.17		
RP-PT-Comp	2	26	145.85	146.88		
RP-PT-Comp	3	27	140.54	141.47		
RP-PT-Comp	4	28	131.08	132.12		
RP-PT-Comp	5	29	130.83	131.96		
RP-PT-Comp	6	30	122.59	123.49		
RP-PT-Comp	7	31	121.68	122.94		
RP-PT-Comp	8	32	137.88	138.72		
RP-RC-Comp	1	33	139.37	140.45		
RP-RC-Comp	2	34	131.71	132.63		
RP-RC-Comp	3	35	146.37	147.28		
RP-RC-Comp	4	36	142.28	143.22		
RP-RC-Comp	5	37	138.47	139.12		
RP-RC-Comp	6	38	137.10	139.13		
RP-RC-Comp	7	39	133.20	133.79		
RP-RC-Comp	8	40	148.71	149.57		

EcoANALYSTS, INC.

10 Day SP Test Survival Summary

CLIENT	PROJECT	PROJECT NUMBER	PROJECT MANAGER	SPECIES
Electron Hydro	Intake Project 2020	PG1495	M. Knowlen	*Hyalella azteca*

				Survival Statistics			Mortality Statistics			Dry Weight Statistics					
Sample ID	Rep	# Initiated	# Alive	% Survival	Mean Survival (%)	SD	% Mortality	Mean Mortality (%)	SD	Dry Weight per Replicate - Biomass (mg)	Mean Biomass (mg)	SD	Dry Weight per Individual - Growth (mg)	Mean Individual Growth (mg/ind)	SD
Control	1	10	10	100			0			0.68			0.07		
Control	2	10	9	90			10			0.60			0.07		
Control	3	10	10	100			0			1.15			0.12		
Control	4	10	9	90			10			0.57			0.06		
Control	5	10	10	100			0			1.22			0.12		
Control	6	10	9	90			10			1.07			0.12		
Control	7	10	10	100			0			0.92			0.09		
Control	8	10	10	100	96.3	5.2	0	3.8	5.2	0.89	0.89	0.25	0.09	0.092	0.024
SC-PT-Comp	1	10	0	0			100			#VALUE!					
SC-PT-Comp	2	10	2	20			80			0.08			0.04		
SC-PT-Comp	3	10	0	0			100			#VALUE!					
SC-PT-Comp	4	10	0	0			100			#VALUE!					
SC-PT-Comp	5	10	0	0			100			#VALUE!					
SC-PT-Comp	6	10	0	0			100			#VALUE!					
SC-PT-Comp	7	10	0	0			100			#VALUE!					
SC-PT-Comp	8	10	0	0	2.5	7.1	100	97.5	7.1	#VALUE!	#VALUE!	#VALUE!		0.040	#DIV/0!
SC-RC-Comp	1	10	0	0			100			#VALUE!					
SC-RC-Comp	2	10	0	0			100			#VALUE!					
SC-RC-Comp	3	10	0	0			100			#VALUE!					
SC-RC-Comp	4	10	0	0			100			#VALUE!					
SC-RC-Comp	5	10	0	0			100			#VALUE!					
SC-RC-Comp	6	10	0	0			100			#VALUE!					
SC-RC-Comp	7	10	0	0			100			#VALUE!					
SC-RC-Comp	8	10	0	0	0.0	0.0	100	100.0	0.0	#VALUE!	#VALUE!	#VALUE!		#DIV/0!	#DIV/0!

EcoANALYSTS, INC.

10 Day SP Test Survival Summary

CLIENT	PROJECT	PROJECT NUMBER	PROJECT MANAGER	SPECIES
Electron Hydro	Intake Project 2020	PG1495	M. Knowlen	*Hyalella azteca*

				Survival Statistics			Mortality Statistics			Dry Weight Statistics					
Sample ID	Rep	# Initiated	# Alive	% Survival	Mean Survival (%)	SD	% Mortality	Mean Mortality (%)	SD	Dry Weight per Replicate - Biomass (mg)	Mean Biomass (mg)	SD	Dry Weight per Individual - Growth (mg)	Mean Individual Growth (mg/ind)	SD
RP-PT-Comp	1	10	9	90			10			1.02			0.11		
RP-PT-Comp	2	10	10	100			0			1.03			0.10		
RP-PT-Comp	3	10	9	90			10			0.93			0.10		
RP-PT-Comp	4	10	10	100			0			1.04			0.10		
RP-PT-Comp	5	10	10	100			0			1.13			0.11		
RP-PT-Comp	6	10	9	90			10			0.90			0.10		
RP-PT-Comp	7	10	8	80			20			1.26			0.16		
RP-PT-Comp	8	10	10	100	93.8	7.4	0	6.3	7.4	0.84	1.02	0.13	0.08	0.110	0.021
RP-RC-Comp	1	10	6	60			40			1.08			0.18		
RP-RC-Comp	2	10	9	90			10			0.92			0.10		
RP-RC-Comp	3	10	9	90			10			0.91			0.10		
RP-RC-Comp	4	10	8	80			20			0.94			0.12		
RP-RC-Comp	5	10	6	60			40			0.65			0.11		
RP-RC-Comp	6	10	9	90			10			2.03			0.23		
RP-RC-Comp	7	10	8	80			20			0.59			0.07		
RP-RC-Comp	8	10	6	60	76.3	14.1	40	23.8	14.1	0.86	1.00	0.45	0.14	0.131	0.050

EcoAnalysts, Inc.

10 Day SP Test Day 0 Overlying Ammonia

CLIENT	PROJECT		SPECIES
Electron Hydro	Intake Project 2020		*Hyalella azteca*
Calibration Standards Temperature: 20.9	Date: 1/15/2021	Tech: MS	

NH_3 sample temperature should be within +/- 1°C of standard temp at time and date of analysis

Sample	Day	Overlying/ Porewater	*Total NH_3 (mg/L)*	*NH_3 sample temp*	*WQ/Temp Meter*	*Measured Total Dissolved Sulfide (µg/L as S)*	*Sulfide Sample Volume (ml)*	*Sulfide Multiplier*	*Calculated Total Dissolved Sulfide (µg/L as S)*	*Dilution water salinity (ppt)*	*Test pH*	*Test temp (C)*	*Temp (K)*	*NH_3 pKa[5]*	*Unionized NH_3 (mg/L)*
Sourced	Sourced		Record	Record	Record	Record	Record	Record	Calculated	Record	Sourced	Sourced	Calculated	Calculated	Calculated
Control	0	Overlying	0.0082	20.7	T17					0.2	7.8	21.5	294.65	9.25	0.000
SC-PT-Comp	0	Overlying	0.00	20.6	T17					0.2	7.6	21.6	294.75	9.25	0.000
SC-RC-Comp	0	Overlying	0.00	20.3	T17					0.2	7.4	21.7	294.85	9.25	0.000
RP-PT-Comp	0	Overlying	0.00	20.5	T17					0.2	7.7	21.6	294.75	9.25	0.000
RP-RC-Comp	0	Overlying	0.00	20.3	T17					0.2	7.6	21.5	294.65	9.25	0.000

EcoAnalysts, Inc.

10 Day SP Test Day 0 Overlying Ammonia

CLIENT	PROJECT		SPECIES
Electron Hydro	Intake Project 2020		*Hyalella azteca*
Calibration Standards Temperature: 20.1	Date: 1/25/2021	Tech: MS	

NH_3 sample temperature should be within +/- 1°C of standard temp at time and date of analysis

Sample	Day	Overlying/ Porewater	*Total NH_3 (mg/L)*	*NH_3 sample temp*	*WQ/Temp Meter*	*Measured Total Dissolved Sulfide (µg/L as S)*	*Sulfide Sample Volume (ml)*	*Sulfide Multiplier*	*Calculated Total Dissolved Sulfide (µg/L as S)*	*Dilution water salinity (ppt)*	*Test pH*	*Test temp (C)*	*Temp (K)*	*NH_3 pKa[5]*	*Unionized NH_3 (mg/L)*
Sourced	Sourced		Record	Record	Record	Record	Record	Record	Calculated	Record	Sourced	Sourced	Calculated	Calculated	Calculated
Control	10	Overlying	0.0358	20.8	T17					0.2	7.3	21.8	294.95	9.25	0.000
SC-PT-Comp	10	Overlying	0.0289	20.0	T17					0.2	0.0	21.9	295.05	9.25	0.000
SC-RC-Comp	10	Overlying	0.0301	20.6	T17					0.2	7.3	22.0	295.15	9.25	0.000
RP-PT-Comp	10	Overlying	0.0254	19.8	T17					0.2	7.3	22.0	295.15	9.25	0.000
RP-RC-Comp	10	Overlying	0.0143	20.6	T17					0.2	7.2	21.9	295.05	9.25	0.000

Project Name: Electron Hydro

Sample:	x1
Samp ID:	SC-PT-Comp
Alias:	10-day survival
Replicates:	8
Mean:	0.025
SD:	0.071
Tr Mean:	N/A
Trans SD:	N/A

Ref Samp:	x2
Ref ID:	Control
Alias:	10- day survival
Replicates:	8
Mean:	0.963
SD:	0.052
Tr Mean:	N/A
Trans SD:	N/A

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	0.558
SS:	5.912
K:	8
b:	1.744
Alpha Level:	0.05
Calculated Value:	0.5144
Critical Value:	<= 0.887
Normally Distributed:	No
Override Option:	Not Invoked

Levene's Results:

Test Residual Mean:	0.561
Test Residual SD:	0.68
Ref. Residual Mean:	0.138
Ref. Residual SD:	0.038
Deg. of Freedom:	14
Alpha Level:	0.1
Calculated Value:	1.7543
Critical Value:	>= 1.761
Variances Homogeneous:	Yes

Test Results:

Statistic:	Mann-Whitney
Balanced Design:	Yes
Transformation:	rank-order
Experimental Hypothesis	
Null:	x1 >= x2
Alternate:	x1 < x2
Mann-Whitney N1:	8
Mann-Whitney N2:	8
Degrees of Freedom:	
Experimental Alpha Level:	0.05
Calculated Value:	64
Critical Value:	>= 49.000
Accept Null Hypothesis:	No
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	0	4	1	14	0.32	0.111	4		-0.32
2	0.2	8	0.9	10	2.243	0.185	4		-0.32
3	0	4	1	14	0.32	0.111	4		-0.32
4	0	4	0.9	10	0.32	0.185	4		-0.32
5	0	4	1	14	0.32	0.111	4		-0.32
6	0	4	0.9	10	0.32	0.185	4		-0.32
7	0	4	1	14	0.32	0.111	4		-0.32
8	0	4	1	14	0.32	0.111	8		-0.185
9							10		-0.185
10							10		-0.185
11							10		0.111
12							14		0.111
13							14		0.111
14							14		0.111
15							14		0.111
16							14		2.243

Project Name: Electron Hydro

Sample:	x1
Samp ID:	SC-RC-Comp
Alias:	10-day survival
Replicates:	8
Mean:	0
SD:	0
Tr Mean:	-0.76
Trans SD:	0

Ref Samp:	x2
Ref ID:	Control
Alias:	10- day survival
Replicates:	8
Mean:	0.963
SD:	0.052
Tr Mean:	0.76
Trans SD:	0.434

Shapiro-Wilk Results:		Levene's Results:		Test Results:	
Residual Mean:		Test Residual Mean:	0	Statistic:	Approximate t
Residual SD:		Test Residual SD:	0	Balanced Design:	Yes
SS:		Ref. Residual Mean:	0.393	Transformation:	Rankits
K:		Ref. Residual SD:	0.109		
b:		Deg. of Freedom:	14		
				Experimental Hypothesis	
Alpha Level:	N/A	Alpha Level:	0.1	Null:	x1 >= x2
Calculated Value:	N/A	Calculated Value:	10.247	Alternate:	x1 < x2
Critical Value:	N/A	Critical Value:	>= 1.761		
Normally Distributed:	N/A	Variances Homogeneous:	No	Degrees of Freedom:	7
				Experimental Alpha Level:	0.05
				Calculated Value:	9.901
Override Option:	Not Invoked			Critical Value:	>= 1.895
				Accept Null Hypothesis:	No
				Power:	
				Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	0	-0.76	1	1.075	0	0.315		-0.76	
2	0	-0.76	0.9	0.236	0	0.524		-0.76	
3	0	-0.76	1	1.075	0	0.315		-0.76	
4	0	-0.76	0.9	0.236	0	0.524		-0.76	
5	0	-0.76	1	1.075	0	0.315		-0.76	
6	0	-0.76	0.9	0.236	0	0.524		-0.76	
7	0	-0.76	1	1.075	0	0.315		-0.76	
8	0	-0.76	1	1.075	0	0.315		-0.76	
9								0.236	
10								0.236	
11								0.236	
12								1.075	
13								1.075	
14								1.075	
15								1.075	
16								1.075	

Project Name: Electron Hydro

Sample:	x1
Samp ID:	RP-PT-Comp
Alias:	10-day survival
Replicates:	8
Mean:	0.938
SD:	0.074
Tr Mean:	N/A
Trans SD:	N/A

Ref Samp:	x2
Ref ID:	Control
Alias:	10- day survival
Replicates:	8
Mean:	0.963
SD:	0.052
Tr Mean:	N/A
Trans SD:	N/A

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	0.165
SS:	0.516
K:	8
b:	0.662
Alpha Level:	0.05
Calculated Value:	0.8494
Critical Value:	<= 0.887
Normally Distributed:	No
Override Option:	Not Invoked

Levene's Results:

Test Residual Mean:	0.187
Test Residual SD:	0.102
Ref. Residual Mean:	0.138
Ref. Residual SD:	0.038
Deg. of Freedom:	14
Alpha Level:	0.1
Calculated Value:	1.251
Critical Value:	>= 1.761
Variances Homogeneous:	Yes

Test Results:

Statistic:	Mann-Whitney
Balanced Design:	Yes
Transformation:	rank-order
Experimental Hypothesis	
Null:	x1 >= x2
Alternate:	x1 < x2
Mann-Whitney N1:	8
Mann-Whitney N2:	8
Degrees of Freedom:	
Experimental Alpha Level:	0.05
Calculated Value:	37.5
Critical Value:	>= 49.000
Accept Null Hypothesis:	Yes
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	0.9	4.5	1	12	0.109	0.111	1		-0.421
2	1	12	0.9	4.5	0.187	0.185	4.5		-0.185
3	0.9	4.5	1	12	0.109	0.111	4.5		-0.185
4	1	12	0.9	4.5	0.187	0.185	4.5		-0.185
5	1	12	1	12	0.187	0.111	4.5		-0.109
6	0.9	4.5	0.9	4.5	0.109	0.185	4.5		-0.109
7	0.8	1	1	12	0.421	0.111	4.5		-0.109
8	1	12	1	12	0.187	0.111	12		0.111
9							12		0.111
10							12		0.111
11							12		0.111
12							12		0.111
13							12		0.187
14							12		0.187
15							12		0.187
16							12		0.187

Project Name: Electron Hydro

Sample:	x1
Samp ID:	RP-RC-Comp
Alias:	10-day survival
Replicates:	8
Mean:	0.763
SD:	0.141
Tr Mean:	-0.672
Trans SD:	0.624

Ref Samp:	x2
Ref ID:	Control
Alias:	10- day survival
Replicates:	8
Mean:	0.963
SD:	0.052
Tr Mean:	0.672
Trans SD:	0.556

Shapiro-Wilk Results:		Levene's Results:		Test Results:	
Residual Mean:		Test Residual Mean:	0.506	Statistic:	Student's t
Residual SD:		Test Residual SD:	0.309	Balanced Design:	Yes
SS:		Ref. Residual Mean:	0.504	Transformation:	Rankits
K:		Ref. Residual SD:	0.139		
b:		Deg. of Freedom:	14		
				Experimental Hypothesis	
Alpha Level:	N/A	Alpha Level:	0.1	Null:	x1 >= x2
Calculated Value:	N/A	Calculated Value:	0.0219	Alternate:	x1 < x2
Critical Value:	N/A	Critical Value:	>= 1.761		
Normally Distributed:	N/A	Variances Homogeneous:	Yes	Degrees of Freedom:	14
				Experimental Alpha Level:	0.05
				Calculated Value:	4.5476
Override Option:	Not Invoked			Critical Value:	>= 1.761
				Accept Null Hypothesis:	No
				Power:	
				Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	0.6	-1.347	1	1.075	0.675	0.403		-1.347	
2	0.9	0	0.9	0	0.672	0.672		-1.347	
3	0.9	0	1	1.075	0.672	0.403		-1.347	
4	0.8	-0.667	0.9	0	0.005	0.672		-0.667	
5	0.6	-1.347	1	1.075	0.675	0.403		-0.667	
6	0.9	0	0.9	0	0.672	0.672		0	
7	0.8	-0.667	1	1.075	0.005	0.403		0	
8	0.6	-1.347	1	1.075	0.675	0.403		0	
9								0	
10								0	
11								0	
12								1.075	
13								1.075	
14								1.075	
15								1.075	
16								1.075	

Project Name: Electron Hydro

Sample:	x1
Samp ID:	SC-PT-Comp
Alias:	Biomass
Replicates:	8
Mean:	0.01
SD:	0.028
Tr Mean:	0.004
Trans SD:	0.012

Ref Samp:	x2
Ref ID:	Control
Alias:	Biomass
Replicates:	8
Mean:	0.888
SD:	0.251
Tr Mean:	0.272
Trans SD:	0.058

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	0.036
SS:	0.025
K:	8
b:	0.151
Alpha Level:	0.05
Calculated Value:	0.9141
Critical Value:	<= 0.887
Normally Distributed:	Yes
Override Option:	N/A

Levene's Results:

Test Residual Mean:	0.007
Test Residual SD:	0.009
Ref. Residual Mean:	0.048
Ref. Residual SD:	0.028
Deg. of Freedom:	14
Alpha Level:	0.1
Calculated Value:	3.9552
Critical Value:	>= 1.761
Variances Homogeneous:	No

Test Results:

Statistic:	Approximate t
Balanced Design:	Yes
Transformation:	Log10 (x + 1.0)

Experimental Hypothesis

Null:	x1 >= x2
Alternate:	x1 < x2
Degrees of Freedom:	8
Experimental Alpha Level:	0.05
Calculated Value:	12.7452
Critical Value:	>= 1.860
Accept Null Hypothesis:	No
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	0	0	0.68	0.225	0.004	0.047			-0.077
2	0.08	0.033	0.6	0.204	0.029	0.068			-0.068
3	0	0	1.15	0.332	0.004	0.06			-0.047
4	0	0	0.57	0.196	0.004	0.077			-0.004
5	0	0	1.22	0.346	0.004	0.074			-0.004
6	0	0	1.07	0.316	0.004	0.043			-0.004
7	0	0	0.92	0.283	0.004	0.011			-0.004
8	0	0	0.89	0.276	0.004	0.004			-0.004
9									-0.004
10									-0.004
11									0.004
12									0.011
13									0.029
14									0.043
15									0.06
16									0.074

Project Name: Electron Hydro

Sample:	x1
Samp ID:	SC-RC-Comp
Alias:	Biomass
Replicates:	8
Mean:	0
SD:	0
Tr Mean:	-0.76
Trans SD:	0

Ref Samp:	x2
Ref ID:	Control
Alias:	Biomass
Replicates:	8
Mean:	0.888
SD:	0.251
Tr Mean:	0.76
Trans SD:	0.567

Shapiro-Wilk Results:		Levene's Results:		Test Results:	
Residual Mean:		Test Residual Mean:	0	Statistic:	Approximate t
Residual SD:		Test Residual SD:	0	Balanced Design:	Yes
SS:		Ref. Residual Mean:	0.441	Transformation:	Rankits
K:		Ref. Residual SD:	0.316		
b:		Deg. of Freedom:	14		
				Experimental Hypothesis	
Alpha Level:	N/A	Alpha Level:	0.1	Null:	x1 >= x2
Calculated Value:	N/A	Calculated Value:	3.9507	Alternate:	x1 < x2
Critical Value:	N/A	Critical Value:	>= 1.761		
Normally Distributed:	N/A	Variances Homogeneous:	No	Degrees of Freedom:	7
				Experimental Alpha Level:	0.05
				Calculated Value:	7.5804
Override Option:	Not Invoked			Critical Value:	>= 1.895
				Accept Null Hypothesis:	No
				Power:	
				Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	0	-0.76	0.68	0.396	0	0.364		-0.76	
2	0	-0.76	0.6	0.234	0	0.526		-0.76	
3	0	-0.76	1.15	1.285	0	0.525		-0.76	
4	0	-0.76	0.57	0.077	0	0.683		-0.76	
5	0	-0.76	1.22	1.766	0	1.006		-0.76	
6	0	-0.76	1.07	0.99	0	0.23		-0.76	
7	0	-0.76	0.92	0.763	0	0.003		-0.76	
8	0	-0.76	0.89	0.57	0	0.19		-0.76	
9								0.077	
10								0.234	
11								0.396	
12								0.57	
13								0.763	
14								0.99	
15								1.285	
16								1.766	

Project Name: Electron Hydro

Sample:	x1
Samp ID:	RP-PT-Comp
Alias:	Biomass
Replicates:	8
Mean:	1.019
SD:	0.134
Tr Mean:	0.304
Trans SD:	0.028

Ref Samp:	x2
Ref ID:	Control
Alias:	Biomass
Replicates:	8
Mean:	0.888
SD:	0.251
Tr Mean:	0.272
Trans SD:	0.058

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	0.039
SS:	0.03
K:	8
b:	0.169
Alpha Level:	0.05
Calculated Value:	0.9709
Critical Value:	<= 0.887
Normally Distributed:	Yes
Override Option:	N/A

Levene's Results:

Test Residual Mean:	0.021
Test Residual SD:	0.018
Ref. Residual Mean:	0.048
Ref. Residual SD:	0.028
Deg. of Freedom:	14
Alpha Level:	0.1
Calculated Value:	2.3354
Critical Value:	>= 1.761
Variances Homogeneous:	No

Test Results:

Statistic:	Approximate t
Balanced Design:	Yes
Transformation:	Log10 (x + 1.0)

Experimental Hypothesis

Null:	x1 >= x2
Alternate:	x1 < x2
Degrees of Freedom:	10
Experimental Alpha Level:	0.05
Calculated Value:	-1.3846
Critical Value:	>= 1.812
Accept Null Hypothesis:	Yes
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	1.02	0.305	0.68	0.225	0.001	0.047			-0.077
2	1.03	0.307	0.6	0.204	0.003	0.068			-0.068
3	0.93	0.286	1.15	0.332	0.019	0.06			-0.047
4	1.04	0.31	0.57	0.196	0.005	0.077			-0.039
5	1.13	0.328	1.22	0.346	0.024	0.074			-0.026
6	0.9	0.279	1.07	0.316	0.026	0.043			-0.019
7	1.26	0.354	0.92	0.283	0.05	0.011			0.001
8	0.84	0.265	0.89	0.276	0.039	0.004			0.003
9									0.004
10									0.005
11									0.011
12									0.024
13									0.043
14									0.05
15									0.06
16									0.074

Project Name: Electron Hydro

Sample:	x1
Samp ID:	RP-RC-Comp
Alias:	Biomass
Replicates:	8
Mean:	0.998
SD:	0.447
Tr Mean:	N/A
Trans SD:	N/A

Ref Samp:	x2
Ref ID:	Control
Alias:	Biomass
Replicates:	8
Mean:	0.888
SD:	0.251
Tr Mean:	N/A
Trans SD:	N/A

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	0.311
SS:	1.836
K:	8
b:	1.254
Alpha Level:	0.05
Calculated Value:	0.8564
Critical Value:	<= 0.887
Normally Distributed:	No
Override Option:	Not Invoked

Levene's Results:

Test Residual Mean:	0.279
Test Residual SD:	0.333
Ref. Residual Mean:	0.203
Ref. Residual SD:	0.126
Deg. of Freedom:	14
Alpha Level:	0.1
Calculated Value:	0.6018
Critical Value:	>= 1.761
Variances Homogeneous:	Yes

Test Results:

Statistic:	Mann-Whitney
Balanced Design:	Yes
Transformation:	rank-order
Experimental Hypothesis	
Null:	x1 >= x2
Alternate:	x1 < x2
Mann-Whitney N1:	8
Mann-Whitney N2:	8
Degrees of Freedom:	
Experimental Alpha Level:	0.05
Calculated Value:	30.5
Critical Value:	>= 49.000
Accept Null Hypothesis:	Yes
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	1.08	13	0.68	5	0.083	0.208	1		-0.408
2	0.92	9.5	0.6	3	0.077	0.288	2		-0.348
3	0.91	8	1.15	14	0.087	0.263	3		-0.318
4	0.94	11	0.57	1	0.058	0.318	4		-0.288
5	0.65	4	1.22	15	0.348	0.333	5		-0.208
6	2.03	16	1.07	12	1.033	0.183	6		-0.138
7	0.59	2	0.92	9.5	0.408	0.033	7		-0.087
8	0.86	6	0.89	7	0.138	0.003	8		-0.077
9							9.5		-0.058
10							9.5		0.003
11							11		0.033
12							12		0.083
13							13		0.183
14							14		0.263
15							15		0.333
16							16		1.033

Project Name: Electron Hydro

Sample:	x1
Samp ID:	RP-PT-Comp
Alias:	Individual Growth
Replicates:	8
Mean:	0.108
SD:	0.023
Tr Mean:	0.108
Trans SD:	0.023

Ref Samp:	x2
Ref ID:	Control
Alias:	Individual Growth
Replicates:	8
Mean:	0.093
SD:	0.025
Tr Mean:	0.093
Trans SD:	0.025

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	0.021
SS:	0.008
K:	8
b:	0.086
Alpha Level:	0.05
Calculated Value:	0.9177
Critical Value:	<= 0.887
Normally Distributed:	Yes
Override Option:	N/A

Levene's Results:

Test Residual Mean:	0.014
Test Residual SD:	0.017
Ref. Residual Mean:	0.021
Ref. Residual SD:	0.012
Deg. of Freedom:	14
Alpha Level:	0.1
Calculated Value:	0.8478
Critical Value:	>= 1.761
Variances Homogeneous:	Yes

Test Results:

Statistic:	Student's t
Balanced Design:	Yes
Transformation:	No Transformation

Experimental Hypothesis

Null:	x1 >= x2
Alternate:	x1 < x2
Degrees of Freedom:	14
Experimental Alpha Level:	0.05
Calculated Value:	-1.2472
Critical Value:	>= 1.761
Accept Null Hypothesis:	Yes
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	0.11	0.11	0.07	0.07	0.003	0.023			-0.033
2	0.1	0.1	0.07	0.07	0.007	0.023			-0.028
3	0.1	0.1	0.12	0.12	0.007	0.028			-0.023
4	0.1	0.1	0.06	0.06	0.007	0.033			-0.023
5	0.11	0.11	0.12	0.12	0.003	0.028			-0.007
6	0.1	0.1	0.12	0.12	0.007	0.028			-0.007
7	0.16	0.16	0.09	0.09	0.053	0.003			-0.007
8	0.08	0.08	0.09	0.09	0.028	0.003			-0.007
9									-0.003
10									-0.003
11									0.003
12									0.003
13									0.028
14									0.028
15									0.028
16									0.053

Project Name: Electron Hydro

Sample:	x1
Samp ID:	RP-RC-Comp
Alias:	Individual Growth
Replicates:	8
Mean:	0.131
SD:	0.051
Tr Mean:	0.131
Trans SD:	0.051

Ref Samp:	x2
Ref ID:	Control
Alias:	Individual Growth
Replicates:	8
Mean:	0.093
SD:	0.025
Tr Mean:	0.093
Trans SD:	0.025

Shapiro-Wilk Results:

Residual Mean:	0
Residual SD:	0.035
SS:	0.023
K:	8
b:	0.145
Alpha Level:	0.05
Calculated Value:	0.9269
Critical Value:	<= 0.887
Normally Distributed:	Yes
Override Option:	N/A

Levene's Results:

Test Residual Mean:	0.039
Test Residual SD:	0.03
Ref. Residual Mean:	0.021
Ref. Residual SD:	0.012
Deg. of Freedom:	14
Alpha Level:	0.1
Calculated Value:	1.623
Critical Value:	>= 1.761
Variances Homogeneous:	Yes

Test Results:

Statistic:	Student's t
Balanced Design:	Yes
Transformation:	No Transformation

Experimental Hypothesis

Null:	x1 >= x2
Alternate:	x1 < x2
Degrees of Freedom:	14
Experimental Alpha Level:	0.05
Calculated Value:	-1.9189
Critical Value:	>= 1.761
Accept Null Hypothesis:	Yes
Power:	
Min. Difference for Power:	

Replicate Number	Test Data	Trans. Test Data	Reference Data	Trans. Reference Data	Levene's Test Residuals	Levene's Reference Residuals	Mann-Whitney Ranks	Rankits	Shipiro-Wilk Residuals
1	0.18	0.18	0.07	0.07	0.049	0.023			-0.061
2	0.1	0.1	0.07	0.07	0.031	0.023			-0.033
3	0.1	0.1	0.12	0.12	0.031	0.028			-0.031
4	0.12	0.12	0.06	0.06	0.011	0.033			-0.031
5	0.11	0.11	0.12	0.12	0.021	0.028			-0.023
6	0.23	0.23	0.12	0.12	0.099	0.028			-0.023
7	0.07	0.07	0.09	0.09	0.061	0.003			-0.021
8	0.14	0.14	0.09	0.09	0.009	0.003			-0.011
9									-0.003
10									-0.003
11									0.009
12									0.028
13									0.028
14									0.028
15									0.049
16									0.099

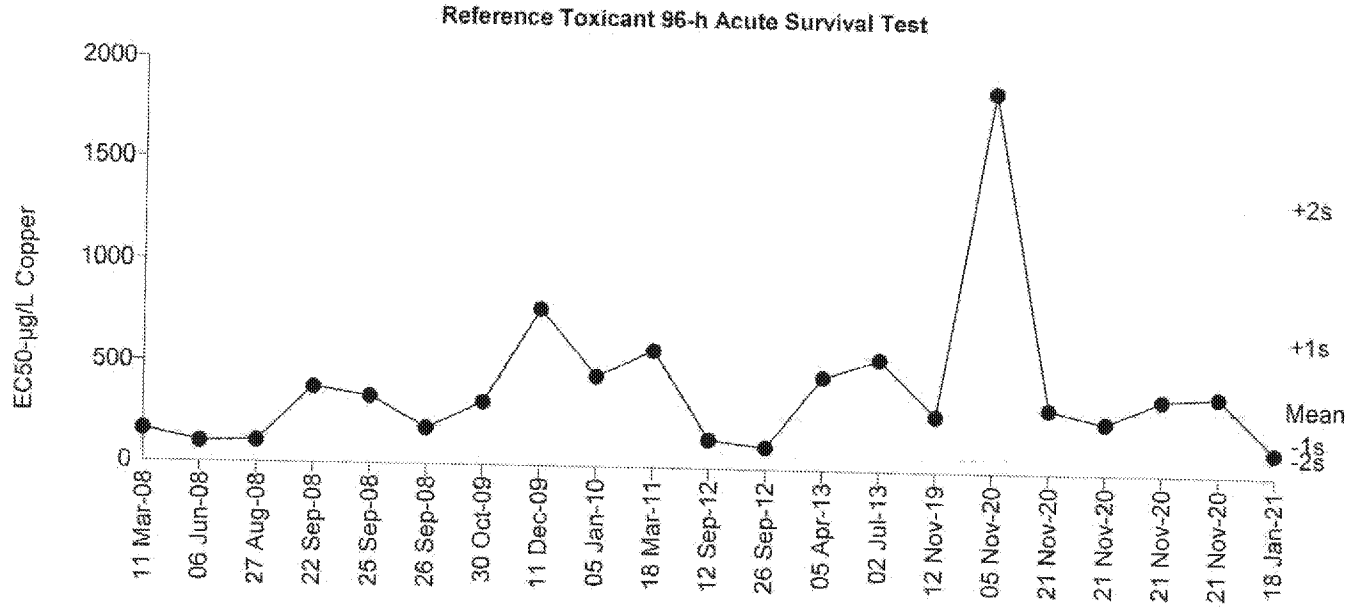
CETIS QC Plot

Report Date: 09 Mar-21 09:32 (1 of 1)

Reference Toxicant 96-h Acute Survival Test

All Matching Labs

Test Type: Survival-Growth
Protocol: EPA/600/R-99/064 (2000)
Organism: Hyalella azteca (Freshwater Amphip
Endpoint: Proportion Survived
Material: Copper
Source: Reference Toxicant-REF



Mean:	307.7	**Count:**	20	**-1s Warning Limit:**	148.6	**-2s Action Limit:**	71.84
Sigma:	n/a	**CV:**	83.50%	**+1s Warning Limit:**	636.3	**+2s Action Limit:**	1317

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2008	Mar	11	16:00	160.6	-147	-0.8938			15-8627-3791	12-2123-7728	NewFields
2		Jun	6	16:00	101.1	-206.6	-1.53	(-)		06-8246-3812	00-7430-5634	NewFields
3		Aug	27	14:00	108.5	-199.1	-1.433	(-)		05-7236-6023	04-4539-0076	NewFields
4		Sep	22	16:00	376.8	69.17	0.2789			09-3225-5495	09-2424-1170	NewFields
5			25	15:00	331.8	24.14	0.1039			06-0957-2462	19-2397-6649	NewFields
6			26	17:00	178.5	-129.1	-0.7485			19-0177-8411	05-8307-5265	NewFields
7	2009	Oct	30	16:00	310.5	2.86	0.01273			05-4959-3791	08-9717-5202	NewFields
8		Dec	11	15:00	781.3	473.7	1.282	(+)		12-1526-3959	11-3472-2205	NewFields
9	2010	Jan	5	16:05	447.8	140.2	0.5163			14-4842-4624	04-2576-9888	NewFields
10	2011	Mar	18	18:05	581.3	273.6	0.876			08-5227-2931	15-0294-7392	NewFields
11	2012	Sep	12	14:50	142.9	-164.8	-1.055	(-)		12-2929-1352	11-9647-6389	NewFields
12			26	15:10	110.6	-197.1	-1.408	(-)		02-8561-8849	18-0604-9468	NewFields
13	2013	Apr	5	13:40	459.1	151.5	0.5506			08-9962-2765	17-5163-5104	NewFields
14		Jul	2	16:25	550.7	243.1	0.8008			08-5776-1017	05-4066-9258	NewFields
15	2019	Nov	12	15:50	275.1	-32.56	-0.1538			15-4478-0927	05-7444-4649	EcoAnalysts
16	2020		5	15:30	1878	1571	2.488	(+)	(+)	20-8556-0790	02-1460-2328	EcoAnalysts
17			21	15:25	313.9	6.196	0.02742			13-4527-4168	14-2690-6679	EcoAnalysts
18			21	15:44	251.8	-55.86	-0.2755			01-0927-3404	12-8624-2946	EcoAnalysts
19			21	15:52	366.7	59.03	0.2414			15-8117-3720	19-7683-8730	EcoAnalysts
20			21	16:03	385.2	77.55	0.3092			07-9842-9590	03-4456-8529	EcoAnalysts
21	2021	Jan	18	16:54	115.3	-192.4	-1.35	(-)		13-0101-3933	14-5565-4738	EcoAnalysts

CETIS Summary Report

Report Date: 08 Feb-21 10:51 (p 1 of 1)
Test Code/ID: 4D8BE5AD / 13-0101-3933

Reference Toxicant 96-h Acute Survival Test — EcoAnalysts

Batch ID:	16-6302-5417	Test Type:	Survival-Growth	Analyst:			
Start Date:	18 Jan-21 16:54	Protocol:	EPA/600/R-99/064 (2000)	Diluent:	Reconstituted Water		
Ending Date:	22 Jan-21 15:50	Species:	Hyalella azteca	Brine:	Not Applicable		
Test Length:	95h	Taxon:	Malacostraca	Source:	Aquatic Biosystems, CO	Age:	10 d

Sample ID:	07-9036-5937	Code:	2F1C06F1	Project:	Reference Toxicant
Sample Date:	03 Jun-19	Material:	Copper	Source:	Reference Toxicant
Receipt Date:	03 Jun-19	CAS (PC):		Station:	P190603.76
Sample Age:	595d 17h	Client:	Internal Lab		

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	TU	PMSD	S
09-7306-7916	Proportion Survived	Fisher Exact/Bonferroni-Holm Test		<300	300	n/a		n/a	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	µg/L	95% LCL	95% UCL	TU	S
14-5565-4738	Proportion Survived	Linear Interpolation (ICPIN)		EC5	0.609	0.3731	1.589		1
				EC10	1.589	0.8854	5.702		
				EC15	3.165	1.589	16.35		
				EC20	5.702	2.555	43.91		
				EC25	9.783	3.881	115.3		
				EC40	43.91	11.64	331.3		
				EC50	115.3	22.82	365.7		

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
09-7306-7916	Proportion Survived	Control Resp	1	0.8	>>	Yes	Passes Criteria
14-5565-4738	Proportion Survived	Control Resp	1	0.8	>>	Yes	Passes Criteria

Proportion Survived Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
300		10	0.4000	0.0306	0.7694	0.0000	1.0000	0.1633	0.5164	129.10%	60.00%
600		10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%
1200		10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%
2400		10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%
4800		10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

Proportion Survived Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
300		1.0000	1.0000	0.0000	0.0000	0.0000	1.0000	0.0000	1.0000	0.0000	0.0000
600		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1200		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2400		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4800		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Proportion Survived Binomials

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
300		1/1	1/1	0/1	0/1	0/1	1/1	0/1	1/1	0/1	0/1
600		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
1200		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
2400		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
4800		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1

CETIS Test Data Worksheet

Report Date: 08 Feb-21 10:51 (p 1 of 2)
Test Code/ID: 4D8BE5AD / 13-0101-3933

Reference Toxicant 96-h Acute Survival Test — EcoAnalysts

Start Date:	18 Jan-21 16:54	Species:	Hyalella azteca	Sample Code:	2F1C06F1
End Date:	22 Jan-21 15:50	Protocol:	EPA/600/R-99/064 (2000)	Sample Source:	Reference Toxicant
Sample Date:	03 Jun-19	Material:	Copper	Sample Station:	P190603.76

Conc-µg/L	Code	Rep	Pos	# Exposed	# Survived	Total Weight-mg	Tare Weight-mg	Pan Count	Mean Length-mm	Notes
0	D	1	35	1	1		0			
0	D	2	45	1	1		0			
0	D	3	57	1	1		0			
0	D	4	32	1	1		0			
0	D	5	34	1	1		0			
0	D	6	26	1	1		0			
0	D	7	40	1	1		0			
0	D	8	53	1	1		0			
0	D	9	54	1	1		0			
0	D	10	30	1	1		0			
300		1	16	1	1		0			
300		2	43	1	1		0			
300		3	36	1	0		0			
300		4	12	1	0		0			
300		5	28	1	0		0			
300		6	41	1	1		0			
300		7	52	1	0		0			
300		8	33	1	1		0			
300		9	37	1	0		0			
300		10	51	1	0		0			
600		1	46	1	0		0			
600		2	19	1	0		0			
600		3	1	1	0		0			
600		4	7	1	0		0			
600		5	59	1	0		0			
600		6	8	1	0		0			
600		7	56	1	0		0			
600		8	24	1	0		0			
600		9	49	1	0		0			
600		10	22	1	0		0			
1200		1	5	1	0		0			
1200		2	14	1	0		0			
1200		3	17	1	0		0			
1200		4	6	1	0		0			

CETIS Test Data Worksheet

Report Date: 08 Feb-21 10:51 (p 2 of 2)
Test Code/ID: 4D8BE5AD / 13-0101-3933

Conc-µg/L	Code	Rep	Pos	# Exposed	# Survived	Total Weight-mg	Tare Weight-mg	Pan Count	Mean Length-mm	Notes
1200		5	60	1	0		0			
1200		6	38	1	0		0			
1200		7	50	1	0		0			
1200		8	2	1	0		0			
1200		9	25	1	0		0			
1200		10	10	1	0		0			
2400		1	23	1	0		0			
2400		2	29	1	0		0			
2400		3	48	1	0		0			
2400		4	42	1	0		0			
2400		5	13	1	0		0			
2400		6	31	1	0		0			
2400		7	27	1	0		0			
2400		8	20	1	0		0			
2400		9	55	1	0		0			
2400		10	18	1	0		0			
4800		1	58	1	0		0			
4800		2	47	1	0		0			
4800		3	39	1	0		0			
4800		4	11	1	0		0			
4800		5	9	1	0		0			
4800		6	15	1	0		0			
4800		7	4	1	0		0			
4800		8	44	1	0		0			
4800		9	3	1	0		0			
4800		10	21	1	0		0			

EcoAnalysts

Toxicant:	Copper Chloride
Ref Tox ID:	P190603.76
Lot #:	50014418
Protocol:	TOX022
Replicates:	10

Date Test Started:	~~1/15/21~~ 1/18/21
Date Test Ended:	① ~~1/19/21~~ 1/22/21
Matrix:	Liquid
Species:	*Hyalella azteca*
No. of Org. per Chamber:	1

	Conc. (µg/L)	Meter #:	DO (mg/L) (>2.5)	Meter #:	Temp (°C) (23±1°C)	Meter #:	Conductivity (uS/cm)	Meter #:	pH (6 - 9)
Day 0 (Stock)	Control	9	9.1	9	22.0	9	328	9	7.5
Date: 1/18/21	300		9.1		22.0		323		7.6
Time: 1420	600		9.1		22.2		325		7.7
Technician: MK	1200		9.0		22.2		324		7.7
	2400		9.0		22.1		325		7.7
Feed: MS	4800		9.1		22.0		327		7.7
			Day 1		Day 2		Day 3		Day 4
Temperature (OLD)			22.8		22.9		23.1		22.5
Feeding (100µL YCT/chamber)					NL				
Day 4	Control	8	8.9	8	21.2	8	420	8	7.8
Date: 1/22/21	300		9.0		21.7		342		7.8
Time: 0930	600		9.0		21.3		345		7.9
WQ Surr	1200		9.1		21.3		345		7.9
Technician: NL	2400		9.2		21.3		354		8.0
	4800		9.1		21.4		345		8.0

Dilution Preparation (Serial dilute by 50%)

$CuCl_2$ Stock Solution:	Target Stock Solution Conc.	Volume of Stock Solution	Amt. of Toxicant
400,000 µg Cu/L	4800 ppb	500 mL	6.00 mL

Start Time:	1654 MK, DM, MS
End Time:	1550 NL, MS
Test Acceptability:	≥90% survival in control

① WQ 3.9.21 MAZE

Test Location:	Bath 9	
Dilution Water Batch:	RFW011121	
Supplier:	ABS	
Organism Batch:	ABS011321	Age: 10 d.
Chamber Size/Type:	~~30mL~~ 20mL scint. vial	
Exposure Volume:	20mL	

* silica sand added to chambers

EcoAnalysts

7 Day Chronic Survival and Reproduction Test

Toxicant:	Copper Chloride	Date Test Started:	(2) ~~1/15/2021~~ 1/18/21	Species:	*Hyalella azteca*
Ref Tox ID:	P190603.76	Date Test Ended:	(2) ~~1/19/2021~~ 1/22/21		

Control

Day/Date	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	# of Adults	Tech
1/ (1)												
2/ (1)												NL
3/ (1)												NL
4/ 1/22	1	1	1	1	1	1	1	1	1	1	10	NL

300 µg/L Copper

Day/Date	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	# of Adults	Tech
1/ (1)												
2/ (1)												NL
3/ (1)												NL
4/ 1/22	1	1	INB	0 (3)	0	1	0	1	INB	0	(4) ~~0~~ 4	MS/NL

600 µg/L Copper

Day/Date	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	# of Adults	Tech
1/ (1)												
2/ (1)												NL
3/ (1)												NL
4/ 1/22	0	0	0	0	0	(3)	0	0	0	0	(5) ~~0~~ 0	NL

1200 µg/L Copper

Day/Date	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	# of Adults	Tech
1/ (1)												
2/ (1)												NL
3/ (1)												NL
4/ 1/22	0	0	0	0	0	INB	0	0	0	0	0	NL

2400 µg/L Copper

Day/Date	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	# of Adults	Tech
1/ (1)												
2/ (1)												NL
3/ (1)												NL
4/ 1/22	0	0	0	0	0	0	INB	0	0	0	0	NL

4800 µg/L Copper

Day/Date	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	# of Adults	Tech
1/ (1)												
2/ (1)												NL
3/ (1)												NL
4/ 1/22	0	0	0	0	0	0	0	INB	(3)	0	0	NL

(1) unable to get accurate obs counts due to test chamber size (vial). - NL 1/21 - NL + 1/20

(2) Wrong date - NL 1/22/21

(3) stuck to side of vial - MS 1/22 - NL 1/22/21

(4) Incorrect Entry - NL 1/22

(5) IW - NL 1/22

EcoAnalysts

96 HOUR WATER-COLUMN TEST
WATER QUALITY DATASHEET

CLIENT	PROJECT	SPECIES	DILUTION WATER BATCH	TEST STAR' TEST START DATE	TIME
Electron Hydro	Intake Project 2020	*Hyalella azteca*	RFW012121	01Feb21	1700
PROJECT NUMBER	**PROJECT MANAGER**	**LABORATORY**	**PROTOCOL**	**TEST END C TEST END DATE**	**TIME**
PG1495	M. Knowlen	Port Gamble	ASTM 1391-03 (2014); EPA-821-R-02-012 /	05Feb21	1515

WATER QUALITY DATA

TEST CONDITIONS			DAY	REP	DO (mg/L) ≥4.0		TEMP (C) 20 ± 1		Conductivity (µS/cm) Unspecified		pH 6-9		Total Chlorine (mg/L)	Hardness (mg/L as $CaCO^3$)	Alkalinity (mg/L as $CaCO^3$)	Date	Tech	FEEDING	
SAMPLE ID	CONCENTRATION value	CONCENTRATION units			D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	Conductivity meter	Conductivity ppt	pH meter	pH unit						AM	PM
Control	0 %		0	Stock	8	9.0	8	19.5	8	329	8	8.4	<0.00	88	66	2.1.21	BH		
	0 %		1	Surr	8	8.7	8	19.6	8	333	8	7.6				2/2	MK		
	0 %		2	Surr	8	8.1	8	20.1	8	339	8	8.0				2/3	MK	MK	
	0 %		2	Stock	8	9.3	8	19.1	8	324	8	8.3	0.02			2/3	MK		
	0 %		3	Surr	8	7.7	8	20.0	8	339	8	7.9				2/4	MARC		
	0 %		4	Surr	8	6.7	8	20.0	8	340		8.0	0.02			2/5	MK		
SC-PT-Comp / .	10 %		0	Stock	8	9.0	8	19.6	8	330	8	8.3				2.1	BH		
	10 %		1	Surr	8	8.7	8	19.4	8	332	8	7.6				2/2	MK		
	10 %		2	Surr	8	8.5	8	19.9	8	378	8	7.9				2/3	MK	MK	
	10 %		2	Stock	8	9.1	8	19.2	8	320	8	8.1				2/3	MK		
	10 %		3	Surr	8	8.1	8	19.8	8	356	8	7.9				2/4	MARC		
	10 %		4	Surr	8	7.4	8	19.9	8	359	8	8.0				2/5	MK		
	50 %		0	Stock	8	9.0	8	19.6	8	334	8	8.1				2.1	BH		
	50 %		1	Surr	8	8.6	8	19.7	8	362	8	7.6				2/2	MK		
	50 %		2	Surr	8	8.5	8	20.1	8	366	8	7.9				2/3	MK	MK	
	50 %		2	Stock	8	9.2	8	19.2	8	322	8	8.1				2/3	MK		
	50 %		3	Surr	8	8.1	8	19.9	8	352	8	7.9				2/4	MARC		
	50 %		4	Surr	8	7.7	8	19.9	8	355	8	8.0				2/5	MK		
	100 %		0	Stock	8	9.0	8	19.7	8	339	8	8.0	0.04	88	62	2.1	BH		
	100 %		1	Surr	8	8.5	8	19.3	8	343	8	7.6				2/2	MK		
	100 %		2	Surr	8	8.5	8	19.8	8	352	8	7.9				2/3	MK	MK	
	100 %		2	Stock	8	9.2	8	19.3	8	324	8	8.0	0.02			2/3	MK		
	100 %		3	Surr	8	7.7	8	20.1	8	338	8	7.8				2/4	MARC		
	100 %		4	Surr	8	7.6	8	19.9	8	341	8	7.9	0.1			2/5	MK		

① MK. MK 2/3.

EcoAnalysts

96 HOUR WATER-COLUMN TEST
WATER QUALITY DATASHEET

CLIENT	PROJECT	SPECIES	DILUTION WATER BATCH	TEST START / TEST START DATE	TIME
Electron Hydro	Intake Project 2020	*Hyalella azteca*	RFW012121	01Feb21	1700
PROJECT NUMBER	**PROJECT MANAGER**	**LABORATORY**	**PROTOCOL**	**TEST END / TEST END DATE**	**TIME**
PG1495	M. Knowlen	Port Gamble	ASTM 1391-03 (2014); EPA-821-R-02-012 /	05Feb21	1515

WATER QUALITY DATA

TEST CONDITIONS			DAY	REP	DO (mg/L) ≥4.0		TEMP (C) 20 ± 1		Conductivity (µS/cm) Unspecified		pH 6-9		Total Chlorine (mg/L)	Hardness (mg/L as $CaCO_3$)	Alkalinity (mg/L as $CaCO_3$)	Date	Tech	FEEDING	
SAMPLE ID	CONCENTRATION value	CONCENTRATION units			D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	Conductivity meter	Conductivity ppt	pH meter	pH unit						AM	PM
SC-RC-Comp /	10 %		0	Stock	8	9.0	8	19.7	8	328	8	8.0				2.1	BH		
	10 %		1	Surr	8	8.6	8	19.7	8	356	8	7.6				2/2	MK		
	10 %		2	Surr	8	8.6	8	20.2	8	352	8	7.9				2/3	MK	MK	
	10 %		2	Stock	8	9.2	8	19.2	8	320	8	8.1				2/3	MK		
	10 %		3	Surr	8	8.2	8	19.8	8	339	8	7.8				2/4	MARK		
	10 %		4	Surr	8	7.8	8	19.8	8	340	8	7.9				2/5	MK		
	50 %		0	Stock	8	9.0	8	19.8	8	327	8	8.0				2.1	BH		
	50 %		1	Surr	8	8.5	8	19.6	8	331	8	7.6				2/2	MK		
	50 %		2	Surr	8	8.5	8	20.2	8	337	8	7.8				2/3	MK	MK	
	50 %		2	Stock	8	9.2	8	19.4	8	319	8	8.1				2/3	MK		
	50 %		3	Surr	8	8.1	8	19.8	8	330	8	7.8				2/4	MARK		
	50 %		4	Surr	8	7.7	8	19.8	8	333	8	7.8				2/5	MK		
	100 %		0	Stock	8	8.9	8	19.9	8	325	8	7.8	<0.00	84	63	2.1	BH		
	100 %		1	Surr	8	8.6	8	19.6	8	333	8	7.5				2/2	MK		
	100 %		2	Surr	8	8.3	8	20.0	8	341	8	7.7				2/3	MK	MK	
	100 %		2	Stock	8	9.2	8	19.8	8	316	8	7.9	<0.00			2/3	MK		
	100 %		3	Surr	8	7.2	8	20.0	8	326	8	7.6				2/4	MARK		
	100 %		4	Surr	8	5.8	8	19.9	8	329	8	7.7	<0.00			2/5	MK		

EcoAnalysts

96 HOUR WATER-COLUMN TEST
WATER QUALITY DATASHEET

CLIENT	PROJECT	SPECIES	DILUTION WATER BATCH	TEST START / TEST START DATE	TIME
Electron Hydro	Intake Project 2020	*Hyalella azteca*	RFW012121	01Feb21	1700
PROJECT NUMBER	**PROJECT MANAGER**	**LABORATORY**	**PROTOCOL**	**TEST END / TEST END DATE**	**TIME**
PG1495	M. Knowlen	Port Gamble	ASTM 1391-03 (2014); EPA-821-R-02-012 /	05Feb21	1515

WATER QUALITY DATA

TEST CONDITIONS			DAY	REP	DO (mg/L) ≥4.0		TEMP (C) 20 ± 1		Conductivity (µS/cm) Unspecified		pH 6-9		Total Chlorine (mg/L)	Hardness (mg/L as $CaCO_3$)	Alkalinity (mg/L as $CaCO_3$)	Date	Tech	FEEDING	
SAMPLE ID	CONCENTRATION value	CONCENTRATION units			D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	Conductivity meter	Conductivity ppt	pH meter	pH unit						AM	PM
RP-PT-Comp	10 %		0	Stock	8	9.0	8	19.7	8	331	8	7.9				2.1	BK		
	10 %		1	Surr	8	8.6	8	19.5	8	338	8	7.5				2/2	MK		
	10 %		2	Surr	8	8.4	8	20.2	8	339	8	7.8				2/3	MK	MK	
	10 %		2	Stock	8	9.1	8	19.3	8	322	8	7.9				2/3	MK		
	10 %		3	Surr	8	7.9	8	20.0	8	331	8	7.6				2/4	MKC		
	10 %		4	Surr	8	7.7	8	19.7	8	333	8	7.7				2/5	MK		
	50 %		0	Stock	8	9.0	8	19.5	8	343	8	8.0				2.1	BK		
	50 %		1	Surr	8	8.5	8	19.6	8	346	8	7.6				2/2	MK		
	50 %		2	Surr	8	8.3	8	20.0	8	350	8	7.7				2/3	MK	MK	
	50 %		2	Stock	8	9.2	8	19.3	8	330	8	8.0				2/3	MK		
	50 %		3	Surr	8	7.5	8	19.8	8	340	8	7.7				2/4	MKC		
	50 %		4	Surr	8	7.5	8	19.8	8	343	8	7.7				2/5	MK		
	100 %		0	Stock	8	9.0	8	19.6	8	357	8	8.0	0.26	102	60	2.1	BK		
	100 %		1	Surr	8	7.2	8	19.4	8	361	8	7.6				2/2	MK		
	100 %		2	Surr	8	7.6	8	19.9	8	369	8	7.7				2/3	MK	MK	
	100 %		2	Stock	8	9.2	8	19.3	8	339	8	8.0	0.16			2/3	MK		
	100 %		3	Surr	8	6.3	8	19.9	8	353	8	7.6				2/4	MKC		
	100 %		4	Surr	8	5.8	8	20.0	8	351	8	7.6	0.00			2/5	MK		

EcoAnalysts

96 HOUR WATER-COLUMN TEST
WATER QUALITY DATASHEET

CLIENT	PROJECT	SPECIES	DILUTION WATER BATCH	TEST START / TEST START DATE	TIME
Electron Hydro	Intake Project 2020	*Hyalella azteca*	RFW012121	01Feb21	1700
PROJECT NUMBER	**PROJECT MANAGER**	**LABORATORY**	**PROTOCOL**	**TEST END / TEST END DATE**	**TIME**
PG1495	M. Knowlen	Port Gamble	ASTM 1391-03 (2014); EPA-821-R-02-012 /	05Feb21	1515

WATER QUALITY DATA

TEST CONDITIONS			DAY	REP	DO (mg/L) ≥4.0		TEMP (C) 20 ± 1		Conductivity (µS/cm) Unspecified		pH 6-9		Total Chlorine (mg/L)	Hardness (mg/L as $CaCO_3$)	Alkalinity (mg/L as $CaCO_3$)	Date	Tech	FEEDING	
SAMPLE ID	CONCENTRATION value	CONCENTRATION units			D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	Conductivity meter	Conductivity ppt	pH meter	pH unit						AM	PM
RP-RC-Comp	10 %		0	Stock	8	9.0	8	19.6	8	329	8	8.0				2.1	BH		
	10 %		1	Surr	8	8.4	8	19.6	8	332	8	7.6				2/2	MK		
	10 %		2	Surr	8	8.1	8	20.0	8	333	8	7.7				2/3	MK	MK	
	10 %		2	Stock	8	9.3	8	19.0	8	321	8	8.3				2/3	MK		
	10 %		3	Surr	8	7.0	8	20.0	8	329	8	7.7				2/4	MKG		
	10 %		4	Surr	8	6.3	8	19.6	8	329	8	7.6				2/5	MK		
	50 %		0	Stock	8	9.0	8	19.5	8	329	8	8.1				2.1	BH		
	50 %		1	Surr	8	8.3	8	19.6	8	332	8	7.7				2/2	MK		
	50 %		2	Surr	8	8.0	8	20.1	8	337	8	7.8				2/3	MK	MK	
	50 %		2	Stock	8	9.2	8	19.2	8	322	8	8.1				2/3	MK		
	50 %		3	Surr	8	6.6	8	19.9	8	329	8	7.6				2/4	MKG		
	50 %		4	Surr	8	6.4	8	19.9	8	333	8	7.6				2/5	MK		
	100 %		0	Stock	8	9.0	8	19.6	8	328	8	8.1	0.24	91	63	2.1	BH		
	100 %		1	Surr	8	8.2	8	19.5	8	333	8	7.7				2/2	MK		
	100 %		2	Surr	8	7.6	8	20.0	8	341	8	7.7				2/3	MK	MK	
	100 %		2	Stock	8	9.1	8	19.5	8	321	8	8.1	0.70			2/3	MK		
	100 %		3	Surr	8	6.6	8	19.9	8	333	8	7.6				2/4	MKG		
	100 %		4	Surr	8	6.0	8	19.9	8	336	8	7.6	0.02			2/5	MK		

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96 HOUR WATER-COLUMN TEST

CLIENT	PROJECT	PROJECT NO.	PROJECT MANAGER	SPECIES	LABORATORY	PROTOCOL
Electron Hydro	Intake Project 2020	PG1495	M. Knowlen	*Hyalella azteca*	Port Gamble /	ASTM 1391-03 (2014), EPA-821-R-02-012

SURVIVAL & BEHAVIOR DATA

OBSERVATION KEY
N = normal
LOE= loss of equilibrium
Q = quiescent
DC = discoloration
NB = no body
F= Floating on Surface

INITIAL # OF ORGANISMS: 10

SAMPLE ID	CONC. value	CONC. units	REP	INITIAL NUMBER	Day 1 #ALIVE	Day 1 #DEAD	Day 1 OBS	Day 2 #ALIVE	Day 2 #DEAD	Day 2 OBS	Day 3 #ALIVE	Day 3 #DEAD	Day 3 OBS	Day 4 #ALIVE	Day 4 #DEAD	Day 4 OBS
					DATE 2/2/21			DATE 2/3/21			DATE 2/4/21			DATE 2/5/21		
					TECHNICIAN MK			TECHNICIAN MK			TECHNICIAN MARK			TECHNICIAN MK		
Control /	0 %		1		10	0	N	10	0	N	10	0	N	10	0	N
			2		10	0	↓	10	0	↓	10	0	N	10	0	↓
			3		9	1	1F	8	0	INB	8	0	N	8	0	
			4		9	0	INB	9	0	N	9	0	N	9	0	
			5		① 10	0	N	②								

① WL. No rep 5. MK 2/2.

② WQ surr = 10 alive, 0 dead. MK 2/3.

EcoAnalysts

96 HOUR WATER-COLUMN TEST

CLIENT	PROJECT	PROJECT No.	PROJECT MANAGER	SPECIES	LABORATORY	PROTOCOL
Electron Hydro	Intake Project 2020	PG1495	M. Knowlen	*Hyalella azteca*	Port Gamble /	ASTM 1391-03 (2014); EPA-821-R-02-012

SURVIVAL & BEHAVIOR DATA

OBSERVATION KEY
N = normal
LOE= loss of equilibrium
Q = quiescent
DC = discoloration
NB = no body
F= Floating on Surface

INITIAL # OF ORGANISMS: 10

SAMPLE ID	CONC. value	CONC. units	REP	INITIAL NUMBER	Day 1 DATE: 2/2/21			Day 2 DATE: 2/3/21			Day 3 DATE: 2/4/21			Day 4 DATE: 2/5/21		
					TECHNICIAN: MK			TECHNICIAN: MK			TECHNICIAN: Marci			TECHNICIAN: MK		
					#ALIVE	#DEAD	OBS	#ALIVE	#DEAD	OBS	#ALIVE	#DEAD	OBS	#ALIVE	#DEAD	OBS
SC-PT-Comp / .	10 %		1		9	1	N	9	0	1F Q	7	2	Q	6	1	Q
			2		10	0	↓	8	2	3F ↓	8	0	1F ↓	7	1	↓
			3		10	0	1F	9	1	1F	6	3 (3)	3F	3	3	
			4		10	0	N	10	0	1F ↓	9	1	↓	9	0	↓
			5													
SC-PT-Comp / .	50 %		1		(1)	\	1F N	(1)	1	4F Q	(1)	2	Q	1	6	Q
			2		↓		↓	↓	1	1F ↓	↓	1	↓	1	7	↓
			3						0			2		1	7	
			4						(2) ~~2~~ 3			1		0	6	—
			5													
SC-PT-Comp / .	100 %		1		(1)	\	1F	(1)	0	1F Q	Too cloudy	\	1F	0	10	—
			2		↓		N	↓	0	↓	↓		1F	~~2~~	8	Q
			3				↓		2	1F				1	7	—
			4				1F		0	1F				0	10	—
			5													

(1) unable to get accurate count due to particulates. live animals observed.
(2) WC. MK 2/3.
(3) 2 maybe molts 2/4 Marci

EcoAnalysts

96 HOUR WATER-COLUMN TEST

CLIENT	PROJECT	PROJECT NO.	PROJECT MANAGER	SPECIES	LABORATORY	PROTOCOL
Electron Hydro	Intake Project 2020	PG1495	M. Knowlen	*Hyalella azteca*	Port Gamble /	ASTM 1391-03 (2014); EPA-821-R-02-012

SURVIVAL & BEHAVIOR DATA

OBSERVATION KEY
N = normal
LOE= loss of equilibrium
Q = quiescent
DC = discoloration
NB = no body
F= Floating on Surface
TC = Too cloudy

INITIAL # OF ORGANISMS: 10

				Day 1			Day 2			Day 3			Day 4		
				DATE: 2/2/21			DATE: 2/3/21			DATE: 2/4/21			DATE: 2/5/21		
				TECHNICIAN: MK			TECHNICIAN: MK			TECHNICIAN: [illegible]			TECHNICIAN: MK		
SAMPLE ID	CONC. value	CONC. units	REP	INITIAL NUMBER	#ALIVE	#DEAD	OBS	#ALIVE	#DEAD	OBS	#ALIVE	#DEAD	OBS	#ALIVE	#DEAD	OBS
SC-RC-Comp / .	10 %		1		10	0	N	10	0	Q	10	0	Q	3	7	Q
			2		9	0	1NB	9	0	3F	8	1	2F	1	6	1NB
			3		9	0	1NB	9	0	1F	8	1		2	~~6~~ 7 (1FB)	
			4		10	0	1F	8	2NB		6	2		1	6	1NB ②
			5													
SC-RC-Comp / .	50 %		1		①		N	①		Q	TC			1	9	Q
			2				1F			1F				0	8	2NB
			3				1F			1F				2	8	Q
			4				N							0	8	2NB
			5													
SC-RC-Comp / .	100 %		1		①		1F	①		1F Q	TC			0	10	—
			2				N			1F				0	10	—
			3				1F							0	10	—
			4				1F							0	9	1NB
			5													

① unable to get accurate count due to particulates. Live animals observed.
② 1E 3.9.21 [illegible]

EcoAnalysts

96 HOUR WATER-COLUMN TEST

CLIENT	PROJECT	PROJECT NO.	PROJECT MANAGER	SPECIES	LABORATORY	PROTOCOL
Electron Hydro	Intake Project 2020	PG1495	M. Knowlen	*Hyalella azteca*	Port Gamble /	ASTM 1391-03 (2014); EPA-821-R-02-012

SURVIVAL & BEHAVIOR DATA

OBSERVATION KEY
N = normal
LOE= loss of equilibrium
Q = quiescent
DC = discoloration
NB = no body
F= Floating on Surface
TC = Too cloudy

INITIAL # OF ORGANISMS: 10

				Day 1			Day 2			Day 3			Day 4		
				DATE: 2/2/21			DATE: 2/~~2~~ 3/21 (2)			DATE: 2/4/21			DATE: 2/5/21		
				TECHNICIAN: MK			TECHNICIAN: MK + JL			TECHNICIAN: MARCH			TECHNICIAN: MK		
SAMPLE ID	CONC. value	CONC. units	REP	INITIAL NUMBER	#ALIVE	#DEAD	OBS	#ALIVE	#DEAD	OBS	#ALIVE	#DEAD	OBS	#ALIVE	#DEAD	OBS
RP-PT-Comp / .	10 %		1		8	1	1NB	8	0	N	8	0	N	8	0	N
			2		9	1	2F	9	0	1F	9	0	1Q	9	0	↓
			3		10	0	N	9	—	1NB	9	0	N	9	0	
			4		10	0	↓	10	0	1F	9	0	1NB	10	0	1FB
			5		—			—			—			—		
RP-PT-Comp / .	50 %		1		(1)		N	10	0	N	10	0	N	10	0	N
			2					(1)	—	1F	(1)	—		8	0	~~(3) 1NB~~ (4) 2NB
			3					10	0			—		10	0	
			4					10	0			—		10	0	
			5		—			—			—			—		
RP-PT-Comp / .	100 %		1		(1)		N	(1)		N	TC	—		8	0	2NB
			2								TC	—		10	0	N
			3								(1)	—		9	0	1NB
			4					10	0		TC	—		10	0	N
			5		—			—			—			—		

(1) unable to get accurate count due to particulates/turbidity. Live animals observed.
(2) WD 2.4.21 [illegible]
~~(3) 1C. Actual is 1NB. MK 2/5.~~ 1E.
(4) Actual is 2NB.

EcoAnalysts

96 HOUR WATER-COLUMN TEST

CLIENT	PROJECT	PROJECT NO.	PROJECT MANAGER	SPECIES	LABORATORY	PROTOCOL
Electron Hydro	Intake Project 2020	PG1495	M. Knowlen	*Hyalella azteca*	Port Gamble /	ASTM 1391-03 (2014); EPA-821-R-02-012

SURVIVAL & BEHAVIOR DATA

OBSERVATION KEY
N = normal
LOE= loss of equilibrium
Q = quiescent
DC = discoloration
NB = no body
F= Floating on Surface
TC = Too cloudy

INITIAL # OF ORGANISMS: 10

SAMPLE ID	CONC. value	CONC. units	REP	INITIAL NUMBER	Day 1 DATE: 2/2/21			Day 2 DATE: 2/3/21			Day 3 DATE: 2/4/21			Day 4 DATE: 2/5/21		
					TECHNICIAN: MK			TECHNICIAN: MK + JL			TECHNICIAN: MARH			TECHNICIAN: MK		
					#ALIVE	#DEAD	OBS	#ALIVE	#DEAD	OBS	#ALIVE	#DEAD	OBS	#ALIVE	#DEAD	OBS
RP-RC-Comp / .	10 %		1		10	0	N	10	0	N	9	0	INB N	(3) 9	0	N
			2		10	0	↓	9 (2)	0	INB	10	0	IFB	10	0	↓
			3		9	1	↓	8	0	N, INB	8	0	↓	9	0	IFB ↓
			4		9	1	IF	8	0	IF, INB	7	1	↓	7	0	↓
			5													
RP-RC-Comp / .	50 %		1		(1) ↓	\	N ↓	(1) ↓	\	N ↓	(1) ↓	\	N ↓	10	0	N ↓
			2											10	0	
			3											8	0	2NB, N ↓
			4											9	0	INB
			5													
RP-RC-Comp / .	100 %		1		(1) ↓	\		(1) ↓	\	N ↓	TC ↓	\	\	9	0	INB N ↓
			2											10	0	
			3											9	0	INB
			4											9	0	INB
			5													

(1) unable to get accurate count due to particulates/ turbidity. Live animals observed.
(2) Rep 1 + 2 may have been switched. 2-4-21 MARH
(3) illegible. MK 2/5.

ELUTRIATE PREPARTION WORKSHEET

DATE: 2.1.21	CLIENT: Electra Hydro	PROJECT: Turf

ELUTRIATE PREPARED FOR: (CIRCLE OR DESCRIBE)

MYSID ACUTE FISH ACUTE LARVAL DEVELOPMENT OTHER Hyalella

DILUENT SOURCE: (Y/N)

PROJECT SITE WATER_____ LABORATORY WATER ✓

CLIENT ID:	LAB ID: RFW012121

STANDARD ELUTRIATE IS PREPARED AT 1 PART SEDIMENT TO 4 PARTS WATER

ELUTRIATE RATIO SELECTED:	1:4
TOTAL VOLUME OF ELUTRIATE PREPARATION VESSEL:	8L
VOLUME OF SEDIMENT PER SAMPLE:	500mL
VOLUME OF DILUENT:	2000mL
TOTAL NUMBER OF PREPARTION VESSELS PER SAMPLE:	1

# Cont's	SAMPLE:	TIME SPIN START:	TIME SETTLE START:	TIME OF ELUTRIATE COLLECTION:	VOLUME RECOVERED:	CENTRIFUGED (Y/N)
1	RP-RC	0948	1048	1148	~2L	N
1	SC-RC	1003	1103	1203	~2L	↓
1	RP-PT	1106	1206	1306	~2L	↓
1	SC-PT	1107	1207	1307	~2L	↓

ELUTRIATE PREPARTION WORKSHEET

DATE: 2/3/21	CLIENT: Electron Hydro	PROJECT: Intake 2020

ELUTRIATE PREPARED FOR: (CIRCLE OR DESCRIBE)

MYSID ACUTE FISH ACUTE LARVAL DEVELOPMENT OTHER Hyalella

DILUENT SOURCE: (Y/N)

PROJECT SITE WATER N LABORATORY WATER Y

CLIENT ID: —	LAB ID: RFW012521

STANDARD ELUTRIATE IS PREPARED AT 1 PART SEDIMENT TO 4 PARTS WATER

ELUTRIATE RATIO SELECTED:	1:4
TOTAL VOLUME OF ELUTRIATE PREPARATION VESSEL:	8L
VOLUME OF SEDIMENT PER SAMPLE:	500 mL
VOLUME OF DILUENT:	2000 mL
TOTAL NUMBER OF PREPARTION VESSELS PER SAMPLE:	1

# Cont's	SAMPLE:	TIME SPIN START:	TIME SETTLE START:	TIME OF ELUTRIATE COLLECTION:	VOLUME RECOVERED:	CENTRIFUGED (Y/N)
1	SC-PT	0920	1020	1120	~2L	N
↓	RP-PT	↓	↓	↓	↓	↓
↓	SC-RC	1020	1120	1220	↓	↓
↓	RP-RC	↓	↓	↓	↓	↓

CETIS Summary Report

Report Date: 08 Feb-21 09:13 (p 1 of 1)
Test Code/ID: F555D85 / 02-5725-2741

Hyallela 24-h Acute Survival Test — EcoAnalysis

Batch ID:	08-8478-7071	Test Type:	Survival (96h)	Analyst:	
Start Date:	01 Feb-21 17:00 ✓	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	Reconstituted Water
Ending Date:	05 Feb-21 15:15 ✓	Species:	Hyalella azteca	Brine:	Not Applicable
Test Length:	94h	Taxon:	Malacostraca	Source:	Aquatic Indicators, FL ✓ Age: 10 d. ✓

Sample ID:	03-8423-1301	Code:	16E6E785	Project:	Intake 2020
Sample Date:	31 Dec-20 16:48 ✓	Material:	Sediment Elutriate	Source:	Intake 2020
Receipt Date:	01 Jan-21 10:31 ✓	CAS (PC):		Station:	SC-PT-COMP
Sample Age:	32d 0h	Client:	Electron Hydro		

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	TU	PMSD	S
19-5875-0157	96h Proportion Survived	Dunnett Multiple Comparison Test		<10	10	n/a	>10	22.7%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	%	95% LCL	95% UCL	TU	S
15-4668-3787	96h Proportion Survived	Linear Interpolation (ICPIN)		EC5	0.4473	0.108	2.839	223.6	1
				EC10	1.095	0.1845	11.59	91.36	
				EC15	2.031	0.1966	16.18	49.23	
				EC20	3.387	0.09231	17.34	29.52	
				EC25	5.35	n/a	18.34	18.69	
				EC40	12.37	n/a	21.8	8.083	
				EC50	16.31	1.845	25.45	6.132	

96h Proportion Survived Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	4	0.9250	0.7727	1.0000	0.8000	1.0000	0.0479	0.0957	10.35%	0.00%
10		4	0.6250	0.2272	1.0000	0.3000	0.9000	0.1250	0.2500	40.00%	32.43%
50		4	0.0750	0.0000	0.1546	0.0000	0.1000	0.0250	0.0500	66.67%	91.89%
100		4	0.0750	0.0000	0.2273	0.0000	0.2000	0.0479	0.0957	127.66%	91.89%

96h Proportion Survived Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	0.8000	0.9000
10		0.6000	0.7000	0.3000	0.9000
50		0.1000	0.1000	0.1000	0.0000
100		0.0000	0.2000	0.1000	0.0000

96h Proportion Survived Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	8/10	9/10
10		6/10	7/10	3/10	9/10
50		1/10	1/10	1/10	0/10
100		0/10	2/10	1/10	0/10

CETIS Analytical Report

Report Date: 22 Feb-21 12:36 (p 1 of 2)
Test Code/ID: F555D85 / 02-5725-2741

Hyallela 24-h Acute Survival Test — EcoAnalysts

Analysis ID:	19-5875-0157	**Endpoint:**	96h Proportion Survived	**CETIS Version:**	CETISv1.9.4
Analyzed:	08 Feb-21 9:12	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Batch ID:	08-8478-7071	**Test Type:**	Survival (96h)	**Analyst:**	
Start Date:	01 Feb-21 17:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Reconstituted Water
Ending Date:	05 Feb-21 15:15	**Species:**	Hyalella azteca	**Brine:**	Not Applicable
Test Length:	94h	**Taxon:**	Malacostraca	**Source:**	Aquatic Indicators, FL — **Age:** 10 d.
Sample ID:	03-8423-1301	**Code:**	16E6E785	**Project:**	Intake 2020
Sample Date:	31 Dec-20 16:48	**Material:**	Sediment Elutriate	**Source:**	Intake 2020
Receipt Date:	01 Jan-21 10:31	**CAS (PC):**		**Station:**	SC-PT-COMP
Sample Age:	32d 0h	**Client:**	Electron Hydro		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	<10	10	n/a	>10	22.73%

Dunnett Multiple Comparison Test

Control vs	Control II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water	10*	2.93	2.287	0.288	6	CDF	0.0161	Significant Effect
	50*	8.063	2.287	0.288	6	CDF	5.7E-06	Significant Effect
	100*	8.104	2.287	0.288	6	CDF	5.5E-06	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.04328	1.01443	3	32.06	5.2E-06	Significant Effect
Error	0.379653	0.0316377	12			
Total	3.42293		15			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	3.791	11.34	0.2849	Equal Variances
Variances	Levene Equality of Variance Test	1.35	5.953	0.3047	Equal Variances
Variances	Mod Levene Equality of Variance Test	1.428	5.953	0.2830	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.3279	3.878	0.5333	Normal Distribution
Distribution	D'Agostino Skewness Test	0.3396	2.576	0.7341	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1636	0.2471	0.3094	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9741	0.8408	0.9005	Normal Distribution

96h Proportion Survived Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	0.9250	0.7727	1.0000	0.9500	0.8000	1.0000	0.0479	10.35%	0.00%
10		4	0.6250	0.2272	1.0000	0.6500	0.3000	0.9000	0.1250	40.00%	32.43%
50		4	0.0750	0.0000	0.1546	0.1000	0.0000	0.1000	0.0250	66.67%	91.89%
100		4	0.0750	0.0000	0.2273	0.0500	0.0000	0.2000	0.0479	127.66%	91.89%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.295	1.061	1.529	1.331	1.107	1.412	0.07348	11.35%	0.00%
10		4	0.9265	0.4857	1.367	0.9386	0.5796	1.249	0.1385	29.90%	28.46%
50		4	0.281	0.1513	0.4107	0.3218	0.1588	0.3218	0.04074	29.00%	78.30%
100		4	0.2757	0.0419	0.5096	0.2403	0.1588	0.4636	0.07348	53.29%	78.71%

96h Proportion Survived Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	0.8000	0.9000
10		0.6000	0.7000	0.3000	0.9000
50		0.1000	0.1000	0.1000	0.0000
100		0.0000	0.2000	0.1000	0.0000

CETIS Analytical Report

Report Date: 22 Feb-21 12:36 (p 2 of 2)
Test Code/ID: F555D85 / 02-5725-2741

Hyallela 24-h Acute Survival Test

EcoAnalysts

Analysis ID:	19-5875-0157	**Endpoint:**	96h Proportion Survived	**CETIS Version:**	CETISv1.9.4
Analyzed:	08 Feb-21 9:12	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1

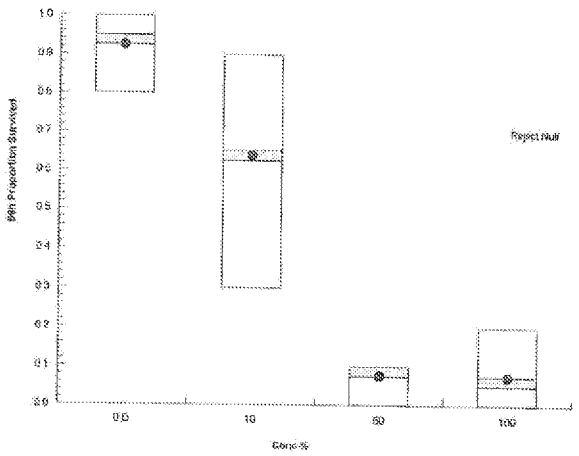
Angular (Corrected) Transformed Detail

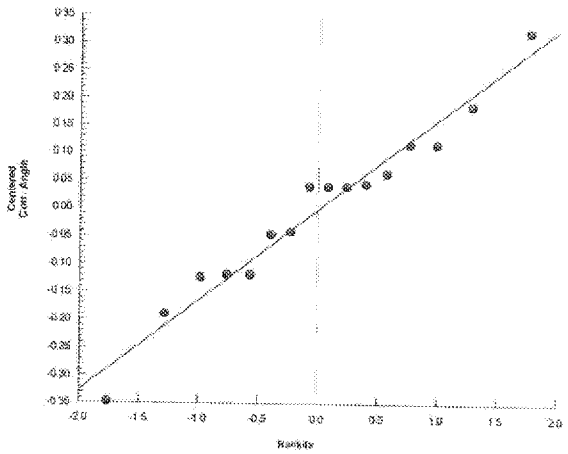
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.412	1.412	1.107	1.249
10		0.8861	0.9912	0.5796	1.249
50		0.3218	0.3218	0.3218	0.1588
100		0.1588	0.4636	0.3218	0.1588

96h Proportion Survived Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	8/10	9/10
10		6/10	7/10	3/10	9/10
50		1/10	1/10	1/10	0/10
100		0/10	2/10	1/10	0/10

Graphics





CETIS Test Data Worksheet

Report Date: 08 Feb-21 09:12 (p 1 of 1)
Test Code/ID: F555D85 / 02-5725-2741

Hyallela 24-h Acute Survival Test — EcoAnalysts

Start Date:	01 Feb-21 17:00	**Species:**	Hyalella azteca	**Sample Code:**	16E6E785
End Date:	05 Feb-21 15:15	**Protocol:**	EPA/821/R-02-012 (2002)	**Sample Source:**	Intake 2020
Sample Date:	31 Dec-20 16:48	**Material:**	Sediment Elutriate	**Sample Station:**	SC-PT-COMP

Conc-%	Code	Rep	Pos	# Exposed	24h Survival	48h Survival	72h Survival	96h Survival	Notes
0	D	1	5	10				10	
0	D	2	1	10				10	
0	D	3	10	10				8	
0	D	4	15	10				9	
10		1	2	10				6	
10		2	12	10				7	
10		3	11	10				3	
10		4	8	10				9	
50		1	16	10				1	
50		2	4	10				1	
50		3	9	10				1	
50		4	13	10				0	
100		1	6	10				0	
100		2	3	10				2	
100		3	7	10				1	
100		4	14	10				0	

✓ ✓

CETIS Summary Report

Report Date: 08 Feb-21 09:17 (p 1 of 1)
Test Code/ID: 71D1FB64 / 19-0958-6788

Hyallela 24-h Acute Survival Test

EcoAnalysts

Batch ID:	08-8478-7071	Test Type:	Survival (96h)	Analyst:	
Start Date:	01 Feb-21 17:00 ✓	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	Reconstituted Water
Ending Date:	05 Feb-21 15:15 ✓	Species:	Hyalella azteca	Brine:	Not Applicable
Test Length:	94h	Taxon:	Malacostraca	Source:	Aquatic Indicators, FL ✓ Age: 10 d. ✓

Sample ID:	02-8514-2920	Code:	10FEEF88	Project:	Intake 2020
Sample Date:	31 Dec-20 16:48 ✓	Material:	Sediment Elutriate	Source:	Intake 2020
Receipt Date:	01 Jan-21 10:31 ✓	CAS (PC):		Station:	SC-RC-COMP
Sample Age:	32d 0h	Client:	Electron Hydro		

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	TU	PMSD	S
06-5509-7830	96h Proportion Survived	Dunnett Multiple Comparison Test		<10	10	n/a	>10	16.0%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	%	95% LCL	95% UCL	TU	S
18-2778-0650	96h Proportion Survived	Linear Interpolation (ICPIN)		EC5	0.1594	0.1346	0.1901	627.5	1
				EC10	0.3441	0.2871	0.416	290.6	
				EC15	0.5583	0.4598	0.6843	179.1	
				EC20	0.8067	0.6553	1.003	124	
				EC25	1.095	0.8767	1.382	91.36	
				EC40	2.264	1.732	2.998	44.17	
				EC50	3.387	2.504	4.641	29.52	

96h Proportion Survived Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	4	0.9250	0.7727	1.0000	0.8000	1.0000	0.0479	0.0957	10.35%	0.00%
10		4	0.1750	0.0227	0.3273	0.1000	0.3000	0.0479	0.0957	54.71%	81.08%
50		4	0.0750	0.0000	0.2273	0.0000	0.2000	0.0479	0.0957	127.66%	91.89%
100		4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

96h Proportion Survived Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	0.8000	0.9000
10		0.3000	0.1000	0.2000	0.1000
50		0.1000	0.0000	0.2000	0.0000
100		0.0000	0.0000	0.0000	0.0000

96h Proportion Survived Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	8/10	9/10
10		3/10	1/10	2/10	1/10
50		1/10	0/10	2/10	0/10
100		0/10	0/10	0/10	0/10

CETIS Analytical Report

Report Date: 22 Feb-21 12:30 (p 1 of 2)
Test Code/ID: 71D1FB64 / 19-0958-6788

Hyallela 24-h Acute Survival Test

EcoAnalysts

Analysis ID:	06-5509-7830	**Endpoint:**	96h Proportion Survived	**CETIS Version:**	CETISv1.9.4
Analyzed:	08 Feb-21 9:16	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Batch ID:	08-8478-7071	**Test Type:**	Survival (96h)	**Analyst:**	
Start Date:	01 Feb-21 17:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Reconstituted Water
Ending Date:	05 Feb-21 15:15	**Species:**	Hyalella azteca	**Brine:**	Not Applicable
Test Length:	94h	**Taxon:**	Malacostraca	**Source:**	Aquatic Indicators, FL **Age:** 10 d.
Sample ID:	02-8514-2920	**Code:**	10FEEF88	**Project:**	Intake 2020
Sample Date:	31 Dec-20 16:48	**Material:**	Sediment Elutriate	**Source:**	Intake 2020
Receipt Date:	01 Jan-21 10:31	**CAS (PC):**		**Station:**	SC-RC-COMP
Sample Age:	32d 0h	**Client:**	Electron Hydro		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	<10	10	n/a	>10	15.97%

Dunnett Multiple Comparison Test

Control vs	Control II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water	10*	8.826	2.18	0.216	6	CDF	1.0E-05	Significant Effect
	50*	10.3	2.18	0.216	6	CDF	3.4E-06	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.43076	1.21538	2	62.06	5.4E-06	Significant Effect
Error	0.176255	0.0195839	9			
Total	2.60701		11			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	0.08986	9.21	0.9561	Equal Variances
Variances	Levene Equality of Variance Test	0.1293	8.022	0.8803	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.0862	8.022	0.9182	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.5197	3.878	0.1904	Normal Distribution
Distribution	D'Agostino Skewness Test	0.1784	2.576	0.8584	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.2018	0.2801	0.2026	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9198	0.8025	0.2843	Normal Distribution

96h Proportion Survived Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	0.9250	0.7727	1.0000	0.9500	0.8000	1.0000	0.0479	10.35%	0.00%
10		4	0.1750	0.0227	0.3273	0.1500	0.1000	0.3000	0.0479	54.71%	81.08%
50		4	0.0750	0.0000	0.2273	0.0500	0.0000	0.2000	0.0479	127.66%	91.89%
100		4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.295	1.061	1.529	1.331	1.107	1.412	0.07348	11.35%	0.00%
10		4	0.4217	0.2232	0.6202	0.3927	0.3218	0.5796	0.06237	29.58%	67.44%
50		4	0.2757	0.0419	0.5096	0.2403	0.1588	0.4636	0.07348	53.29%	78.71%
100		4	0.1588	0.1588	0.1588	0.1588	0.1588	0.1588	0	0.00%	87.74%

96h Proportion Survived Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	0.8000	0.9000
10		0.3000	0.1000	0.2000	0.1000
50		0.1000	0.0000	0.2000	0.0000
100		0.0000	0.0000	0.0000	0.0000

CETIS Analytical Report

Report Date: 22 Feb-21 12:30 (p 2 of 2)
Test Code/ID: 71D1FB64 / 19-0958-6788

Hyallela 24-h Acute Survival Test — **EcoAnalysts**

Analysis ID:	06-5509-7830	**Endpoint:**	96h Proportion Survived	**CETIS Version:**	CETISv1.9.4
Analyzed:	08 Feb-21 9:16	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1

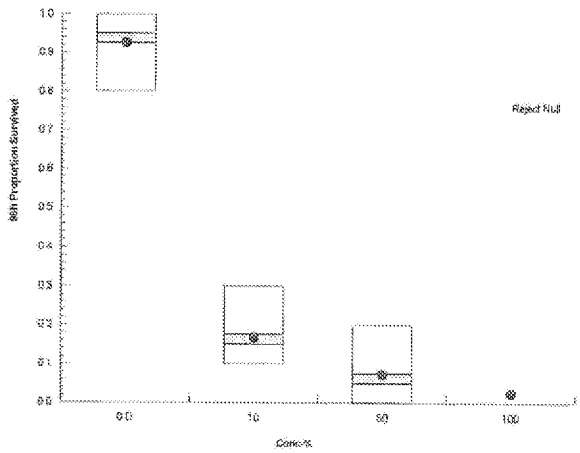
Angular (Corrected) Transformed Detail

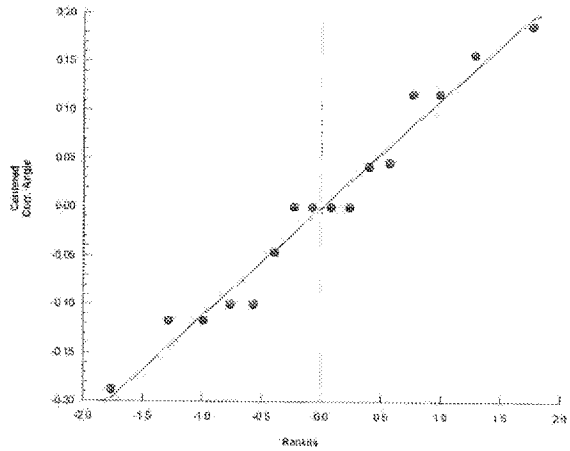
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.412	1.412	1.107	1.249
10		0.5796	0.3218	0.4636	0.3218
50		0.3218	0.1588	0.4636	0.1588
100		0.1588	0.1588	0.1588	0.1588

96h Proportion Survived Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	8/10	9/10
10		3/10	1/10	2/10	1/10
50		1/10	0/10	2/10	0/10
100		0/10	0/10	0/10	0/10

Graphics





CETIS Test Data Worksheet

Report Date: 08 Feb-21 09:16 (p 1 of 1)
Test Code/ID: 71D1FB64 / 19-0958-6788

Hyallela 24-h Acute Survival Test — EcoAnalysts

Start Date:	01 Feb-21 17:00	**Species:**	Hyalella azteca	**Sample Code:**	10FEEF88
End Date:	05 Feb-21 15:15	**Protocol:**	EPA/821/R-02-012 (2002)	**Sample Source:**	Intake 2020
Sample Date:	31 Dec-20 16:48	**Material:**	Sediment Elutriate	**Sample Station:**	SC-RC-COMP

Conc-%	Code	Rep	Pos	# Exposed	24h Survival	48h Survival	72h Survival	96h Survival	Notes
0	D	1	2	10				10	
0	D	2	8	10				10	
0	D	3	14	10				8	
0	D	4	13	10				9	
10		1	15	10				3	
10		2	3	10				1	
10		3	5	10				2	
10		4	9	10				1	
50		1	11	10				1	
50		2	4	10				0	
50		3	6	10				2	
50		4	10	10				0	
100		1	7	10				0	
100		2	1	10				0	
100		3	16	10				0	
100		4	12	10				0	

CETIS Summary Report

Report Date: 08 Feb-21 09:21 (p 1 of 1)
Test Code/ID: 4F19F7E7 / 13-2710-1927

Hyallela 24-h Acute Survival Test — EcoAnalysts

Batch ID:	08-8478-7071	Test Type:	Survival (96h)	Analyst:	
Start Date:	01 Feb-21 17:00 ✓	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	Reconstituted Water
Ending Date:	05 Feb-21 15:15 ✓	Species:	Hyalella azteca	Brine:	Not Applicable
Test Length:	94h	Taxon:	Malacostraca	Source:	Aquatic Indicators, FL ✓ Age: 10 d. ✓

Sample ID:	00-8555-3161	Code:	5197009	Project:	Intake 2020
Sample Date:	31 Dec-20 16:05 ✓	Material:	Sediment Elutriate	Source:	Intake 2020
Receipt Date:	01 Jan-21 10:31 ✓	CAS (PC):		Station:	RP-PT-COMP
Sample Age:	32d 1h	Client:	Electron Hydro		

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	TU	PMSD	S
17-4999-9764	96h Proportion Survived	Dunnett Multiple Comparison Test		100	>100	n/a	1	17.4%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	%	95% LCL	95% UCL	TU	S
12-3321-5024	96h Proportion Survived	Linear Interpolation (ICPIN)		EC5	>100	n/a	n/a	<1	1
				EC10	>100	n/a	n/a	<1	
				EC15	>100	n/a	n/a	<1	
				EC20	>100	n/a	n/a	<1	
				EC25	>100	n/a	n/a	<1	
				EC40	>100	n/a	n/a	<1	
				EC50	>100	n/a	n/a	<1	

96h Proportion Survived Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	4	0.9250	0.7727	1.0000	0.8000	1.0000	0.0479	0.0957	10.35%	0.00%
10		4	0.9000	0.7701	1.0000	0.8000	1.0000	0.0408	0.0817	9.07%	2.70%
50		4	0.9500	0.7909	1.0000	0.8000	1.0000	0.0500	0.1000	10.53%	-2.70%
100		4	0.9250	0.7727	1.0000	0.8000	1.0000	0.0479	0.0957	10.35%	0.00%

96h Proportion Survived Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	0.8000	0.9000
10		0.8000	0.9000	0.9000	1.0000
50		1.0000	0.8000	1.0000	1.0000
100		0.8000	1.0000	0.9000	1.0000

96h Proportion Survived Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	8/10	9/10
10		8/10	9/10	9/10	10/10
50		10/10	8/10	10/10	10/10
100		8/10	10/10	9/10	10/10

CETIS Analytical Report

Report Date: 22 Feb-21 12:39 (p 1 of 2)
Test Code/ID: 4F19F7E7 / 13-2710-1927

Hyallela 24-h Acute Survival Test — EcoAnalysts

Analysis ID:	17-4999-9764	**Endpoint:**	96h Proportion Survived	**CETIS Version:**	CETISv1.9.4
Analyzed:	08 Feb-21 9:21	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1

Batch ID:	08-8478-7071	**Test Type:**	Survival (96h)	**Analyst:**	
Start Date:	01 Feb-21 17:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Reconstituted Water
Ending Date:	05 Feb-21 15:15	**Species:**	Hyalella azteca	**Brine:**	Not Applicable
Test Length:	94h	**Taxon:**	Malacostraca	**Source:**	Aquatic Indicators, FL — **Age:** 10 d

Sample ID:	00-8555-3161	**Code:**	5197009	**Project:**	Intake 2020
Sample Date:	31 Dec-20 16:05	**Material:**	Sediment Elutriate	**Source:**	Intake 2020
Receipt Date:	01 Jan-21 10:31	**CAS (PC):**		**Station:**	RP-PT-COMP
Sample Age:	32d 1h	**Client:**	Electron Hydro		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	>100	n/a	1	17.40%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water	10	0.4025	2.287	0.232	6	CDF	0.5884	Non-Significant Effect
	50	-0.4025	2.287	0.232	6	CDF	0.8692	Non-Significant Effect
	100	0	2.287	0.232	6	CDF	0.7500	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0132797	0.0044266	3	0.2161	0.8834	Non-Significant Effect
Error	0.245862	0.0204885	12			
Total	0.259142		15			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	0.1217	11.34	0.9891	Equal Variances
Variances	Levene Equality of Variance Test	0.2819	5.953	0.8375	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.2153	5.953	0.8839	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.8676	3.878	0.0259	Normal Distribution
Distribution	D'Agostino Skewness Test	1.129	2.576	0.2591	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.2242	0.2471	0.0307	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.8832	0.8408	0.0436	Normal Distribution

96h Proportion Survived Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	0.9250	0.7727	1.0000	0.9500	0.8000	1.0000	0.0479	10.35%	0.00%
10		4	0.9000	0.7701	1.0000	0.9000	0.8000	1.0000	0.0408	9.07%	2.70%
50		4	0.9500	0.7909	1.0000	1.0000	0.8000	1.0000	0.0500	10.53%	-2.70%
100		4	0.9250	0.7727	1.0000	0.9500	0.8000	1.0000	0.0479	10.35%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.295	1.061	1.529	1.331	1.107	1.412	0.07348	11.35%	0.00%
10		4	1.254	1.056	1.453	1.249	1.107	1.412	0.06231	9.93%	3.15%
50		4	1.336	1.093	1.578	1.412	1.107	1.412	0.07622	11.41%	-3.15%
100		4	1.295	1.061	1.529	1.331	1.107	1.412	0.07348	11.35%	0.00%

96h Proportion Survived Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	0.8000	0.9000
10		0.8000	0.9000	0.9000	1.0000
50		1.0000	0.8000	1.0000	1.0000
100		0.8000	1.0000	0.9000	1.0000

Hyallela 24-h Acute Survival Test

EcoAnalysts

Analysis ID:	17-4999-9764	**Endpoint:**	96h Proportion Survived	**CETIS Version:**	CETISv1.9.4
Analyzed:	08 Feb-21 9:21	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1

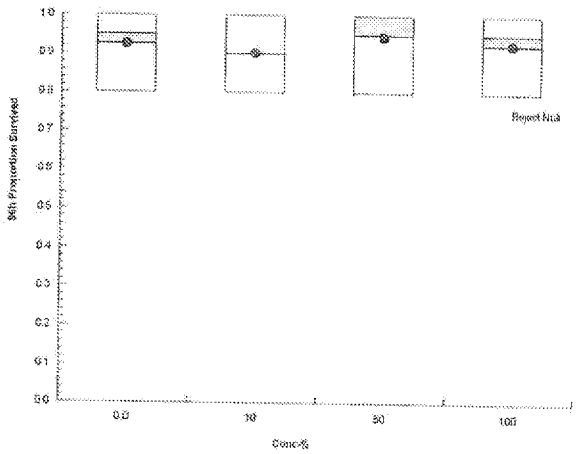
Angular (Corrected) Transformed Detail

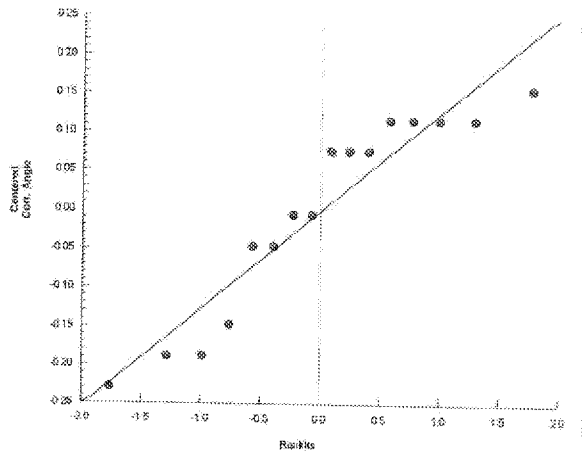
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.412	1.412	1.107	1.249
10		1.107	1.249	1.249	1.412
50		1.412	1.107	1.412	1.412
100		1.107	1.412	1.249	1.412

96h Proportion Survived Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	8/10	9/10
10		8/10	9/10	9/10	10/10
50		10/10	8/10	10/10	10/10
100		8/10	10/10	9/10	10/10

Graphics





CETIS Test Data Worksheet

Report Date: 08 Feb-21 09:21 (p 1 of 1)
Test Code/ID: 4F19F7E7 / 13-2710-1927

Hyallela 24-h Acute Survival Test — EcoAnalysts

Start Date:	01 Feb-21 17:00	**Species:**	Hyalella azteca	**Sample Code:**	5197009
End Date:	05 Feb-21 15:15	**Protocol:**	EPA/821/R-02-012 (2002)	**Sample Source:**	Intake 2020
Sample Date:	31 Dec-20 16:05	**Material:**	Sediment Elutriate	**Sample Station:**	RP-PT-COMP

Conc-%	Code	Rep	Pos	# Exposed	24h Survival	48h Survival	72h Survival	96h Survival	Notes
0	D	1	15	10				10	
0	D	2	16	10				10	
0	D	3	4	10				8	
0	D	4	11	10				9	
10		1	10	10				8	
10		2	1	10				9	
10		3	2	10				9	
10		4	3	10				10	
50		1	12	10				10	
50		2	5	10				8	
50		3	9	10				10	
50		4	6	10				10	
100		1	14	10				8	
100		2	13	10				10	
100		3	8	10				9	
100		4	7	10				10	

006-461-459-1 CETIS™ v1.9.4.3 Analyst: MK QA: MAR

EH-USA002177

ED_005624_00000029-00093

CETIS Summary Report

Report Date: 08 Feb-21 09:24 (p 1 of 1)
Test Code/ID: 1C39CB11 / 04-7354-9585

Hyallela 24-h Acute Survival Test

EcoAnalysts

Batch ID:	08-8478-7071	Test Type:	Survival (96h)	Analyst:	
Start Date:	01 Feb-21 17:00 ✓	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	Reconstituted Water
Ending Date:	05 Feb-21 15:15 ✓	Species:	Hyalella azteca	Brine:	Not Applicable
Test Length:	94h	Taxon:	Malacostraca	Source:	Aquatic Indicators, FL ✓ Age: 10 d. ✓

Sample ID:	17-4646-9676	Code:	6819032C	Project:	Intake 2020
Sample Date:	31 Dec-20 11:24 ✓	Material:	Sediment Elutriate	Source:	Intake 2020
Receipt Date:	01 Jan-21 10:31 ✓	CAS (PC):		Station:	RP-RC-COMP
Sample Age:	32d 6h	Client:	Electron Hydro		

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	TU	PMSD	S
09-8017-4155	96h Proportion Survived	Dunnett Multiple Comparison Test		100	>100	n/a	1	17.2%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	%	95% LCL	95% UCL	TU	S
17-2730-4935	96h Proportion Survived	Linear Interpolation (ICPIN)		EC5	>100	n/a	n/a	<1	1
				EC10	>100	n/a	n/a	<1	
				EC15	>100	n/a	n/a	<1	
				EC20	>100	n/a	n/a	<1	
				EC25	>100	n/a	n/a	<1	
				EC40	>100	n/a	n/a	<1	
				EC50	>100	n/a	n/a	<1	

96h Proportion Survived Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	4	0.9250	0.7727	1.0000	0.8000	1.0000	0.0479	0.0957	10.35%	0.00%
10		4	0.8750	0.6748	1.0000	0.7000	1.0000	0.0629	0.1258	14.38%	5.41%
50		4	0.9250	0.7727	1.0000	0.8000	1.0000	0.0479	0.0957	10.35%	0.00%
100		4	0.9250	0.8454	1.0000	0.9000	1.0000	0.0250	0.0500	5.41%	0.00%

96h Proportion Survived Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	0.8000	0.9000
10		0.9000	1.0000	0.9000	0.7000
50		1.0000	1.0000	0.8000	0.9000
100		0.9000	1.0000	0.9000	0.9000

96h Proportion Survived Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	8/10	9/10
10		9/10	10/10	9/10	7/10
50		10/10	10/10	8/10	9/10
100		9/10	10/10	9/10	9/10

CETIS Analytical Report

Report Date: 22 Feb-21 12:41 (p 1 of 2)
Test Code/ID: 1C39CB11 / 04-7354-9585

Hyallela 24-h Acute Survival Test

EcoAnalysts

Analysis ID:	09-6017-4155	**Endpoint:**	96h Proportion Survived	**CETIS Version:**	CETISv1.9.4
Analyzed:	08 Feb-21 9:24	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Batch ID:	08-8478-7071	**Test Type:**	Survival (96h)	**Analyst:**	
Start Date:	01 Feb-21 17:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Reconstituted Water
Ending Date:	05 Feb-21 15:15	**Species:**	Hyalella azteca	**Brine:**	Not Applicable
Test Length:	94h	**Taxon:**	Malacostraca	**Source:**	Aquatic Indicators, FL **Age:** 10 d.
Sample ID:	17-4646-9676	**Code:**	6819032C	**Project:**	Intake 2020
Sample Date:	31 Dec-20 11:24	**Material:**	Sediment Elutriate	**Source:**	Intake 2020
Receipt Date:	01 Jan-21 10:31	**CAS (PC):**		**Station:**	RP-RC-COMP
Sample Age:	32d 6h	**Client:**	Electron Hydro		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	>100	n/a	1	17.16%

Dunnett Multiple Comparison Test

Control vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water	10	0.697	2.287	0.229	6	CDF	0.4596	Non-Significant Effect
	50	0	2.287	0.229	6	CDF	0.7500	Non-Significant Effect
	100	0.05265	2.287	0.229	6	CDF	0.7309	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0139397	0.0046466	3	0.232	0.8723	Non-Significant Effect
Error	0.240304	0.0200253	12			
Total	0.254244		15			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	1.422	11.34	0.7004	Equal Variances
Variances	Levene Equality of Variance Test	0.6134	5.953	0.6192	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.6491	5.953	0.5985	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.7308	3.878	0.0565	Normal Distribution
Distribution	D'Agostino Skewness Test	0.8183	2.576	0.4132	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1973	0.2471	0.0966	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9106	0.8408	0.1191	Normal Distribution

96h Proportion Survived Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	0.9250	0.7727	1.0000	0.9500	0.8000	1.0000	0.0479	10.35%	0.00%
10		4	0.8750	0.6748	1.0000	0.9000	0.7000	1.0000	0.0629	14.38%	5.41%
50		4	0.9250	0.7727	1.0000	0.9500	0.8000	1.0000	0.0479	10.35%	0.00%
100		4	0.9250	0.8454	1.0000	0.9000	0.9000	1.0000	0.0250	5.41%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.295	1.061	1.529	1.331	1.107	1.412	0.07348	11.35%	0.00%
10		4	1.225	0.9485	1.502	1.249	0.9912	1.412	0.08699	14.20%	5.39%
50		4	1.295	1.061	1.529	1.331	1.107	1.412	0.07348	11.35%	0.00%
100		4	1.29	1.16	1.419	1.249	1.249	1.412	0.04074	6.32%	0.41%

96h Proportion Survived Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	0.8000	0.9000
10		0.9000	1.0000	0.9000	0.7000
50		1.0000	1.0000	0.8000	0.9000
100		0.9000	1.0000	0.9000	0.9000

Hyallela 24-h Acute Survival Test

EcoAnalysts

Analysis ID:	09-8017-4155	**Endpoint:**	96h Proportion Survived	**CETIS Version:**	CETISv1.9.4
Analyzed:	08 Feb-21 9:24	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1

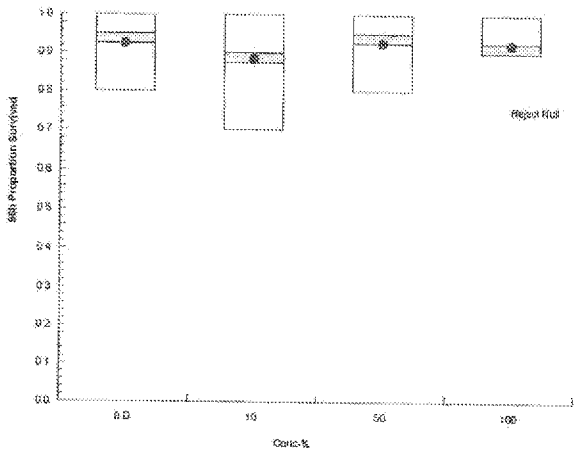
Angular (Corrected) Transformed Detail

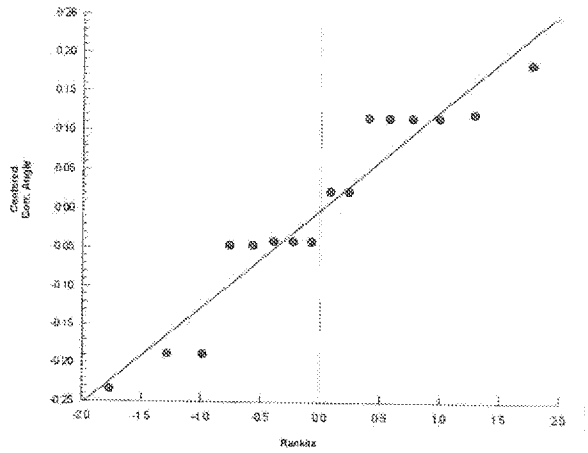
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.412	1.412	1.107	1.249
10		1.249	1.412	1.249	0.9912
50		1.412	1.412	1.107	1.249
100		1.249	1.412	1.249	1.249

96h Proportion Survived Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	8/10	9/10
10		9/10	10/10	9/10	7/10
50		10/10	10/10	8/10	9/10
100		9/10	10/10	9/10	9/10

Graphics





CETIS Test Data Worksheet

Report Date: 08 Feb-21 09:24 (p 1 of 1)
Test Code/ID: 1C39CB11 / 04-7354-9585

Hyallela 24-h Acute Survival Test

EcoAnalysts

Start Date:	01 Feb-21 17:00	**Species:**	Hyalella azteca	**Sample Code:**	6819032C
End Date:	05 Feb-21 15:15	**Protocol:**	EPA/821/R-02-012 (2002)	**Sample Source:**	Intake 2020
Sample Date:	31 Dec-20 11:24	**Material:**	Sediment Elutriate	**Sample Station:**	RP-RC-COMP

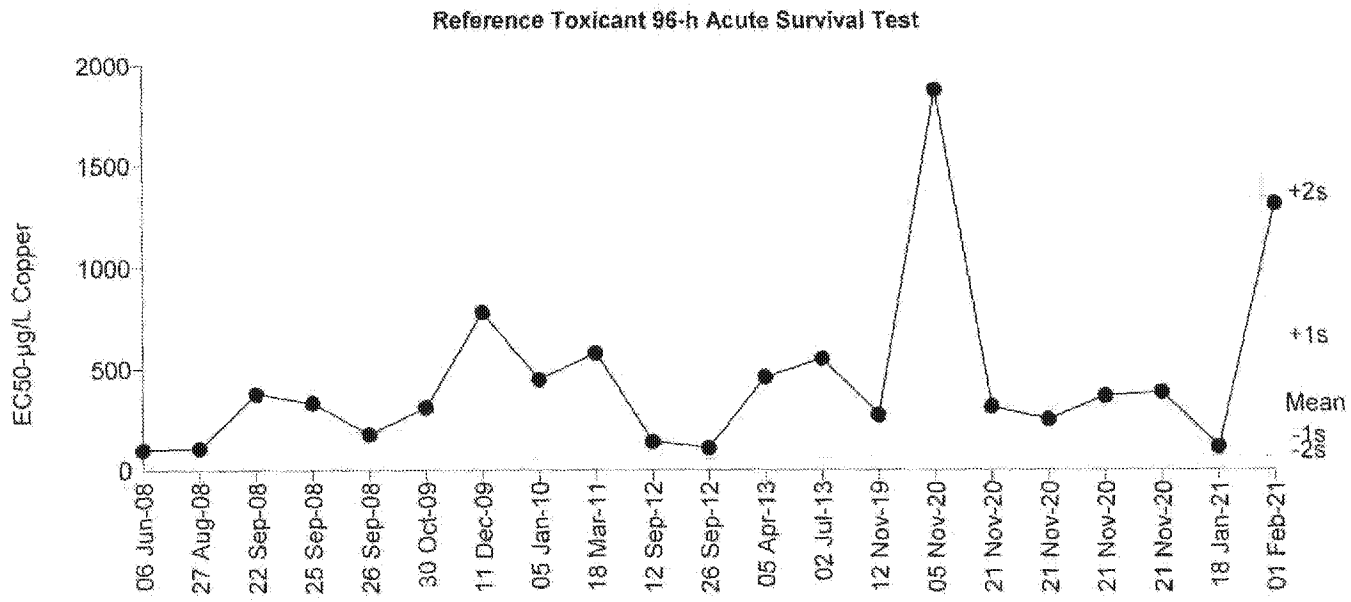
Conc-%	Code	Rep	Pos	# Exposed	24h Survival	48h Survival	72h Survival	96h Survival	Notes
0	D	1	10	10				10	
0	D	2	14	10				10	
0	D	3	7	10				8	
0	D	4	15	10				9	
10		1	9	10				9	
10		2	8	10				10	
10		3	2	10				9	
10		4	13	10				7	
50		1	4	10				10	
50		2	12	10				10	
50		3	3	10				8	
50		4	11	10				9	
100		1	1	10				9	
100		2	16	10				10	
100		3	6	10				9	
100		4	5	10				9	
				✓				✓	

CETIS QC Plot

Report Date: 09 Mar-21 09:27 (1 of 1)

Reference Toxicant 96-h Acute Survival Test — **All Matching Labs**

Test Type: Survival-Growth **Organism:** Hyalella azteca (Freshwater Amphip **Material:** Copper
Protocol: EPA/600/R-99/064 (2000) **Endpoint:** Proportion Survived **Source:** Reference Toxicant-REF



Mean:	302.5	**Count:**	20	**-1s Warning Limit:**	143.4	**-2s Action Limit:**	67.99
Sigma:	n/a	**CV:**	86.30%	**+1s Warning Limit:**	638	**+2s Action Limit:**	1346

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2008	Jun	6	16:00	101.1	-201.4	-1.468	(-)		06-8246-3812	00-7430-5634	NewFields
2		Aug	27	14:00	108.5	-193.9	-1.373	(-)		05-7236-6023	04-4539-0076	NewFields
3		Sep	22	16:00	376.8	74.36	0.2945			09-3225-5495	09-2424-1170	NewFields
4			25	15:00	331.8	29.33	0.124			06-0957-2462	19-2397-6649	NewFields
5			26	17:00	178.5	-123.9	-0.7065			19-0177-8411	05-8307-5265	NewFields
6	2009	Oct	30	16:00	310.5	8.046	0.03518			05-4959-3791	08-9717-5202	NewFields
7		Dec	11	15:00	781.3	478.8	1.272	(+)		12-1526-3959	11-3472-2205	NewFields
8	2010	Jan	5	16:05	447.8	145.3	0.5258			14-4842-4624	04-2576-9888	NewFields
9	2011	Mar	18	18:05	581.3	278.8	0.8752			08-5227-2931	15-0294-7392	NewFields
10	2012	Sep	12	14:50	142.9	-159.6	-1.005	(-)		12-2929-1352	11-9647-6389	NewFields
11			26	15:10	110.6	-191.9	-1.349	(-)		02-8561-8849	18-0604-9468	NewFields
12	2013	Apr	5	13:40	459.1	156.7	0.5593			08-9962-2765	17-5163-5104	NewFields
13		Jul	2	16:25	550.7	248.3	0.803			08-5776-1017	05-4066-9258	NewFields
14	2019	Nov	12	15:50	275.1	-27.37	-0.1271			15-4478-0927	05-7444-4649	EcoAnalysts
15	2020		5	15:30	1878	1576	2.447	(+)	(+)	20-8556-0790	02-1460-2328	EcoAnalysts
16			21	15:25	313.9	11.38	0.0495			13-4527-4168	14-2690-6679	EcoAnalysts
17			21	15:44	251.8	-50.67	-0.2457			01-0927-3404	12-8624-2946	EcoAnalysts
18			21	15:52	366.7	64.21	0.258			15-8117-3720	19-7683-8730	EcoAnalysts
19			21	16:03	385.2	82.74	0.324			07-9842-9590	03-4456-8529	EcoAnalysts
20	2021	Jan	18	16:54	115.3	-187.2	-1.293	(-)		13-0101-3933	14-5565-4738	EcoAnalysts
21		Feb	1	18:00	1320	1017	1.974	(+)		01-5920-9609	02-7554-6241	EcoAnalysts

CETIS Summary Report

Report Date: 08 Feb-21 10:28 (p 1 of 1)
Test Code/ID: 97D5889 / 01-5920-9609

Reference Toxicant 96-h Acute Survival Test — EcoAnalysts

Batch ID:	10-1829-5899	Test Type:	Survival-Growth	Analyst:	
Start Date:	01 Feb-21 18:00 ✓	Protocol:	EPA/600/R-99/064 (2000)	Diluent:	Reconstituted Water
Ending Date:	05 Feb-21 16:00 ✓	Species:	Hyalella azteca	Brine:	Not Applicable
Test Length:	94h	Taxon:	Malacostraca	Source:	Aquatic Indicators, FL — Age: 10 d.

Sample ID:	11-9326-2569	Code:	471FBDE9	Project:	Reference Toxicant
Sample Date:	03 Jun-19	Material:	Copper	Source:	Reference Toxicant
Receipt Date:	03 Jun-19	CAS (PC):		Station:	P190603.79 ✓
Sample Age:	609d 18h	Client:	Internal Lab		

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	TU	PMSD	S
04-9383-7734	Proportion Survived	Fisher Exact/Bonferroni-Holm Test		1000	2000	1414		n/a	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	µg/L	95% LCL	95% UCL	TU	S
02-7554-6241	Proportion Survived	Linear Interpolation (ICPIN)		EC5	500	157.5	707.2		1
				EC10	574.4	198.5	1000		
				EC15	659.8	500	1059		
				EC20	757.9	574.4	1122		
				EC25	870.6	630	1189		
				EC40	1149	793.8	1414		
				EC50	1320	890.9	1682		

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits Lower	TAC Limits Upper	Overlap	Decision
02-7554-6241	Proportion Survived	Control Resp	1	0.8	>>	Yes	Passes Criteria
04-9383-7734	Proportion Survived	Control Resp	1	0.8	>>	Yes	Passes Criteria

Proportion Survived Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
125		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
250		10	0.9000	0.6738	1.0000	0.0000	1.0000	0.1000	0.3162	35.14%	10.00%
500		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
1000		10	0.7000	0.3544	1.0000	0.0000	1.0000	0.1528	0.4830	69.01%	30.00%
2000		10	0.2000	0.0000	0.5016	0.0000	1.0000	0.1333	0.4216	210.82%	80.00%

Proportion Survived Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
125		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
250		1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
500		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1000		1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	0.0000	1.0000	0.0000
2000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	1.0000

Proportion Survived Binomials

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
125		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
250		1/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1	1/1
500		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
1000		1/1	1/1	1/1	0/1	1/1	1/1	1/1	0/1	1/1	0/1
2000		0/1	0/1	0/1	0/1	0/1	0/1	1/1	0/1	0/1	1/1

CETIS Test Data Worksheet

Report Date: 08 Feb-21 10:28 (p 1 of 2)
Test Code/ID: 97D5889 / 01-5920-9609

Reference Toxicant 96-h Acute Survival Test — EcoAnalysts

Start Date:	01 Feb-21 18:00	Species:	Hyalella azteca	Sample Code:	471FBDE9
End Date:	05 Feb-21 16:00	Protocol:	EPA/600/R-99/064 (2000)	Sample Source:	Reference Toxicant
Sample Date:	03 Jun-19	Material:	Copper	Sample Station:	P190603.79

Conc-µg/L	Code	Rep	Pos	# Exposed	# Survived	Total Weight-mg	Tare Weight-mg	Pan Count	Mean Length-mm	Notes
0	D	1	41	1	1		0			
0	D	2	36	1	1		0			
0	D	3	12	1	1		0			
0	D	4	40	1	1		0			
0	D	5	27	1	1		0			
0	D	6	9	1	1		0			
0	D	7	46	1	1		0			
0	D	8	25	1	1		0			
0	D	9	16	1	1		0			
0	D	10	53	1	1		0			
125		1	59	1	1		0			
125		2	47	1	1		0			
125		3	7	1	1		0			
125		4	37	1	1		0			
125		5	17	1	1		0			
125		6	49	1	1		0			
125		7	43	1	1		0			
125		8	5	1	1		0			
125		9	33	1	1		0			
125		10	50	1	1		0			
250		1	30	1	1		0			
250		2	19	1	1		0			
250		3	48	1	1		0			
250		4	15	1	0		0			
250		5	3	1	1		0			
250		6	31	1	1		0			
250		7	24	1	1		0			
250		8	60	1	1		0			
250		9	44	1	1		0			
250		10	14	1	1		0			
500		1	39	1	1		0			
500		2	26	1	1		0			
500		3	23	1	1		0			
500		4	8	1	1		0			

CETIS Test Data Worksheet

Report Date: 08 Feb-21 10:28 (p 2 of 2)
Test Code/ID: 97D5889 / 01-5920-9609

Conc-µg/L	Code	Rep	Pos	# Exposed	# Survived	Total Weight-mg	Tare Weight-mg	Pan Count	Mean Length-mm	Notes
500		5	52	1	1		0			
500		6	13	1	1		0			
500		7	56	1	1		0			
500		8	58	1	1		0			
500		9	4	1	1		0			
500		10	42	1	1		0			
1000		1	2	1	1		0			
1000		2	54	1	1		0			
1000		3	1	1	1		0			
1000		4	29	1	0		0			
1000		5	32	1	1		0			
1000		6	57	1	1		0			
1000		7	18	1	1		0			
1000		8	22	1	0		0			
1000		9	34	1	1		0			
1000		10	20	1	0		0			
2000		1	10	1	0		0			
2000		2	51	1	0		0			
2000		3	6	1	0		0			
2000		4	55	1	0		0			
2000		5	35	1	0		0			
2000		6	38	1	0		0			
2000		7	21	1	1		0			
2000		8	11	1	0		0			
2000		9	28	1	0		0			
2000		10	45	1	1		0			

EcoAnalysts

Toxicant:	Copper Chloride
Ref Tox ID:	P190603.79
Lot #:	50014418
Protocol:	TOX022
Replicates:	10

Date Test Started:	1800 2/1/21
Date Test Ended:	1600 2/5/21
Matrix:	Liquid
Species:	*Hyalella azteca*
No. of Org. per Chamber:	1

	Conc. (µg/L)	Meter #:	DO (mg/L) (>2.5)	Meter #:	Temp (°C) (23±1°C)	Meter #:	Conductivity (uS/cm)	Meter #:	pH (6 - 9)
Day 0 (Stock)	Control	8	9.1	8	22.2	8	330	8	7.6
Date: 2.1.21	125		9.0		23.0		329		7.7
Time: 1637	250		8.9		23.3		329		7.7
Technician: BH	500		8.9		22.4		328		7.8
	1000		8.9		22.8		329		7.8
Feed: BH	2000		8.8		22.8		328		7.7
			Day 1		Day 2		Day 3		Day 4
Temperature (OLD)			22.6		21.7		23.6		
Meter# / Tech		8	MK	T15	JL	T10	MKW		
Feeding (100µL YCT/chamber)					JL				
Day 4	Control	8	8.2	8	23.6 ①	8	338	8	7.9
Date:	125		8.5		23.6		338		8.0
Time:	250		8.5		23.6		340		8.0
WQ Surr	500		② ~~8.5~~ 8.7		23.6		348 ② ~~345~~		8.1
Technician:	1000		8.6		23.6		340		8.1
	2000		8.6		23.6		340		8.1

Dilution Preparation (Serial dilute by 50%)

$CuCl_2$ Stock Solution:	Target Stock Solution Conc.	Volume of Stock Solution	Amt. of Toxicant
400,000 µg Cu/L	2000 ppb	500 mL	2.50 mL

Start Time:	1800
End Time:	1600 MS
Test Acceptability:	≥90% survival in control
Chamber Size/Type	1oz/30mL cup
Exposure Volume:	20mL
Substrate	Silica sand

Test Location:	Inc # 1
Dilution Water Batch:	KFW 012121
Supplier:	Aquatic Indicators
Organism Batch:	AI 012921 Age: 10d

*sand added to cups

① Temp Blank - NL 2/5/21
② M.C. - NL 2/5/21

7 Day Chronic Survival and Reproduction Test

EcoANALYSTS

Toxicant:	Copper Chloride
Ref Tox ID:	P190603-79

Date Test Started:	2/1/21 1800
Date Test Ended:	2/5/21 1600

Species:	*Hyalella azteca*

Control

Day/Date	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	# of Adults	Tech
1/												
2/												
3/												
4/ 2/5	1	1	1	1	1	1	1	1	1	1	10	MS

125 µg/L Copper

Day/Date	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	# of Adults	Tech
1/												
2/												
3/												
4/ 2/5	1	1	1	1	1	1	1	1	1	1	10	MS

250 µg/L Copper

Day/Date	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	# of Adults	Tech
1/												
2/												
3/												
4/ 2/5	1	1	1	0	1	1	1	1	1	1	9	MS

500 µg/L Copper

Day/Date	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	# of Adults	Tech
1/												
2/												
3/												
4/ 2/5	1	1	1	1	1	1	1	1	1	1	10	MS

1000 µg/L Copper

Day/Date	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	# of Adults	Tech
1/												
2/												
3/												
4/ 2/5	1	1	1	0	1	1	1	0	1	0	7	MS

2000 µg/L Copper

Day/Date	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	# of Adults	Tech
1/												
2/												
3/												
4/ 2/5	0	0	0	0	0	0	1	0	0	1	2	MS

EcoANALYSTS

96 Hour Acute Toxicity Screen Data Sheet

Dilution Worksheet

Client	Electron Hydro
Project:	Intake Project 2020
Client Sample ID:	SC-PT-Comp
Sample ID:	P210107.03
Organism Batch No.:	TF011221

Date Received:	31 Dec 20
Species:	Oncorhynchus mykiss
# Organisms/Chamber:	10
D.W. Type	Carbon Filtered Tap Water
D.W. Batch	CFTW012021.02

Test Substance Weight Calculations

Conc. (mg/L)	100	10
Total Volume (TV)(mL)	6000	6000
Grams of Substance	0.60	0.06

Weigh out test substance, add to volumetric flask, fill flask to target shake volume (200 mL) transfer to shake jar ①

Rep 1

Conc. (ppm)	Target Test Substance Weight (g)	Actual Test Substance Weight (g)	Target Shake Dilution Water Volume (mL)	Actual Shake Dilution Water Volume (mL)	Target Chamber Dilution Water (mL) (TV - E)	Actual Chamber Dilution Water (mL)	Final Conc. (C*1000)/((E+G)/1000) (mg/L)
A	B	C	D	E	F	G	H
0	0.00	0.00	200	200	5800	5800	0
10	0.06	0.60	200	200	5800	5800	10
100	0.60	0.06	200	200	5800	5800	100

Rep 2

Conc. (ppm)	Target Test Substance Weight (g)	Actual Test Substance Weight (g)	Target Shake Dilution Water Volume (mL)	Actual Shake Dilution Water Volume (mL, ~~volumetric not~~ mass)	Target Chamber Dilution Water (mL) (TV - E)	Actual Chamber Dilution Water (mL)	Final Conc. (C*1000)/((G+E)/1000) (mg/L)
A	B	C	D	E	F	G	H
0	0.00	0.00	200	200	5800	5800	0
10	0.06	0.06	200	200	5800	5800	10
100	0.60	0.60	200	200	5800	5800	100

Rep 3

Conc. (ppm)	Target Test Substance Weight (g)	Actual Test Substance Weight (g)	Target Shake Dilution Water Volume (mL)	Actual Shake Dilution Water Volume (mL, ~~volumetric not~~ mass)	Target Chamber Dilution Water (mL) (TV - E)	Actual Chamber Dilution Water (mL)	Final Conc. (C*1000)/((G+E)/1000) (mg/L)
A	B	C	D	E	F	G	H
0	0.00	0.00	200	200	5800	5800	0
10	0.06	0.06	200	200	5800	5800	10
100	0.60	0.60	200	200	5800	5800	100

① measured gravimetrically.

EcoAnalysts

96 Hour Acute Toxicity Screen Data Sheet

Dilution Worksheet

Client	Electron Hydro
Project:	Intake Project 2020
Client Sample ID:	SC-RC-Comp
Sample ID:	(3) ~~P20~~ P210107.04
Organism Batch No.:	TF011221

Date Received:	31 Dec 20
Species:	Oncorhynchus mykiss
# Organisms/Chamber:	10
D.W. Type	Carbon Filtered Tap Water
D.W. Batch	CFTW012021.02

Test Substance Weight Calculations

Conc. (mg/L)	100	10
Total Volume (TV)(mL)	6000	6000
Grams of Substance	0.60	0.06

Weigh out test substance, add to volumetric flask, fill flask to target shake volume (200 mL) transfer to shake jar (2)

Rep 1

Conc. (ppm)	Target Test Substance Weight (g)	Actual Test Substance Weight (g)	Target Shake Dilution Water Volume (mL)	Actual Shake Dilution Water Volume (mL)	Target Chamber Dilution Water (mL) (TV - E)	Actual Chamber Dilution Water (mL)	Final Conc. (C*1000)/((E+G)/1000) (mg/L)
A	B	C	D	E	F	G	H
0	~~0.00~~		~~200~~				
10	0.06	0.06	200	200	5800	5800	10
100	0.60	0.60	200	200	5800	5800	100

Rep 2

Conc. (ppm)	Target Test Substance Weight (g)	Actual Test Substance Weight (g)	Target Shake Dilution Water Volume (mL)	Actual Shake Dilution Water Volume (mL, ~~volumetric not~~ mass)	Target Chamber Dilution Water (mL) (TV - E)	Actual Chamber Dilution Water (mL)	Final Conc. (C*1000)/((G+E)/1000) (mg/L)
A	B	C	D	E	F	G	H
0	~~0.00~~		~~200~~				
10	0.06	(1) ~~0.06~~ 0.00	200	200	5800	5800	10
100	0.60	0.60	200	200	5800	5800	100

Rep 3

Conc. (ppm)	Target Test Substance Weight (g)	Actual Test Substance Weight (g)	Target Shake Dilution Water Volume (mL)	Actual Shake Dilution Water Volume (mL, ~~volumetric not~~ mass)	Target Chamber Dilution Water (mL) (TV - E)	Actual Chamber Dilution Water (mL)	Final Conc. (C*1000)/((G+E)/1000) (mg/L)
A	B	C	D	E	F	G	H
0	~~0.00~~		200				
10	0.06	0.06	200	200	5800	5800	10
100	0.60	0.60	200	200	5800	5800	100

(1) WC. MK 1/20.
(2) measured gravimetrically.
(3) IE. MK 1/26.

EcoAnalysts

96 Hour Acute Toxicity Screen Data Sheet

Dilution Worksheet

Client	Electron Hydro
Project:	Intake Project 2020
Client Sample ID:	RP-PT-Comp
Sample ID:	P210107.06
Organism Batch No.:	TF011221

Date Received:	31 Dec 20
Species:	Oncorhynchus mykiss
# Organisms/Chamber:	10
D.W. Type	Carbon Filtered Tap Water
D.W. Batch	CFTW012021.02

Test Substance Weight Calculations

Conc. (mg/L)	100	10
Total Volume (TV)(mL)	6000	6000
Grams of Substance	0.60	0.06

Weigh out test substance, add to volumetric flask, fill flask to target shake volume (200 mL) transfer to shake jar (1)

Rep 1

Conc. (ppm)	Target Test Substance Weight (g)	Actual Test Substance Weight (g)	Target Shake Dilution Water Volume (mL)	Actual Shake Dilution Water Volume (mL)	Target Chamber Dilution Water (mL) (TV - E)	Actual Chamber Dilution Water (mL)	Final Conc. (C*1000)/((E+G)/1000) (mg/L)
A	B	C	D	E	F	G	H
0	~~0.00~~		~~200~~				
10	0.06	0.06	200	200	5800	5800	10
100	0.60	0.60	200	200	5800	5800	100

Rep 2

Conc. (ppm)	Target Test Substance Weight (g)	Actual Test Substance Weight (g)	Target Shake Dilution Water Volume (mL)	Actual Shake Dilution Water Volume (mL, ~~volumetric not~~ mass)	Target Chamber Dilution Water (mL) (TV - E)	Actual Chamber Dilution Water (mL)	Final Conc. (C*1000)/((G+E)/1000) (mg/L)
A	B	C	D	E	F	G	H
0	~~0.00~~		~~200~~				
10	0.06	0.06	200	200	5800	5800	10
100	0.60	0.60	200	200	5800	5800	100

Rep 3

Conc. (ppm)	Target Test Substance Weight (g)	Actual Test Substance Weight (g)	Target Shake Dilution Water Volume (mL)	Actual Shake Dilution Water Volume (mL, ~~volumetric not~~ mass)	Target Chamber Dilution Water (mL) (TV - E)	Actual Chamber Dilution Water (mL)	Final Conc. (C*1000)/((G+E)/1000) (mg/L)
A	B	C	D	E	F	G	H
0	~~0.00~~		~~200~~				
10	0.06	0.06	200	200	5800	5800	10
100	0.60	0.60	200	200	5800	5800	100

(1) measured gravimetrically.

EcoAnalysts

96 Hour Acute Toxicity Screen Data Sheet

Dilution Worksheet

Client	Electron Hydro
Project:	Intake Project 2020
Client Sample ID:	RP-RC-Comp
Sample ID:	P210107.05
Organism Batch No.:	TF011221

Date Received:	31 Dec 20
Species:	Oncorhynchus mykiss
# Organisms/Chamber:	10
D.W. Type	Carbon Filtered Tap Water
D.W. Batch	CFTW012021.02

Test Substance Weight Calculations

Conc. (mg/L)	100	10
Total Volume (TV)(mL)	6000	6000
Grams of Substance	0.60	0.06

Weigh out test substance, add to volumetric flask, fill flask to target shake volume (200 mL) transfer to shake jar ①

Rep 1

Conc. (ppm)	Target Test Substance Weight (g)	Actual Test Substance Weight (g)	Target Shake Dilution Water Volume (mL)	Actual Shake Dilution Water Volume (mL)	Target Chamber Dilution Water (mL) (TV - E)	Actual Chamber Dilution Water (mL)	Final Conc. (C*1000)/((E+G)/1000) (mg/L)
A	B	C	D	E	F	G	H
0	~~0.00~~		~~200~~				
10	0.06	0.06	200	200	5800	5800	10
100	0.60	0.60	200	200	5800	5800	100

Rep 2

Conc. (ppm)	Target Test Substance Weight (g)	Actual Test Substance Weight (g)	Target Shake Dilution Water Volume (mL)	Actual Shake Dilution Water Volume (mL, ~~volumetric not~~ mass)	Target Chamber Dilution Water (mL) (TV - E)	Actual Chamber Dilution Water (mL)	Final Conc. (C*1000)/((G+E)/1000) (mg/L)
A	B	C	D	E	F	G	H
0	~~0.00~~		~~200~~				
10	0.06	0.06	200	200	5800	5800	10
100	0.60	0.60	200	200	5800	5800	100

Rep 3

Conc. (ppm)	Target Test Substance Weight (g)	Actual Test Substance Weight (g)	Target Shake Dilution Water Volume (mL)	Actual Shake Dilution Water Volume (mL, ~~volumetric not~~ mass)	Target Chamber Dilution Water (mL) (TV - E)	Actual Chamber Dilution Water (mL)	Final Conc. (C*1000)/((G+E)/1000) (mg/L)
A	B	C	D	E	F	G	H
0	~~0.00~~		~~200~~				
10	0.06	0.06	200	200	5800	5800	10
100	0.60	0.60	200	200	5800	5800	100

① measured gravimetrically.

EcoAnalysts

96-Hour Acute Toxicity Test
Oncorhynchus mykiss
Dangerous Waste (80-12)

Client	Electron Hydro
Project:	Intake Project 2020
Client Sample ID:	SC-PT-Comp
Sample ID:	P210107.03
Protocol:	TOX048
Study Director:	M. Knowlen

Date Received:	31 Dec 20
Date Test Started:	22 Jan 21
Date Test Ended:	26 Jan 21
Matrix:	Liquid
Species:	*Oncorhynchus mykiss*
# Organisms/Chamber:	10

	Conc. (mg/L)	DO > 5.4 mg/L [1]	Temp 12 ± 2 °C	Cond. (µS/cm)	pH (6 - 9)	Hardness mg/L $CaCO_3$	Alkalinity mg/L $CaCO_3$
Day 0 (0 hours)	Control	10.6	12.1	212	8.2	102	93
Date: 1/22/21	10	10.4	13.0	211	7.7	98	92
Time: 1015	100	10.4	13.0	212	7.9	90	93
Tech: MK Rep: 1							
24 hours meter 9	Control	8.0	13.1	211	6.7		
Date: 1/23/2021	10	8.4	12.7	212	6.7		
Time: 1040	100	8.5	13.3	210	6.8		
Tech: NL Rep: 2							
48 hours meter 8	Control	8.5	12.6	215	7.6		
Date: 1/24/2021	10	8.4	13.0	215	7.5		
Time: 1135	100	8.5	12.6	215	7.5		
Tech: NL Rep: 3							
72 hours meter 8	Control	8.6	12.4	206	6.8		
Date: 1/25/21	10	8.9	12.3	207	6.9		
Time: 1135	100	9.0	12.4	207	7.2		
Tech: MS Rep: 1							
96 hours meter 9	Control	8.7	12.4	195	7.7		
Date: 1/26/21	10	8.1	12.2	200	7.5		
Time: 0915	100	8.7	12.5	198	7.6		
Tech: MK Rep: 2							

[1] Dissolved Oxygen should be 9.7 mg/L at test initiation; for test remainder must be > 5.4 mg/L and aerated if < 6.4 mg/L

Start Time:	1320 MK		
End Time:	1240 MK		
Supplier:	Thomas Fish Co.		
Organism Batch:	TF011221	Age: 36 d.	
Test Location:	Bath 7		

Dilution Water Batch	CFTW012021.02

Codes: IE = Incorrect entry

MR = Meter reading changed;meter not ready

① Wrong Sheet – SH 1/22/21

ECO ANALYSTS

96-Hour Acute Toxicity Test
Oncorhynchus mykiss
Dangerous Waste (80-12)

Client	Electron Hydro
Project:	Intake Project 2020
Client Sample ID:	SC-RC-Comp
Sample ID:	P210107.04
Protocol:	TOX048
Study Director:	M. Knowlen

Date Received:	31 Dec 20
Date Test Started:	22 Jan 21
Date Test Ended:	26 Jan 21
Matrix:	Liquid
Species:	*Oncorhynchus mykiss*
# Organisms/Chamber:	10

	Conc. (mg/L)	DO > 6.4 mg/L [1]	Temp 12 ± 2 °C	Cond. (µS/cm)	pH (6 - 9)	Hardness mg/L $CaCO_3$	Alkalinity mg/L $CaCO_3$
Day 0 (0 hours)	Control						
Date: 1/22/21	10	9.8	13.1	206	7.2	92	90
Time: 1015	100	10.4	12.7	211	7.2	91	98
Tech: MK Rep: 1							
24 hours meter 9	Control						
Date: 1/23/2021	10	8.5	12.8	212	7.5		
Time: 1040	100	8.0	13.5	211	7.7		
Tech: NL Rep: 2							
48 hours meter 8	Control						
Date: 1/24/2021	10	8.5	12.8	221	7.6		
Time: 1150	100	8.5	13.2	216	7.6		
Tech: NL Rep: 3							
72 hours	Control						
Date: 1/25/21	10	8.8	12.7	207	7.4		
Time: 1135	100	8.7	12.5	209	7.4		
Tech: MS Rep: 1							
96 hours	Control						
Date: 1/26/21	10	8.5	12.3	196	7.5		
Time: 0915	100	8.6	12.1	195	7.8		
Tech: MK Rep: 2							

[1] Dissolved Oxygen should be 9.7 mg/L at test initiation; for test remainder must be > 5.4 mg/L and aerated if < 6.4 mg/L

Start Time:	1320 MK		
End Time:	1240 MK		
Supplier:	Thomas Fish Co.		
Organism Batch:	TF011221	Age:	36 d.
Test Location:	Bath 7		

Dilution Water Batch	CFGW012021.02

Codes: IE = Incorrect entry

MR = Meter reading changed;meter not ready

EcoAnalysts

96-Hour Acute Toxicity Test
Oncorhynchus mykiss
Dangerous Waste (80-12)

Client	Electron Hydro
Project:	Intake Project 2020
Client Sample ID:	RP-PT-Comp
Sample ID:	P210107.06
Protocol:	TOX048
Study Director:	M. Knowlen

Date Received:	31 Dec 20
Date Test Started:	22 Jan 21
Date Test Ended:	26 Jan 21
Matrix:	Liquid
Species:	*Oncorhynchus mykiss*
# Organisms/Chamber:	10

	Conc. (mg/L)	DO > 5.4 mg/L [1]	Temp 12 ± 2 °C	Cond. (µS/cm)	pH (6 - 9)	Hardness mg/L $CaCO_3$	Alkalinity mg/L $CaCO_3$
Day 0 (0 hours)	Control						
Date: 1/22/21	10	10.2	12.7	209	8.0	88	90
Time: 1015	100	10.3	12.3	211	7.9	88	94
Tech: MK Rep: 1							
24 hours meter 9	Control						
Date: 1/23/2021	10	8.4	12.9	211	7.9		
Time: 1040	100	8.5	12.8	213	8.0		
Tech: NL Rep: 2							
48 hours meter 8	Control						
Date: 1/24/2021	10	8.4	13.0	215	7.7		
Time: 1157	100	8.4	13.7	212	7.7		
Tech: NL Rep: 3							
72 hours	Control						
Date: 1/25/21	10	9.1	12.8	205	7.4		
Time: 1135	100	8.8	12.4	205	7.5		
Tech: MS Rep: 1							
96 hours	Control						
Date: 1/26/21	10	8.7	12.2	195	7.7		
Time: 0915	100	8.7	12.2	195	7.6		
Tech: MP Rep: 2							

[1] Dissolved Oxygen should be 9.7 mg/L at test initiation; for test remainder must be > 5.4 mg/L and aerated if < 6.4 mg/L

Start Time:	1320 MK		
End Time:	1240 MK		
Supplier:	Thomas Fish Co.		
Organism Batch:	TF011221	Age:	3½ d.
Test Location:	Bath 7		

Dilution Water Batch	CFTW012021.02

Codes: IE = Incorrect entry

MR = Meter reading changed;meter not ready

EcoANALYSTS

96-Hour Acute Toxicity Test
Oncorhynchus mykiss
Dangerous Waste (80-12)

Client	Electron Hydro
Project:	Intake Project 2020
Client Sample ID:	RP-RC-Comp
Sample ID:	P210107.05
Protocol:	TOX048
Study Director:	M. Knowlen

Date Received:	31 Dec 20
Date Test Started:	22 Jan 21
Date Test Ended:	26 Jan 21
Matrix:	Liquid
Species:	*Oncorhynchus mykiss*
# Organisms/Chamber:	10

	Conc. (mg/L)	DO > 5.4 mg/L [1]	Temp 12 ± 2 °C	Cond. (µS/cm)	pH (6 - 9)	Hardness mg/L $CaCO_3$	Alkalinity mg/L $CaCO_3$
Day 0 (0 hours)	Control						
Date: 1/22/21	10	10.5	12.3	211	8.1	90	99
Time: 1015	100	10.6	12.0	213	8.1	90	92
Tech: MK Rep: 1							
24 hours meter 9	Control						
Date: 1/23/2021	10	8.4	13.4	210	7.9		
Time: 1040	100	8.3	12.7	211	7.9		
Tech: NL Rep: 2							
48 hours meter 8	Control						
Date: 1/24/2021	10	8.3	12.9	217	7.7		
Time: 1202	100	8.0	13.1	217	7.7		
Tech: NL Rep: 3							
72 hours	Control						
Date: 1/25/21	10	8.7	12.4	205	7.5		
Time: 1135	100	8.8	12.2	206	7.5		
Tech: MS Rep: 1							
96 hours	Control						
Date: 1/26/21	10	8.7	12.2	194	7.7		
Time: 0915	100	8.7	12.2	197	7.8		
Tech: MK Rep: 2							

[1] Dissolved Oxygen should be 9.7 mg/L at test initiation; for test remainder must be > 5.4 mg/L and aerated if < 6.4 mg/L

Start Time:	1320 MK		
End Time:	1240 MK		
Supplier:	Thomas Fish Co.		
Organism Batch:	TF011221	Age:	36 d.
Test Location:	Bath 7		

Dilution Water Batch	CFTW012021.02

Codes: IE = Incorrect entry

MR = Meter reading changed;meter not ready

EcoANALYSTS

96-Hour Acute Toxicity Test
Oncorhynchus mykiss
Dangerous Waste (80-12)

Client:	Electron Hydro
Project:	Intake Project 2020
Protocol:	TOX048
Study Director:	M. Knowles

Date Received:	31 Dec 20
Date Test Started:	~~44-Jan-21~~ 1/22/21
Date Test Ended:	~~48-Jan-21~~ 1/26/21
Matrix:	Liquid
Species:	*Oncorhynchus mykiss*
# Organisms/Chamber:	10

Survival			24 Hours Date: 1/23/2021 Time: 1020		48 Hours Date: 1/24/2021 Time: 1135		72 Hours Date: 1/25/21 Time: 1155		96 Hours Date: 1/26/21 Time: 1240	
	Conc. (mg/L)	Rep	# Alive	# Dead	# Alive	# Dead	# Alive	# Dead	# Alive	# Dead
	Control	1	10	0	10	0	10	0	10	0
		2	10	0	10	0	10	0	10	0
		3	10	0	10	0	10	0	10	0
SC-PT-Comp	10	1	10	0	(2) 10	0	10	0	10	0
		2	10	0	10	0	10	0	10	0
		3	10	0	10	0	10	0	10	0
	100	1	10	0	10	0	10	0	10	0
		2	10	0	10	0	10	0	10	0
		3	(1) 10	0	10	0	10	0	10	0
SC-RC-Comp	10	1	10	0	10	0	10	0	10	0
		2	10	0	10	0	10	0	10	0
		3	10	0	10	0	10	0	10	0
	100	1	10	0	10	0	10	0	10	0
		2	10	0	10	0	10	0	10	0
		3	10	0	10	0	10	0	10	0
RP-PT-Comp	10	1	10	0	10	0	10	0	10	0
		2	10	0	10	0	10	0	10	0
		3	10	0	10	0	10	0	10	0
	100	1	10	0	10	0	10	0	10	0
		2	10	0	10	0	10	0	10	0
		3	10	0	10	0	10	0	10	0
RP-RC-Comp	10	1	10	0	10	0	10	0	10	0
		2	10	0	10	0	10	0	10	0
		3	10	0	10	0	10	0	10	0
	100	1	10	0	10	0	10	0	10	0
		2	10	0	10	0	10	0	10	0
		3	10	0	10	0	10	0	10	0
		INITIALS:	NL		NL		MS		MS	

Codes:
NB = No body found
PB = Missing body found (if number differs from previous days)
TC = Too cloudy/turbid to enumerate
Q = Animal quiescent (near death)
LOE = Loss of equilibrium / unusual swimming behavior
ES = Animal observed moulting / eating sample solids

(1) One of the fish was observed taking a bite of the black granule. - NL 1/23/2021

(2) Fish were observed to be lethargic. - NL 1/24/2021

EcoANALYSTS

Organism Weight / Length for *Oncorhynchus mykiss* Dangerous Waste (80-12)

Client	Electron Hydro
Project:	Intake Project 2020
Protocol:	TOX048
Study Director:	M. Knowlen

Date Received:	31 Dec 20
Date Test Started:	~~14 Jan 21~~ 1/22/21
Date Test Ended:	~~18 Jan 21~~ 1/26/21
Matrix:	Liquid
Species:	*Oncorhynchus mykiss*
# Organisms/Chamber:	10

Organism Length and Weights

Date / Time: 1/26/21			Technician: MK		
	Length (mm)	Weight (g)		Length (mm)	Weight (g)
1)	33	0.421	6)	(1) ~~40~~ 34	0.465
2)	34	0.454	7)	33	0.436
3)	33	0.410	8)	32	0.372
4)	30	0.348	9)	33	0.471
5)	32	0.429	10)	28	0.228
Average Length (mm): 0	32.2		Average Weight (g): 0	0.403	

0

Note: All fish taken from Control Rep 1 unless otherwise specified.

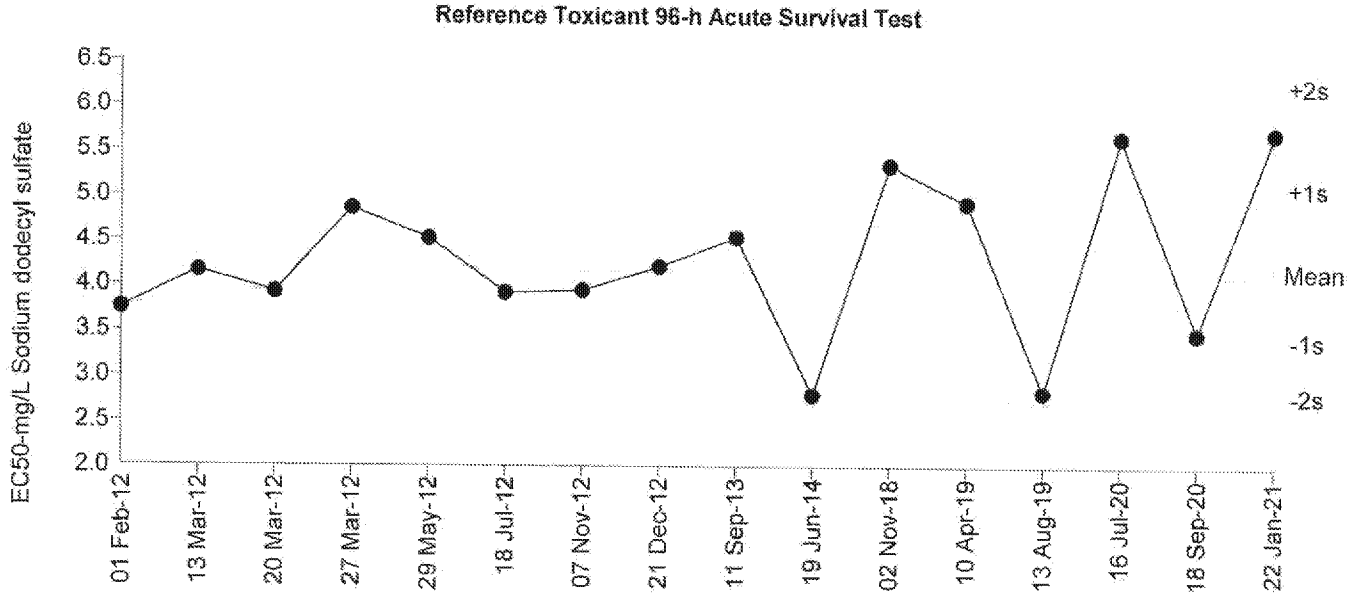
(1) IE. MK 1/26

CETIS QC Plot

Report Date: 09 Mar-21 09:43 (1 of 1)

Reference Toxicant 96-h Acute Survival Test — **All Matching Labs**

Test Type:	Survival	**Organism:**	Oncorhynchus mykiss (Rainbow Tro	**Material:**	Sodium dodecyl sulfate
Protocol:	WDOE 80-12	**Endpoint:**	Proportion Survived	**Source:**	Reference Toxicant-REF



Mean:	4.112	**Count:**	15	**-1s Warning Limit:**	3.354	**-2s Action Limit:**	2.736
Sigma:	n/a	**CV:**	20.60%	**+1s Warning Limit:**	5.042	**+2s Action Limit:**	6.181

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID	Laboratory
1	2012	Feb	1	13:45	3.75	-0.3624	-0.4526			13-8243-5331	18-5427-9510	NewFields
2		Mar	13	12:55	4.159	0.04661	0.0553			20-3351-3565	10-5910-6084	NewFields
3			20	15:55	3.924	-0.1883	-0.23			11-7477-0243	06-6638-0793	NewFields
4			27	14:25	4.856	0.7441	0.816			01-8547-5403	07-0671-3247	NewFields
5		May	29	16:30	4.521	0.4089	0.4651			12-4257-0416	17-3405-0023	NewFields
6		Jul	18	11:50	3.917	-0.1952	-0.2386			15-9880-7406	14-5351-2827	NewFields
7		Nov	7	17:00	3.944	-0.1687	-0.2055			01-6285-2939	02-7367-3329	NewFields
8		Dec	21	17:45	4.206	0.09363	0.1105			18-7305-6333	21-3131-6943	NewFields
9	2013	Sep	11	15:15	4.537	0.4251	0.4827			12-1249-4236	05-6914-6198	NewFields
10	2014	Jun	19	16:30	2.797	-1.316	-1.892	(-)		05-7096-8227	02-4087-8574	ENVIRON
11	2018	Nov	2	16:40	5.347	1.235	1.288	(+)		19-1646-7234	20-2119-8059	EcoAnalysts
12	2019	Apr	10	13:00	4.925	0.8122	0.8844			01-0623-2346	09-9266-8423	EcoAnalysts
13		Aug	13	16:30	2.828	-1.284	-1.837	(-)		03-4311-6703	07-0791-4983	EcoAnalysts
14	2020	Jul	16	16:04	5.657	1.544	1.565	(+)		20-1757-7261	19-9982-7646	EcoAnalysts
15		Sep	18	15:10	3.482	-0.6302	-0.8162			15-4829-8908	17-1689-4163	EcoAnalysts
16	2021	Jan	22	14:00	5.708	1.596	1.609	(+)		15-7313-5934	01-7529-8552	EcoAnalysts

MV

002-110-468-1 CETIS™ v1.9.4.3 Analyst: QA: 3.9.21

EH-USA002198

ED_005624_00000029-00114

CETIS Summary Report

Report Date: 09 Mar-21 09:45 (p 1 of 1)
Test Code/ID: 5DC4263E / 15-7313-5934

Reference Toxicant 96-h Acute Survival Test — EcoAnalysts

Batch ID:	02-8533-5319	Test Type:	Survival	Analyst:	
Start Date:	22 Jan-21 14:00	Protocol:	WDOE 80-12	Diluent:	Carbon Filtered Municipal Water
Ending Date:	26 Jan-21 13:05	Species:	Oncorhynchus mykiss	Brine:	Not Applicable
Test Length:	95h	Taxon:	Actinopterygii	Source:	Thomas Fish Co. Age: 36 d

Sample ID:	06-5238-2162	Code:	26E28FD2	Project:	Reference Toxicant
Sample Date:	03 Feb-15	Material:	Sodium dodecyl sulfate	Source:	Reference Toxicant
Receipt Date:	03 Feb-15	CAS (PC):		Station:	P150203.143
Sample Age:	2180d 14h	Client:	Internal Lab		

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	TU	PMSD	S
12-0440-0996	Proportion Survived	Fisher Exact Test		4	8	5.657		n/a	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	mg/L	95% LCL	95% UCL	TU	S
01-7529-8552	Proportion Survived	Linear Interpolation (ICPIN)		EC5	4.149	4.149	4.149		1
				EC10	4.303	4.303	4.303		
				EC15	4.461	4.461	4.461		
				EC20	4.624	4.624	4.624		
				EC25	4.791	4.791	4.791		
				EC40	5.325	5.325	5.325		
				EC50	5.708	5.708	5.708		

Proportion Survived Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	3	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
0.5		3	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
1		3	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
2		3	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
4		3	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
8		3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

Proportion Survived Detail

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3
0	D	1.0000	1.0000	1.0000
0.5		1.0000	1.0000	1.0000
1		1.0000	1.0000	1.0000
2		1.0000	1.0000	1.0000
4		1.0000	1.0000	1.0000
8		0.0000	0.0000	0.0000

Proportion Survived Binomials

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3
0	D	10/10	10/10	10/10
0.5		10/10	10/10	10/10
1		10/10	10/10	10/10
2		10/10	10/10	10/10
4		10/10	10/10	10/10
8		0/10	0/10	0/10

CETIS Test Data Worksheet

Report Date: 09 Mar-21 09:45 (p 1 of 1)
Test Code/ID: 5DC4263E / 15-7313-5934

Reference Toxicant 96-h Acute Survival Test — EcoAnalysts

Start Date:	22 Jan-21 14:00	**Species:**	Oncorhynchus mykiss	**Sample Code:**	26E28FD2
End Date:	26 Jan-21 13:05	**Protocol:**	WDOE 80-12	**Sample Source:**	Reference Toxicant
Sample Date:	03 Feb-15	**Material:**	Sodium dodecyl sulfate	**Sample Station:**	P150203.143

Conc-mg/L	Code	Rep	Pos	# Exposed	# Survived	Notes
0	D	1	12	10	10	
0	D	2	2	10	10	
0	D	3	13	10	10	
0.5		1	4	10	10	
0.5		2	11	10	10	
0.5		3	17	10	10	
1		1	8	10	10	
1		2	15	10	10	
1		3	16	10	10	
2		1	5	10	10	
2		2	14	10	10	
2		3	9	10	10	
4		1	1	10	10	
4		2	6	10	10	
4		3	3	10	10	
8		1	18	10	0	
8		2	10	10	0	
8		3	7	10	0	

96-Hour Acute SDS Reference Toxicant Test
Oncorhynchus mykiss

Test ID:	P150203.143
Toxicant:	SDS
Stock Conc.	50,000mg/L
Stock Preparation:	2.5g SDS / 50 mL DI
Lot #:	0000093040
Study Director:	M. Knowlen

Date Test Started:	~~14 Jan 21~~ 1/22/21
Date Test Ended:	~~18 Jan 21~~ 1/26/21
Matrix:	Liquid
Species:	*Oncorhynchus mykiss*
# Organisms/Chamber:	10

	Conc. (mg/L)	DO ≥ 6.0 (mg/L)	Temp 12 ± 1 (°C)	Cond. (µS/cm)	pH	Hardness mg/L $CaCO_3$	Alkalinity mg/L $CaCO_3$
Day 0 (0 hours)	Control	9.9	12.6	214	7.2	—	—
Date: 1/22/21	0.5	10.3	12.3	213	7.5		
Time: 1215	1	10.6	12.1	214	7.6		
Rep #: 1	2	10.4	12.1	213	7.3		
Technician: MK	4	10.6	12.3	214	7.7		
	8	10.7	12.2	214	7.7		
24 hours meter 8	Control	8.7	12.2	215	7.3		
Date: 1/23/2021	0.5	8.7	12.5	215	7.3		
Time: 1000	1	8.5	12.5	214	7.4		
Rep #: 2	2	8.2	12.4	215	7.4		
Technician: NL	4	8.5	12.7	216	7.5		
	8	9.3	13.0	219	7.5		
48 hours meter 8	Control	8.4	12.3	216	7.2		
Date: 1/24/2021	0.5	8.6	12.5	217	7.3		
Time: 1120	1	8.7	12.0	219	7.3		
Rep #: 3	2	8.4	12.4	222	7.3		
Technician: NL	4	8.3	13.0	217	7.3		
	8	—	—	—	—		
72 hours Meter 8	Control	8.3	12.4	209	6.9		
Date: 1/25/21	0.5	8.9	12.0	208	7.0		
Time: 1205	1	9.1	11.9	208	7.0		
Rep #: 1	2	9.1	12.1	207	7.1		
Technician: MS	4	9.2	12.1	209	7.1		
	8	—	—	—	—		
96 hours meter 9	Control	9.1	11.9	198	7.8		
Date: 1/26/21	0.5	8.9	12.1	198	7.8		
Time: 0935	1	8.9	12.0	198	7.8		
Rep #: 2	2	9.0	11.7	197	7.7		
Technician: MK	4	9.0	11.8	201	7.8		
	8	—	—	—	—		

Start Time:	1400	Initials: MK	
End Time:	1305 MK		
Supplier:	Thomas Fish		
Organism Batch:	TF011221	Age: 36 d.	
Test Location:	BAH 7		

Test Acceptability: ___ ≥ 90% Survival in Control

Spiking Calculations

Target Concentrations:	Quantity of Stock: Target: (mL)	Quantity of Diluent: Target:
0.5 mg/L	0.05	5 L
1 mg/L	0.1	5 L
2 mg/L	0.2	5 L
4 mg/L	0.4	5 L
8 mg/L	0.8	5 L

Prepared by: MK

96-Hour Acute SDS Reference Toxicant Test
Oncorhynchus mykiss

Test ID:	P150203.143
Toxicant:	SDS
Stock Conc.	50,000mg/L
Stock Preparation:	2.5g SDS / 50 mL DI
Lot #:	0000093040
Study Director:	M. Knowlen

Date Test Started:	~~14 Jan 21~~ 1/22/21
Date Test Ended:	~~18 Jan 21~~ 1/26/21
Matrix:	Liquid
Species:	*Oncorhynchus mykiss*
# Organisms/Chamber:	10

Survival		24 Hours Date: 1/23/2021 Time: 1000		48 Hours Date: 1/24/2021 Time: 1120		72 Hours Date: 1/25/21 Time: 1210		96 Hours Date: 1/26/21 Time: 1305	
Conc. (mg/L)	Rep	# Alive	# Dead	# Alive	# Dead	# Alive	# Dead	# Alive	# Dead
Control	1	10	0	10	0	10	0	10	0
	2	10	0	10	0	10	0	10	0
	3	10	0	10	0	10	0	10	0
0.5	1	10	0	10	0	10	0	10	0
	2	10	0	10	0	10	0	10	0
	3	10	0	10	0	10	0	10	0
1	1	10	0	10	0	10	0	10	0
	2	10	0	10	0	10	0	10	0
	3	10	0	10	0	10	0	10	0
2	1	10	0	10	0	10	0	10	0
	2	10	0	10	0	10	0	10	0
	3	10	0	10	0	10	0	10	0
4	1	10	0	10	0	10	0	10	0
	2	10	0	10	0	10	0	10	0
	3	10	0	10	0	10	0	10	0
8	1	0	10						
	2	0	10						
	3	0	10						
INITIALS:		NL		NL		MS		MK	

APPENDIX B

Chemistry Data Summary

Table B-1. Chemistry Results – Turf and Crumb Samples

	Analyte	Units	SC-RC-Comp				SC-PT-Comp				RP-RC-Comp				RP-PT-Comp			
			Result	Qualifier	DL	RL	Result	Qualifier	DL	RL	Result	Qualifier	DL	RL	Result	Qualifier	DL	RL
Semivolatile Organic Compounds (SVOCs, solids)	Phenol	ug/kg	158	J, D	76.3	186	24.7		8.2	19.9	ND	U	81.5	198	ND	U	8.2	20.0
	bis(2-chloroethyl)Ether	ug/kg	ND	U	62.9	186	ND	U	6.7	19.9	ND	U	67.1	198	ND	U	6.8	20.0
	2-Chlorophenol	ug/kg	ND	U	60.0	186	ND	U	6.4	19.9	ND	U	64.1	198	ND	U	6.5	20.0
	1,3-Dichlorobenzene	ug/kg	ND	U	47.0	186	ND	U	5.0	19.9	ND	U	50.2	198	ND	U	5.1	20.0
	1,4-Dichlorobenzene	ug/kg	ND	U	40.7	186	ND	U	4.4	19.9	ND	U	43.5	198	ND	U	4.4	20.0
	1,2-Dichlorobenzene	ug/kg	ND	U	43.2	186	10.6	J	4.6	19.9	ND	U	46.1	198	ND	U	4.7	20.0
	Benzyl Alcohol	ug/kg	ND	U	138	186	ND	U	14.8	19.9	ND	U	148	198	ND	U	14.9	20.0
	2,2'-Oxybis(1-chloropropane)	ug/kg	ND	U	52.6	186	ND	U	5.6	19.9	ND	U	56.1	198	ND	U	5.7	20.0
	2-Methylphenol	ug/kg	ND	U	72.7	186	ND	U	7.8	19.9	ND	U	77.6	198	ND	U	7.8	20.0
	Hexachloroethane	ug/kg	ND	U	52.4	186	ND	U	5.6	19.9	ND	U	55.9	198	ND	U	5.6	20.0
	N-Nitroso-di-n-Propylamine	ug/kg	ND	U	100	186	ND	U	10.7	19.9	ND	U	107	198	ND	U	10.8	20.0
	4-Methylphenol	ug/kg	ND	U	136	186	ND	U	14.6	19.9	ND	U	146	198	ND	U	14.7	20.0
	Nitrobenzene	ug/kg	ND	U	73.7	186	ND	U	7.9	19.9	ND	U	78.7	198	ND	U	7.9	20.0
	Isophorone	ug/kg	ND	U	71.9	186	ND	U	7.7	19.9	ND	U	76.7	198	ND	U	7.7	20.0
	2-Nitrophenol	ug/kg	ND	U	64.2	186	ND	U	6.9	19.9	ND	U	68.5	198	ND	U	6.9	20.0
	2,4-Dimethylphenol	ug/kg	ND	U	249	928	ND	U	26.6	99.3	ND	U	265	990	ND	U	26.7	99.8
	Bis(2-Chloroethoxy)Methane	ug/kg	ND	U	58.8	186	ND	U	6.3	19.9	ND	U	62.8	198	ND	U	6.3	20.0
	2,4-Dichlorophenol	ug/kg	ND	U	297	928	ND	U	31.8	99.3	ND	U	317	990	ND	U	31.9	99.8
	1,2,4-Trichlorobenzene	ug/kg	ND	U	55.3	186	ND	U	5.9	19.9	ND	U	59.0	198	ND	U	5.9	20.0
	Naphthalene	ug/kg	174	J, D	48.7	186	23.7		5.2	19.9	74.9	J, D	52.0	198	ND	U	5.2	20.0
	Benzoic Acid	ug/kg	ND	U	548	1860	88.8	J	58.7	199	ND	U	585	1980	ND	U	59.0	200
	4-Chloroaniline	ug/kg	ND	U	313	928	ND	U	33.5	99.3	ND	U	334	990	ND	U	33.6	99.8
	Hexachlorobutadiene	ug/kg	ND	U	46.5	186	ND	U	5.0	19.9	ND	U	49.6	198	ND	U	5.0	20.0
	4-Chloro-3-Methylphenol	ug/kg	ND	U	268	928	ND	U	28.7	99.3	ND	U	286	990	ND	U	28.8	99.8
	2-Methylnaphthalene	ug/kg	56.3	J, D	52.6	186	16.1	J	5.6	19.9	ND	U	56.1	198	ND	U	5.7	20.0
	Hexachlorocyclopentadiene	ug/kg	ND	U	383	928	ND	U	41.0	99.3	ND	U	409	990	ND	U	41.2	99.8
	2,4,6-Trichlorophenol	ug/kg	ND	U	236	928	ND	U	25.2	99.3	ND	U	251	990	ND	U	25.3	99.8
	2,4,5-Trichlorophenol	ug/kg	ND	U	250	928	ND	U	26.7	99.3	ND	U	266	990	ND	U	26.8	99.8
	2-Chloronapthalene	ug/kg	ND	U	41.2	186	ND	U	4.4	19.9	ND	U	44.0	198	ND	U	4.4	20.0
	2-Nitroaniline	ug/kg	ND	U	280	928	ND	U	30.0	99.3	ND	U	299	990	ND	U	30.1	99.8
	Acenaphthylene	ug/kg	115	J, D	44.2	186	10.6	J	4.7	19.9	50.7	J, D	47.2	198	ND	U	4.8	20.0
	Dimethylphthalate	ug/kg	ND	U	59.7	186	ND	U	6.4	19.9	ND	U	63.8	198	ND	U	6.4	20.0
	2,6-Dinitrotoluene	ug/kg	ND	U	248	928	ND	U	26.5	99.3	ND	U	264	990	ND	U	25.6	99.8
	Acenaphthene	ug/kg	ND	U	47.6	186	ND	U	5.1	19.9	ND	U	50.8	198	ND	U	5.1	20.0
	m-Nitroaniline	ug/kg	ND	U	350	928	ND	U	37.4	99.3	ND	U	373	990	ND	U	37.6	99.8
	2,4-Dinitrophenol	ug/kg	ND	U	383	1860	ND	U	41.0	199	ND	U	409	1980	ND	U	41.2	200
	Dibenzofuran	ug/kg	ND	U	42.8	186	ND	U	4.6	19.9	ND	U	45.6	198	ND	U	4.6	20.0

	Analyte	Units	SC-RC-Comp				SC-PT-Comp				RP-RC-Comp				RP-PT-Comp			
			Result	Qualifier	DL	RL	Result	Qualifier	DL	RL	Result	Qualifier	DL	RL	Result	Qualifier	DL	RL
Semivolatile Organic Compounds (SVOCs, solids)	4-Nitrophenol	ug/kg	ND	U	412	928	ND	U	44.1	99.3	ND	U	440	990	ND	U	44.3	99.8
	2,4-Dinitrotoluene	ug/kg	ND	U	212	928	ND	U	22.7	99.3	ND	U	227	990	ND	U	22.9	99.8
	Fluorene	ug/kg	ND	U	45.9	186	ND	U	4.9	19.9	ND	U	49	198	ND	U	4.9	20.0
	4-chlorophenyl-Phenylether	ug/kg	ND	U	64.6	186	ND	U	6.9	19.9	ND	U	68.9	198	ND	U	6.9	20.0
	Diethyl phthalate	ug/kg	ND	U	164	186	ND	U	17.6	19.9	ND	U	175	198	ND	U	17.7	20.0
	4-Nitroaniline	ug/kg	ND	U	324	928	ND	U	34.7	99.3	ND	U	346	990	ND	U	34.8	99.8
	4,6-Dinitro-2-Methylphenol	ug/kg	ND	U	468	1860	ND	U	50.1	199	ND	U	500	1980	ND	U	50.4	200
	N-Nitrosodiphenylamine	ug/kg	542	D	88.8	186	ND	U	9.5	19.9	ND	U	94.8	198	17.2	J	9.6	20.0
	4-Bromophenyl phenyl ether	ug/kg	ND	U	56.3	186	ND	U	6.0	19.9	ND	U	60.1	198	ND	U	6.1	20.0
	Hexachlorobenzene	ug/kg	ND	U	44.0	186	ND	U	4.7	19.9	ND	U	46.9	198	ND	U	4.7	20.0
	Pentachlorophenol	ug/kg	ND	U	290	928	ND	U	31.1	99.3	ND	U	310	990	ND	U	31.2	99.8
	Phenanthrene	ug/kg	394	D	43.5	186	90.1		4.7	19.9	157	J, D	46.4	198	18.2	J	4.7	20.0
	Anthracene	ug/kg	ND	U	55.0	186	21.9		5.9	19.9	ND	U	58.7	198	ND	U	5.9	20.0
	Carbazole	ug/kg	ND	U	68.4	186	ND	U	7.3	19.9	ND	U	73	198	ND	U	7.4	20.0
	dibutyl phthalate	ug/kg	ND	U	49.3	186	ND	U	5.3	19.9	ND	U	52.6	198	ND	U	5.3	20.0
	Fluoranthene	ug/kg	1270	D	41.9	186	310		4.5	19.9	687	D	44.8	198	48.9		4.5	20.0
	Pyrene	ug/kg	4290	D	51.5	186	922		5.5	19.9	1650	D	55	198	114		5.5	20.0
	Butyl benzyl phthalate	ug/kg	ND	U	74.7	186	ND	U	8.0	19.9	ND	U	79.7	198	ND	U	8.0	20.0
	Benz[a]anthracene	ug/kg	594	D	48.1	186	121		5.1	19.9	306	D	51.3	198	43.1		5.2	20.0
	3,3'-Dichlorobenzidine	ug/kg	ND	U	289	928	ND	U	31.0	99.3	ND	U	309	990	ND	U	31.1	99.8
	Chrysene	ug/kg	3590	D	48.4	186	1090		5.2	19.9	1800	D	51.7	198	227		5.2	20.0
	bis(2-ethylhexyl) Phthalate	ug/kg	80900	D	2670	4640	10100	Q, D	286	497	42900	D	1430	2480	1360		28.7	49.9
	Di-n-Octyl Phthalate	ug/kg	ND	U	80.9	186	ND	U	8.7	19.9	ND	U	86.3	198	691		8.7	20.0
	Benzofluoranthenes, Total (b+k+j)	ug/kg	1610	D	94.6	371	414		10.1	39.7	981	D	101	396	116		10.2	39.9
	Benzo(a)pyrene	ug/kg	2170	Q, D	60.1	186	351		6.4	19.9	464	Q, D	64.2	198	35.1		6.5	20.0
	Indeno(1,2,3-cd)pyrene	ug/kg	288	D	55.6	186	39.8		5.9	19.9	221	D	59.3	198	12.8	J	6.0	20.0
	Dibenzo(a,h)anthracene	ug/kg	ND	U	57.1	186	ND	U	6.1	19.9	ND	U	61	198	ND	U	6.1	20.0
	Benzo(ghi)perylene	ug/kg	1400	D	54.0	186	170		5.8	19.9	1260	D	57.6	198	57.1		5.8	20.0
	1-Methylnaphthalene	ug/kg	ND	U	55.2	186	7.9	J	5.9	19.9	ND	U	58.9	198	ND	U	5.9	20.0
	Total SVOCs	ug/kg	**97551.3**				**13812.2**				**50551.6**				**2740.4**			

	Analyte	Units	SC-RC-Comp				SC-PT-Comp				RP-RC-Comp				RP-PT-Comp			
			Result	Qualifier	DL	RL	Result	Qualifier	DL	RL	Result	Qualifier	DL	RL	Result	Qualifier	DL	RL
TCLP Method Semivolatile Organic Compounds (SVOCs)	2-Methylphenol	ug/L	ND	U		10.0	ND	U		10.0	ND	U		10.0	ND	U		10.0
	Hexachloroethane	ug/L	ND	U		20.0	ND	U		20.0	ND	U		20.0	ND	U		20.0
	4-Methylphenol	ug/L	ND	U		20.0	ND	U		20.0	ND	U		20.0	ND	U		20.0
	Nitrobenzene	ug/L	ND	U		10.0	ND	U		10.0	ND	U		10.0	ND	U		10.0
	Hexachlorobutadiene	ug/L	ND	U		30.0	ND	U		30.0	ND	U		30.0	ND	U		30.0
	2,4,6-Trichlorophenol	ug/L	ND	U		30.0	ND	U		30.0	ND	U		30.0	ND	U		30.0
	2,4,5-Trichlorophenol	ug/L	ND	U		50.0	ND	U		50.0	ND	U		50.0	ND	U		50.0
	2,4-Dinitrotoluene	ug/L	ND	U		30.0	ND	U		30.0	ND	U		30.0	ND	U		30.0
	Hexachlorobenzene	ug/L	ND	U		10.0	ND	U		10.0	ND	U		10.0	ND	U		10.0
	Pentachlorophenol	ug/L	ND	U		100	ND	U		100	ND	U		100	ND	U		100
	Pyridine	ug/L	ND	U		50.0	ND	U		50.0	ND	U		50.0	ND	U		50.0
	Total TCLP SVOCs	ug/L	**0**				**0**				**0**				**0**			
Total Metals (solids)	Arsenic	mg/kg	ND	U	1.07	11.6	ND	U	1.05	11.5	ND	U	1.07	11.6	2.33	J, D	1.10	12.0
	Barium	mg/kg	5.71	D	0.606	1.40	200	D	0.596	1.37	9.56	D	0.603	1.39	7.24	D	0.623	1.44
	Cadmium	mg/kg	0.856	D	0.163	0.466	0.679	D	0.16	0.458	0.469	D	0.162	0.464	0.613	D	0.168	0.479
	Chromium	mg/kg	1.41	J, D	1.03	2.1	8.43	D	1.01	2.06	6.13	D	1.02	2.09	2.19	D	1.06	2.16
	Lead	mg/kg	26.0	D	0.559	4.66	9.19	D	0.55	4.58	35.8	D	0.557	4.64	0.879	J, D	0.575	4.79
	Selenium	mg/kg	ND	U	2.98	11.6	ND	U	2.93	11.5	ND	U	2.97	11.6	4.31	J, D	3.07	12.0
	Silver	mg/kg	ND	U	0.182	0.699	ND	U	0.179	0.687	ND	U	0.181	0.696	ND	U	0.187	0.718
	Mercury	mg/kg	0.00534	J	0.00423	0.0202	0.0903		0.00443	0.0211	ND	U	0.00482	0.0229	0.0111	J	0.00461	0.0219
	Total Metals	mg/kg	**34.0**				**218.4**				**52.0**				**17.6**			
TCLP Method Metals	Arsenic	mg/L	ND	U	0.0230	0.250	ND	U	0.0230	0.250	ND	U	0.0230	0.250	0.0339	J	0.0230	0.250
	Barium	mg/L	0.0391		0.0130	0.0300	0.256		0.0130	0.0300	0.0813		0.0130	0.0300	0.128		0.0130	0.0300
	Cadmium	mg/L	ND	U	0.0035	0.0100	0.0069	J	0.0035	0.0100	ND	U	0.0035	0.0100	0.005	J	0.0035	0.0100
	Chromium	mg/L	ND	U	0.0221	0.0450	ND	U	0.0221	0.0450	ND	U	0.0221	0.0450	ND	U	0.0221	0.0450
	Lead	mg/L	0.0263	J	0.0120	0.100	0.0442	J	0.0120	0.100	ND	U	0.0120	0.100	ND	U	0.0120	0.100
	Selenium	mg/L	ND	U	0.0640	0.250	ND	U	0.0640	0.250	ND	U	0.0640	0.250	ND	U	0.0640	0.250
	Silver	mg/L	ND	U	0.0039	0.0150	ND	U	0.0039	0.0150	ND	U	0.0039	0.0150	ND	U	0.0039	0.0150
	Mercury	mg/L	ND	U	0.000007	0.000100	ND	U	0.000007	0.000100	ND	U	0.000007	0.000100	ND	U	0.000007	0.000100
	Total TCLP Metals	mg/L	**0.065**				**0.31**				**0.08**				**0.17**			

Table B-2. Chemistry Results – Sediment Samples

	Analyte	Units	Sediment-Upstream				Sediment-Downstream			
			Result	Qualifier	DL	RL	Result	Qualifier	DL	RL
Semivolatile Organic Compounds (SVOCs, solids)	Phenol	ug/kg	ND	U	8.0	19.6	ND	U	7.8	19.0
	bis(2-chloroethyl)Ether	ug/kg	ND	U	6.6	19.6	ND	U	6.5	19.0
	2-Chlorophenol	ug/kg	ND	U	6.3	19.6	ND	U	6.2	19.0
	1,3-Dichlorobenzene	ug/kg	ND	U	5.0	19.6	ND	U	4.8	19.0
	1,4-Dichlorobenzene	ug/kg	ND	U	4.3	19.6	ND	U	4.2	19.0
	1,2-Dichlorobenzene	ug/kg	ND	U	4.6	19.6	ND	U	4.4	19.0
	Benzyl Alcohol	ug/kg	ND	U	14.6	19.6	ND	U	14.2	19.0
	2,2'-Oxybis(1-chloropropane)	ug/kg	ND	U	5.5	19.6	ND	U	5.4	19.0
	2-Methylphenol	ug/kg	ND	U	7.7	19.6	ND	U	7.5	19.0
	Hexachloroethane	ug/kg	ND	U	5.5	19.6	ND	U	5.4	19.0
	N-Nitroso-di-n-Propylamine	ug/kg	ND	U	10.6	19.6	ND	U	10.3	19.0
	4-Methylphenol	ug/kg	ND	U	14.4	19.6	ND	U	14.0	19.0
	Nitrobenzene	ug/kg	ND	U	7.8	19.6	ND	U	7.6	19.0
	Isophorone	ug/kg	ND	U	7.6	19.6	ND	U	7.4	19.0
	2-Nitrophenol	ug/kg	ND	U	6.8	19.6	ND	U	6.6	19.0
	2,4-Dimethylphenol	ug/kg	ND	U	26.2	97.8	ND	U	25.5	95.1
	Bis(2-Chloroethoxy)Methane	ug/kg	ND	U	6.2	19.6	ND	U	6.0	19.0
	2,4-Dichlorophenol	ug/kg	ND	U	31.3	97.8	ND	U	30.4	95.1
	1,2,4-Trichlorobenzene	ug/kg	ND	U	5.8	19.6	ND	U	5.7	19.0
	Naphthalene	ug/kg	ND	U	5.1	19.6	ND	U	5.0	19.0
	Benzoic Acid	ug/kg	ND	U	57.8	196	ND	U	56.2	190.0
	4-Chloroaniline	ug/kg	ND	U	32.9	97.8	ND	U	32.1	95.1
	Hexachlorobutadiene	ug/kg	ND	U	4.9	19.6	ND	U	4.8	19.0
	4-Chloro-3-Methylphenol	ug/kg	ND	U	28.3	97.8	ND	U	27.5	95.1
	2-Methylnaphthalene	ug/kg	ND	U	5.5	19.6	ND	U	5.4	19.0
	Hexachlorocyclopentadiene	ug/kg	ND	U	40.4	97.8	ND	U	39.3	95.1
	2,4,6-Trichlorophenol	ug/kg	ND	U	24.8	97.8	ND	U	24.2	95.1
	2,4,5-Trichlorophenol	ug/kg	ND	U	26.3	97.8	ND	U	25.6	95.1
	2-Chloronapthalene	ug/kg	ND	U	4.3	19.6	ND	U	4.2	19.0
	2-Nitroaniline	ug/kg	ND	U	29.5	97.8	ND	U	28.7	95.1
	Acenaphthylene	ug/kg	ND	U	4.7	19.6	ND	U	4.5	19.0
	Dimethylphthalate	ug/kg	ND	U	6.3	19.6	ND	U	6.1	19.0
	2,6-Dinitrotoluene	ug/kg	ND	U	26.1	97.8	ND	U	25.4	95.1
	Acenaphthene	ug/kg	ND	U	5.0	19.6	ND	U	4.9	19.0
	m-Nitroaniline	ug/kg	ND	U	36.9	97.8	ND	U	35.9	95.1
	2,4-Dinitrophenol	ug/kg	ND	U	40.4	196	ND	U	39.3	190
	Dibenzofuran	ug/kg	ND	U	4.5	19.6	ND	U	4.4	19.0
	4-Nitrophenol	ug/kg	ND	U	43.4	97.8	ND	U	42.2	95.1
	2,4-Dinitrotoluene	ug/kg	ND	U	22.4	97.8	ND	U	21.8	95.1
	Fluorene	ug/kg	ND	U	4.8	19.6	ND	U	4.7	19.0
	4-chlorophenyl-Phenylether	ug/kg	ND	U	6.8	19.6	ND	U	6.6	19.0
	Diethyl phthalate	ug/kg	ND	U	17.3	19.6	29.8	Q	16.8	19.0
	4-Nitroaniline	ug/kg	ND	U	34.1	97.8	ND	U	33.2	95.1
	4,6-Dinitro-2-Methylphenol	ug/kg	ND	U	49.4	196	ND	U	48.0	190
	N-Nitrosodiphenylamine	ug/kg	ND	U	9.4	19.6	ND	U	9.1	19.0
	4-Bromophenyl phenyl ether	ug/kg	ND	U	5.9	19.6	ND	U	5.8	19.0
	Hexachlorobenzene	ug/kg	ND	U	4.6	19.6	ND	U	4.5	19.0
	Pentachlorophenol	ug/kg	ND	U	30.6	97.8	ND	U	29.8	95.1
	Phenanthrene	ug/kg	ND	U	4.6	19.6	ND	U	4.5	19.0
	Anthracene	ug/kg	ND	U	5.8	19.6	ND	U	5.6	19.0
	Carbazole	ug/kg	ND	U	7.2	19.6	ND	U	7.0	19.0
	dibutyl phthalate	ug/kg	ND	U	5.2	19.6	ND	U	5.1	19.0
	Fluoranthene	ug/kg	ND	U	4.4	19.6	ND	U	4.3	19.0
	Pyrene	ug/kg	ND	U	5.4	19.6	ND	U	5.3	19.0
	Butyl benzyl phthalate	ug/kg	ND	U	7.9	19.6	ND	U	7.7	19.0
	Benz[a]anthracene	ug/kg	ND	U	5.1	19.6	ND	U	4.9	19.0
	3,3'-Dichlorobenzidine	ug/kg	ND	U	30.5	97.8	ND	U	29.7	95.1
	Chrysene	ug/kg	ND	U	5.1	19.6	ND	U	5.0	19.0
	bis(2-ethylhexyl) Phthalate	ug/kg	88.7		28.2	48.9	ND	U	27.4	47.6
	Di-n-Octyl Phthalate	ug/kg	ND	U	8.5	19.6	ND	U	8.3	19.0
	Benzofluoranthenes, Total (b+k+j)	ug/kg	ND	U	10.0	39.1	ND	U	9.7	38.1
	Benzo(a)pyrene	ug/kg	ND	U	6.3	19.6	ND	U	6.2	19.0
	Indeno(1,2,3-cd)pyrene	ug/kg	ND	U	5.9	19.6	ND	U	5.7	19.0
	Dibenzo(a,h)anthracene	ug/kg	ND	U	6.0	19.6	ND	U	5.9	19.0
	Benzo(ghi)perylene	ug/kg	ND	U	5.7	19.6	ND	U	5.5	19.0
	1-Methylnaphthalene	ug/kg	ND	U	5.8	19.6	ND	U	5.7	19.0
	Total SVOCs	ug/kg	**88.7**				**29.8**			

	Analyte	Units	Sediment-Upstream				Sediment-Downstream			
			Result	Qualifier	DL	RL	Result	Qualifier	DL	RL
TCLP Method Semivolatile Organic Compounds (SVOCs)	2-Methylphenol	ug/L	ND	U		10.0	ND	U		10.0
	Hexachloroethane	ug/L	ND	U		20.0	ND	U		20.0
	4-Methylphenol	ug/L	ND	U		20.0	ND	U		20.0
	Nitrobenzene	ug/L	ND	U		10.0	ND	U		10.0
	Hexachlorobutadiene	ug/L	ND	U		30.0	ND	U		30.0
	2,4,6-Trichlorophenol	ug/L	ND	U		30.0	ND	U		30.0
	2,4,5-Trichlorophenol	ug/L	ND	U		50.0	ND	U		50.0
	2,4-Dinitrotoluene	ug/L	ND	U		30.0	ND	U		30.0
	Hexachlorobenzene	ug/L	ND	U		10.0	ND	U		10.0
	Pentachlorophenol	ug/L	ND	U		100	ND	U		100
	Pyridine	ug/L	ND	U		50.0	ND	U		50.0
	Total TCLP SVOCs	ug/L	**0**				**0**			
Total Metals (solids)	Arsenic	mg/kg	ND	U	1.08	11.8	ND	U	1.09	11.8
	Barium	mg/kg	20.3	D	0.613	1.41	11.1	D	0.615	1.42
	Cadmium	mg/kg	0.377	J, D	0.165	0.471	0.287	J, D	0.166	0.473
	Chromium	mg/kg	14.8	D	1.04	2.12	8.42	D	1.04	2.13
	Lead	mg/kg	1.01	J, D	0.566	4.71	0.671	J, D	0.568	4.73
	Selenium	mg/kg	ND	U	3.02	11.8	ND	U	3.03	11.8
	Silver	mg/kg	ND	U	0.184	0.707	ND	U	0.184	0.710
	Mercury	mg/kg	0.00906	J	0.00422	0.0201	0.00724	J	0.00491	0.0234
	Total Metals	mg/kg	**36.5**				**20.5**			
TCLP Method Metals	Arsenic	mg/L	ND	U	0.0230	0.250	ND	U	0.0230	0.250
	Barium	mg/L	0.114		0.0130	0.0300	0.105		0.0130	0.0300
	Cadmium	mg/L	ND	U	0.0035	0.0100	ND	U	0.0035	0.0100
	Chromium	mg/L	ND	U	0.0221	0.0450	ND	U	0.0221	0.0450
	Lead	mg/L	ND	U	0.0120	0.100	ND	U	0.0120	0.100
	Selenium	mg/L	ND	U	0.0640	0.250	ND	U	0.0640	0.250
	Silver	mg/L	ND	U	0.0039	0.0150	ND	U	0.0039	0.0150
	Mercury	mg/L	ND	U	0.000007	0.000100	ND	U	0.000007	0.000100
	Total TCLP Metals	mg/L	**0.11**				**0.11**			

APPENDIX C

Chain of Custody Forms, Logs, and Pre-Test Documents

CHAIN OF CUSTODY

EcoAnalysts

EcoAnalysts, Inc.
4770 NE View Dr., Port Gamble, WA. 98364
Tel: (360) 297-6040

Destination: EcoAnalysts	Sample Originator (Organization): EcoAnalysts	Report Results To: Tollhouse Energy	Phone: 360-746-3435
Destination Contact: Brian Hester	PERSON WHO COLLECTED SAMPLE: Brian Hester	Contact Name: Chris Spens	Fax:
Date: 12/31/20	Address: 4770 NE View Dr. Port Gamble, WA 98364	Address: 1800 James St. Ste 201, Bellingham, Wa. 98225	Email: cspens@tollhouseenergy.com
Turn-Around-Time:			
Project Name: Tollhouse Energy	Phone: 360-297-6040	Analyses:	Invoicing To: Tollhouse Energy
	Fax:		Comments or Special Instructions: Info
Contract/PO:	E-mail: bhester@ecoanalysts.com		

No.	Sample ID	Secondary ID: Replicate, X of Y, etc.	Matrix	Volume/Mass	Date	Time	Toxicity per SOW	Chemical Analysis per SOW					Preservation	Sample Temp Upon Receipt	LAB ID
1	Turf - Source Pile (Top)		Solid	7.2kg (1 bag)	12/31/20	1648	X	X					None	8.9 C	P201231.01
2	Turf - Source Pile (Mid)		Solid	4.6 kg (1 bag)	12/31/20	1652	X	X					None	8.9 C	P201231.02
3	Turf - Source Pile (Bott)		Solid	11.2kg (1 bag)	12/31/20	1702	X	X					None	8.9 C	P201231.03
4	Granules - Source Pile		Solid	2.6kg (1 bag)	12/31/20	1712	X	X					None	8.9 C	P201231.04
5	Turf - Recovered Pile		Solid	5kg+3.8kg (2 bags)	12/31/20	1605	X	X					None	8.9 C	P201231.05
6	Granules - Forebay		Solid	0.4kg (2 jars)	12/31/20	1124	X	X					None	8.9 C	P201231.06
7	Granules - Intake		Solid	6.5kg (1bag)	12/31/20	1257	X	X					None	8.9 C	P201231.07
8	Sediment - Downstream		Sed	15kg (1 bag)	12/31/20	1352	X	X					None	8.9 C	P201231.08
9	Sediment - Upstream		Sed	12.5kg (1 bag)	12/31/20	1413	X	X					None	8.9 C	P201231.09
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Relinquished by:	Recieved by:	Relinquished by:	Recieved by:
Print Name: Brian Hester	Print Name: Samantha Heinicke	Print Name:	Print Name:
Signature: [signature]	Signature: [signature]	Signature:	Signature:
Affiliation: EcoAnalysts	Affiliation: EcoAnalysts	Affiliation:	Affiliation:
Date/Time: 1.1.21 1031	Date/Time: 1/1/21 1031	Date/Time:	Date/Time:

Matrix Codes
FW = Fresh Water
SB = Salt & Brackish Water
SS = Soil & Sediment
TS = Tissue

Version 1.1; Effective 8/28/17

PAGE ____ of ____

EH-USA002210

ED_005624_00000029-00126

ORGANISM RECEIPT LOG

Date:	Time:	Batch No.
1/13/21	1300	ABS011321

Organism: Hyalella azteca

Source / Supplier: ABS (Aquatic Bio Systems)

No. Ordered:	No. Received:	Source Batch: Collection date, hatch date, etc.):
1,465	1,610	Hatch: 1/8/21

Condition of Organisms:	Approximate Size or Age: (Days from hatch, life stage, size class, etc.):
Good	5 days

Shipper:	B of L (Tracking No.)
FedEx	137495979797

Condition of Container:	Received By:
Good	M. Seibert

Container	D.O. (mg/L)	Temp. (°C)	Cond. or Sal. (Include Units)	pH (Units)	# Dead	% Dead*	Tech. (Initials)
1	8.5	18.3	1680	6.4	0	—	MS
2	8.5	18.7	1681	6.5	0	—	↓
3	8.5	18.7	1678	6.5	0	—	↓
4	8.5	19.4	1681	6.5	0	—	↓

*if >10% contact lab manager

Notes:

EH-USA002211

ED_005624_00000029-00127

1300 Blue Spruce Drive, Suite C
Fort Collins, Colorado 80524

AQUATIC BIO SYSTEMS ABS INC.

Toll Free: 800/331-5916
Tel: 970/484-5091 Fax:970/484-2514

ORGANISM HISTORY

DATE: 1/12/2021

SPECIES: *Hyalella azteca*

AGE: 4 day

LIFE STAGE: Juvenile

HATCH DATE: 1/8/2021

BEGAN FEEDING: Immediately

FOOD: Flake slurry

Water Chemistry Record:	Current	Range
TEMPERATURE:	24°C	23-26°C
SALINITY/CONDUCTIVITY:	--	--
TOTAL HARDNESS (as $CaCO_3$):	200 mg/l	126-204 mg/l
TOTAL ALKALINITY (as $CaCO_3$):	80 mg/l	50-120 mg/l
pH:	7.97	7.60-8.10

Comments:

Facility Supervisor

ORGANISM RECEIPT LOG

Date: 1/29/21	Time: 1208	Batch No. AI012921
Organism: Hyalella Azteca ①		
Source / Supplier: Aquatic Indicators		
No. Ordered:	No. Received: 1000	Source Batch: Collection date, hatch date, etc.): EPA - Athens
Condition of Organisms: Good	Approximate Size or Age: (Days from hatch, life stage, size class, etc.): ② ~~16~~ 7days	
Shipper: FedEx	B of L (Tracking No.) 7086 8101 7451	
Condition of Container: Good	Received By: SH	

Container	D.O. (mg/L)	Temp. (°C)	Cond. or Sal. (Include Units)	pH (Units)	# Dead	% Dead*	Tech. (Initials)
1	18.9	14.5	686 µS/cm	7.3	0	—	SH

*If >10% contact lab manager

Notes: ① misspelt – SH 1/29
② I.C. – SH 1/29

AQUATIC INDICATORS

Date: 1-28-21

Species:
1. H. azteca
2.
3.

Total Supplied:
1. 1000
2.
3.

Brood Description
1. EPA - Athens
2.
3.

Age:
1. 6 days
2.
3.

Environmental Regime

Feeding: ~~Zooplankton~~ ~~Artemia Nil~~ flake food & algae

Photo: L 16 D 8

P.H.: 6.9

Temp: 25°C

Salinity: 0‰

Comments: Thanks.

WD-190365 & RC-215067

P.O. BOX 632 ST. AUGUSTINE, FL 32085 (904) 829-2780

ORGANISM RECEIPT LOG

Date:	Time:	Batch No.
1/12/21	1247	TF011221

Organism: Rainbow Trout

Source / Supplier: Thomas Fish Company

No. Ordered:	No. Received:	Source Batch: Collection date, hatch date, etc.):
	500	hatch date - 12/7/20

Condition of Organisms:	Approximate Size or Age: (Days from hatch, life stage, size class, etc.):
Good	36 days old

Shipper:	B of L (Tracking No.)
FedEx	7725 9130 4250

Condition of Container:	Received By:
Good	SH

Container	D.O. (mg/L)	Temp. (°C)	Cond. or Sal. (Include Units)	pH (Units)	# Dead	% Dead*	Tech. (Initials)
1	23	12.5	379	6.3	0	—	SH

**If >10% contact lab manager*

Notes:

EH-USA002215

ED_005624_00000029-00131

Thomas Fish Company LLC
PO BOX 851
ANDERSON, CA 96007 US
(530)378-1006
thomasfishco@gmail.com

Packing Slip

BILL TO
Eco Analysts
4770 NE. View Dr.
Port Gamble, WA. 98364

INVOICE # 25027
DATE 01/11/2021

ACTIVITY	QTY
500-999:Rainbow Trout Oncorhynchus mykiss--Reference- A FIELD GUIDE TO FRESHWATER FISHES, Lawrence Page / Brooks Burr--copyright 1991 pg. 54 (01/02/2021- Rob Thomas) Hatch Date: 12/7/20,swim up:12/21/20 PO.#Michelle CC	500

MAINTENANCE LOG FOR CULTURES

ORGANISM: Hyalella azteca
LOCATION: Bath 4

Batch Number: AI 012921 | Date Received: 1/29/21 | Initial # of Organisms:

Date	Feed AM/PM	Tub No.	D.O.	Temp (°C)	Cond/ Sal	pH	RFW H_2O Change	Organisms appear healthy (Y/N)	# Mort	% Mort*	Init.	Comments
1/30/21	✓	1	8.6	19.8	404	8.5	N	Y	—	—	SH	
1/31/21	✓	1	8.7	20.4	403	8.4	N	Y	—	—	SH	
2/1/21		1	8.6	20.3	432	8.0	N	Y	—	—	RE	
2/2/21	✓	1	8.4	19.9	431	7.8	N	Y	—	—	MK	
2/3/21	✓	1	8.7	19.5	439	8.5	~~N~~ Y	Y	—	—	✓	
2/4/21		1	8.6	20.0	415	8.0	Y	Y	—	—	RE	
2/5/21		1	8.9	19.8	399	8.2	Y	Y	—	—	RE	

FT = Flow-through
*if >10% notify lab manager

MAINTENANCE LOG FOR CULTURES

ORGANISM: Hyalella BFW
LOCATION: Bath 8 => Bath 7

Batch Number: ABS 011321 | Date Received: 1/13/21 | Initial # of Organisms: ① ~~2 1/2~~ 1 1/2 of 4 tubs

Date	Feed AM/PM		Tub No.	D.O.	Temp (°C)	Cond/ Sal	pH	H_2O Change	Organisms appear healthy (Y/N)	# Mort	% Mort*	Init.	Comments
1/14/21	—	—	1	8.9	19.6	553	7.9	N	Y	—	—	SH	
1/15/21	—	—	1	8.5	21.9	553	7.9	N	Y	—	—	SH	
1/16/21	✓		1	8.9	21.6	556	7.7	N	Y	—	—	SH	
01/17/21		✓	1	8.4	22.0	560	7.7	N	Y	—	—	DM	
1/18/21	✓		1	9.0	21.8	551	7.7	N	Y	—	—	MS	
1/19/21		✓	1	~~7.7~~ ②	22.0	544	7.7	③ ~~N~~ Y	Y	—	—	RE	
								end of culture					

FT = Flow-through
*if >10% notify lab manager

① IE-MS 1/18
② MC-RE 1/19 8.5
③ IE-RE 1/19

MAINTENANCE LOG FOR CULTURES

ORGANISM: Hyallella (RFW)
LOCATION: Bath 8

Batch Number: ABS011321 | Date Received: 1/13/21 | Initial # of Organisms: ① 2 1/2 ~~1 1/2~~ of 4 tubs

Date	Feed AM/PM	Tub No.	D.O.	Temp (°C)	Cond/ Sal	pH	H_2O Change	Organisms appear healthy (Y/N)	# Mort	% Mort*	Init.	Comments
1/14	—	1	9.0	19.7	565	8.0	N	Y	—	—	SH	
1/15	✓	1	9.0	20.0	566	8.0	N	Y	—	—	SH	
1/16/21	✓	1	9.1	19.9	575	7.9	N	Y	—	—	SH	
01/17/21	✓	1	9.1	20.0	569	7.9	N	Y	—	—	DM	
1/18/21	✓	1	9.3	19.6	570	7.7	N	Y	—	—	MS	
1/19/21	✓	1	8.9	19.9	558	7.7	② ~~N~~ Y	Y	—	—	RE	

end of culture

FT = Flow-through
*if >10% notify lab manager

① IE-MS 1/18
② IE-RE 1/19

4/3/17 Culture Maintenance Log v1.2

EH-USA002219

ED_005624_00000029-00135

MAINTENANCE LOG FOR CULTURES

ORGANISM: Rainbow Trout (O. m.)
LOCATION: Test Rm

Batch Number: TF011221 | Date Received: 1/12/21 | Initial # of Organisms: 500

Date	Feed AM/PM		Tub No.	D.O.	Temp (°C)	Cond/ Sal	pH	H_2O Change	Organisms appear healthy (Y/N)	# Mort	% Mort*	Init.	Comments
1/13/21	✓		1	9.2	12.2	249	8.1	Y	Y	0	—	SH	
	✓		2	9.8	11.6	236	8.2			0	—		
↓	✓		3	9.7	11.5	229	8.3	↓	↓	0	—	↓	
1/14/21		✓	1	9.7	11.9	245	① 8.3	Y	Y	0	—	SH	
		✓	2	9.5	11.2	238	8.2			0	—		
↓		✓	3	9.6	11.2	233	8.3	↓	↓	1	—	↓	
1/15/21	✓		1	10.2	12.4	252	8.2	Y	Y	0	—	SH	
	✓		2	10.4	12.2	236	8.3			0	—		
↓	✓		3	10.2	11.9	235	8.3	↓	↓	0	—	↓	
1/16/21	✓		1	10.3	12.9	260	8.0	Y	Y	0	—	SH	
	✓		2	10.4	12.2	244	8.1			0	—		
↓	✓		3	10.4	12.0	242	8.1	↓	↓	0	—	↓	
01/17/21	✓		1	9.8	12.3	246	7.7	Y	Y	0	—	DM	
	✓		2 ②	10.1	11.8	244	8.1	Y	Y	0	—		
↓	✓		3 ②	10.2	11.8	249	8.0	Y	Y	0	—	↓	
1/18/21		✓	1	10.8	12.2	249	8.3	Y	Y		—	MS	
		✓	2	10.2	11.8	254	8.2	Y	Y		—		
↓		✓	3	10.1	11.8	250	8.2	Y	Y		—	↓	

FT = Flow-through
*if >10% notify lab manager

① remeasured – SH 1/14/21
② WC wrote values in for opposite tanks – DM 01/17/21

4/3/17 Culture Maintenance Log v1.2

EH-USA002220

ED_005624_00000029-00136

MAINTENANCE LOG FOR CULTURES

ORGANISM: Rainbow Trout
LOCATION: Test Room

Batch Number: TF011221 | Date Received: 1/12/21 | Initial # of Organisms: 500

Date	Feed AM/PM		Tub No.	D.O.	Temp (°C)	Cond/ Sal	pH	H_2O Change	Organisms appear healthy (Y/N)	# Mort	% Mort*	Init.	Comments
1/19/21		✓	1	9.8	12.3	251	7.6	Y	Y	0	—	RE	
↓		↓	2	10.0	11.8	256	8.2	Y	↓	0	—	↓	
↓		✓	3	10.0	11.8	256	8.2	Y	↓	0	—	↓	
1/20/21	✓	✓	1	9.8	12.3	260	8.7	Y	Y	0	—	SH	
↓		✓	2	10.0	11.9	263	8.4	↓	↓	0	—	↓	
↓		✓	3	9.8	11.9	266	8.3	↓	↓	0	—	↓	
1/21/21	—	—	1	9.5	12.5	265	7.6	N	Y	0	—	NL	
↓	—	—	2	9.9	11.9	263	8.3	↓	↓	0	—	↓	
↓	—	—	3	10.0	11.9	264	8.3	↓	↓	0	—	↓	
1/22/21	—	—	1	10.0	12.5	263	8.0	Y	Y	0	—	MK	
↓	—	—	2	10.1	12.0	263	8.1	↓	↓	0	—	↓	
↓	—	—	3	10.2	11.9	268	8.1	↓	↓	0	—	↓	
1/23		✓	2	① ←			→ ①	Y	Y	0	—	SH	
1/24	—	—	2	10.17	11.7	251	8.2	N	Y	0	—	NL	

*FT = Flow-through
**If >10% notify lab manager*

① forgot to take WQ before H_2O Δ – SH 1/23/21

4/3/17

Culture Maintenance Log v1.2

EH-USA002221

ED_005624_00000029-00137

APPENDIX D

Chemistry Lab Report

Analytical Resources, Incorporated
Analytical Chemists and Consultants

10 February 2021

Michelle Knowlen
EcoAnalysts, Inc.
4729 NE View Drive, PO Box 216
Port Gamble, WA 98364

RE: Electron Intake Project 2020

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)
21A0119	N/A

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

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

Analytical Resources, Inc.

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

Cert# 100006-012

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

CHAIN OF CUSTODY

2140119

EcoAnalysts
LIFE IN WATER

EcoAnalysts, Inc.
4770 NE View Dr., Port Gamble, WA. 98364
Tel: (360) 297-6040

Destination: ARI	Sample Originator (Organization): EcoAnalysts	Report Results To: EcoAnalysts	Phone: 360-297-6040 ext. 6056
Destination Contact: Amanda Volgardsen	PERSON WHO COLLECTED SAMPLE: Brian Hester & Michelle Knowlen	Contact Name: Michelle Knowlen	Fax:
Date: 1/7/21	Address: 4729 NE View Dr, Port Gamble WA 98364	Lab Address: 4729 NE View Dr, Port Gamble WA 98364	Email: mknowlen@ecoanalysis.com
Turn-Around-Time: Standard			
Project Name: Electron Intake Project 2020	Phone: 360-297-6040	Invoicing To: EcoAnalysts redwards@ecoanalysts.com	
	Fax:	Comments or Special Instructions: Full QC, see Amanda Volgardsen for analysis details	
Contract/PO:	E-mail: bhester@ecoanalysis.com mknowlen@ecoanalysis.com		

No.	Sample ID	Matrix	Volume & Type of Container	Date & Time	Total Metals	Mercury	PAH	TCLP (metals, organics)			Preservation	Sample Temp Upon Receipt	LAB ID
1	SC-RC-Comp	Rubber Crumb	32oz Jar	1/7/21 1515	X	X	X	X			None		
2	SC-PT-Comp	Plastic Turf	4L Jug	1/7/21 1503	X	X	X	X			None		
3	RP-RC-Comp	Rubber Crumb	32oz Jar	1/7/21 1630	X	X	X	X			None		
4	RP-PT-Comp	Plastic Turf	4L Jug	1/7/21 1607	X	X	X	X			None		
5	Sediment-Upstream	Sediment	16oz Jar	1/7/21 1000	X	X	X				None		
6	Sediment-Downstream	Sediment	16oz Jar	1/7/21 0955	X	X	X				None		
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

Relinquished by:	Received by:	Relinquished by:	Received by:	Matrix Codes
Print Name: Michelle Knowlen	Print Name: Jacob [illegible]	Print Name:	Print Name:	FW = Fresh Water
Signature: [illegible]	Signature: [illegible]	Signature:	Signature:	SB = Salt & Brackish Water
Affiliation: EcoAnalysts	Affiliation: ARI	Affiliation:	Affiliation:	SS = Soil & Sediment
Date/Time: 1/8/21 1130	Date/Time: 01/08/2021 1235	Date/Time:	Date/Time:	

Version 1.0, Effective 7/1/14

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SC-RC-Comp	21A0119-01	Solid (as-rec)	07-Jan-2021 15:15	08-Jan-2021 12:35
SC-PT-Comp	21A0119-02	Solid (as-rec)	07-Jan-2021 15:03	08-Jan-2021 12:35
RP-RC-Comp	21A0119-03	Solid (as-rec)	07-Jan-2021 16:30	08-Jan-2021 12:35
RP-PT-Comp	21A0119-04	Solid (as-rec)	07-Jan-2021 16:07	08-Jan-2021 12:35
Sediment-Upstream	21A0119-05	Solid (as-rec)	07-Jan-2021 10:00	08-Jan-2021 12:35
Sediment-Downstream	21A0119-06	Solid (as-rec)	07-Jan-2021 09:55	08-Jan-2021 12:35

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received 08-Jan-2021 12:35 under ARI work order 21A0119. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Semivolatiles - EPA Method SW8270E/TCLP

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

Initial and continuing calibrations were within method requirements, with the exception of SJA0319-ICV1 which is outside of control limits high for Hexachlorobutadiene, SJA0419-ICV1 which is outside of control limits low for 4-Methylphenol and Pentachlorophenol, and high for 4-Chlorophenylether, 4-Nitrophenol and Diethylphthalate, SJB0017-ICV1 is outside of control limits low for 2,4-Dimethylphenol, 4-Methylphenol, Benzo(a)pyrene and Pentachlorphenol and high for 4-Chlorophenylether, 4-Nitrophenol and Hexachlorobutadiene, and SJB0037-ICV1 which is outside of control limits low for Pentachlorophenol and high for the surrogate 2,4,6-Tribromophenol, 2-Nitroanaline, 2-Nitrophenol, 4-Chloro-3-Methylphenol, 4-Nitrophenol, bis(2-Exylhexyl)phthalate, Fluorene and Hexachlorobutadiene. Associated detected results and QC have been flagged with "Q" qualifiers. No further corrective action was taken.

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 blank spike (BS/LCS) percent recoveries were within control limits, with the exception of LCS BJA0580 which has high percent recovery for 4-Nitrophenol and the LCSD which has high percent recoveries for 4-Nitrophenol and Diethylphthalate. This is likely a calibration bias. The LCS BJA0610 has no recovery for Pyridine. No corretive action was taken.

The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent difference (RPD) were within advisory control limits, with the exception of the matrix spike and matrix spike duplicate have high spike recoveries for 4-Nitrophenol, the matrix spike duplicate also has high spike recovery for 4-Bromophenylether. The results are advisory. No corrective action was taken.

Total and TCLP 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 blank spike (BS/LCS) percent recoveries were within control limits.

The matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory

control limits.

Total and TCLP 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 blank spike (BS/LCS) percent recoveries were within control limits.

The matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Eco Analysts

Project Name: Electran Intake Project

COC No(s): NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Assigned ARI Job No: 21A0119

Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the 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 1235 1.3

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: DOO 206

Cooler Accepted by: JB Date: 01/08/2021 Time: 1235

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:

Was sufficient ice used (if appropriate)? NA YES NO

How were bottles sealed in plastic bags? Individually Grouped Not

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI NA

Were the sample(s) split by ARI? NA YES Date/Time: Equipment: Split by:

Samples Logged by: JB Date: 01/08/2021 Time: 1340 Labels checked by: JB

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-RC-Comp

21A0119-01 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 15:15
Instrument: NT10 Analyst: VTS — Analyzed: 02/02/2021 16:11

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 21A0119-01 A 02
Preparation Batch: BJA0580 — Sample Size: 10.78 g (wet)
Prepared: 01/21/2021 — Final Volume: 1 mL

Sample Cleanup: Cleanup Method: GPC — Extract ID:21A0119-01 A 02
Cleanup Batch: CJA0232 — Initial Volume: 1 uL
Cleaned: 28-Jan-2021 — Final Volume: 1 uL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Phenol	108-95-2	10	76.3	186	158	ug/kg	J, D
bis(2-chloroethyl) ether	111-44-4	10	62.9	186	ND	ug/kg	U
2-Chlorophenol	95-57-8	10	60.0	186	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	10	47.0	186	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	10	40.7	186	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	10	43.2	186	ND	ug/kg	U
Benzyl Alcohol	100-51-6	10	138	186	ND	ug/kg	U
2,2'-Oxybis(1-chloropropane)	108-60-1	10	52.6	186	ND	ug/kg	U
2-Methylphenol	95-48-7	10	72.7	186	ND	ug/kg	U
Hexachloroethane	67-72-1	10	52.4	186	ND	ug/kg	U
N-Nitroso-di-n-Propylamine	621-64-7	10	100	186	ND	ug/kg	U
4-Methylphenol	106-44-5	10	136	186	ND	ug/kg	U
Nitrobenzene	98-95-3	10	73.7	186	ND	ug/kg	U
Isophorone	78-59-1	10	71.9	186	ND	ug/kg	U
2-Nitrophenol	88-75-5	10	64.2	186	ND	ug/kg	U
2,4-Dimethylphenol	105-67-9	10	249	928	ND	ug/kg	U
Bis(2-Chloroethoxy)methane	111-91-1	10	58.8	186	ND	ug/kg	U
2,4-Dichlorophenol	120-83-2	10	297	928	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	10	55.3	186	ND	ug/kg	U
Naphthalene	91-20-3	10	48.7	186	174	ug/kg	J, D
Benzoic acid	65-85-0	10	548	1860	ND	ug/kg	U
4-Chloroaniline	106-47-8	10	313	928	ND	ug/kg	U
Hexachlorobutadiene	87-68-3	10	46.5	186	ND	ug/kg	U
4-Chloro-3-Methylphenol	59-50-7	10	268	928	ND	ug/kg	U
2-Methylnaphthalene	91-57-6	10	52.6	186	56.3	ug/kg	J, D
Hexachlorocyclopentadiene	77-47-4	10	383	928	ND	ug/kg	U
2,4,6-Trichlorophenol	88-06-2	10	236	928	ND	ug/kg	U
2,4,5-Trichlorophenol	95-95-4	10	250	928	ND	ug/kg	U
2-Chloronaphthalene	91-58-7	10	41.2	186	ND	ug/kg	U
2-Nitroaniline	88-74-4	10	280	928	ND	ug/kg	U
Acenaphthylene	208-96-8	10	44.2	186	115	ug/kg	J, D
Dimethylphthalate	131-11-3	10	59.7	186	ND	ug/kg	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-RC-Comp

21A0119-01 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 15:15
Instrument: NT10 Analyst: VTS — Analyzed: 02/02/2021 16:11

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2,6-Dinitrotoluene	606-20-2	10	248	928	ND	ug/kg	U
Acenaphthene	83-32-9	10	47.6	186	ND	ug/kg	U
3-Nitroaniline	99-09-2	10	350	928	ND	ug/kg	U
2,4-Dinitrophenol	51-28-5	10	383	1860	ND	ug/kg	U
Dibenzofuran	132-64-9	10	42.8	186	ND	ug/kg	U
4-Nitrophenol	100-02-7	10	412	928	ND	ug/kg	U
2,4-Dinitrotoluene	121-14-2	10	212	928	ND	ug/kg	U
Fluorene	86-73-7	10	45.9	186	ND	ug/kg	U
4-Chlorophenylphenyl ether	7005-72-3	10	64.6	186	ND	ug/kg	U
Diethyl phthalate	84-66-2	10	164	186	ND	ug/kg	U
4-Nitroaniline	100-01-6	10	324	928	ND	ug/kg	U
4,6-Dinitro-2-methylphenol	534-52-1	10	468	1860	ND	ug/kg	U
N-Nitrosodiphenylamine	86-30-6	10	88.8	186	542	ug/kg	D
4-Bromophenyl phenyl ether	101-55-3	10	56.3	186	ND	ug/kg	U
Hexachlorobenzene	118-74-1	10	44.0	186	ND	ug/kg	U
Pentachlorophenol	87-86-5	10	290	928	ND	ug/kg	U
Phenanthrene	85-01-8	10	43.5	186	394	ug/kg	D
Anthracene	120-12-7	10	55.0	186	ND	ug/kg	U
Carbazole	86-74-8	10	68.4	186	ND	ug/kg	U
Di-n-Butylphthalate	84-74-2	10	49.3	186	ND	ug/kg	U
Fluoranthene	206-44-0	10	41.9	186	1270	ug/kg	D
Pyrene	129-00-0	10	51.5	186	4290	ug/kg	D
Butylbenzylphthalate	85-68-7	10	74.7	186	ND	ug/kg	U
Benzo(a)anthracene	56-55-3	10	48.1	186	594	ug/kg	D
3,3'-Dichlorobenzidine	91-94-1	10	289	928	ND	ug/kg	U
Chrysene	218-01-9	10	48.4	186	3590	ug/kg	D
bis(2-Ethylhexyl)phthalate	117-81-7	10	267	464	93600	ug/kg	D, E
Di-n-Octylphthalate	117-84-0	10	80.9	186	ND	ug/kg	U
Benzofluoranthenes, Total		10	94.6	371	1610	ug/kg	D
Benzo(a)pyrene	50-32-8	10	60.1	186	2170	ug/kg	Q, D
Indeno(1,2,3-cd)pyrene	193-39-5	10	55.6	186	288	ug/kg	D
Dibenzo(a,h)anthracene	53-70-3	10	57.1	186	ND	ug/kg	U
Benzo(g,h,i)perylene	191-24-2	10	54.0	186	1400	ug/kg	D
1-Methylnaphthalene	90-12-0	10	55.2	186	ND	ug/kg	U
Surrogate: 2-Fluorophenol				*27-120 %*	*66.0*	*%*	
Surrogate: Phenol-d5				*29-120 %*	*57.8*	*%*	
Surrogate: 2-Chlorophenol-d4				*31-120 %*	*75.9*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4				*32-120 %*	*67.2*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-RC-Comp

21A0119-01 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 15:15
Instrument: NT10 Analyst: VTS — Analyzed: 02/02/2021 16:11

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Nitrobenzene-d5		*30-120 %*	*85.9*	*%*	
Surrogate: 2-Fluorobiphenyl		*35-120 %*	*93.4*	*%*	
Surrogate: 2,4,6-Tribromophenol		*24-134 %*	*89.7*	*%*	
Surrogate: p-Terphenyl-d14		*37-120 %*	*93.1*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-RC-Comp

21A0119-01 (Solid (as-rec))

TCLP Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 15:15
Instrument: NT12 Analyst: JZ — Analyzed: 01/25/2021 13:52

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 21A0119-01 A 05
Preparation Batch: BJA0610 — Sample Size: 100 mL (wet)
Prepared: 01/22/2021 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Methylphenol	95-48-7	1	10.0	ND	ug/L	U
Hexachloroethane	67-72-1	1	20.0	ND	ug/L	U
4-Methylphenol	106-44-5	1	20.0	ND	ug/L	U
Nitrobenzene	98-95-3	1	10.0	ND	ug/L	U
Hexachlorobutadiene	87-68-3	1	30.0	ND	ug/L	U
2,4,6-Trichlorophenol	88-06-2	1	30.0	ND	ug/L	U
2,4,5-Trichlorophenol	95-95-4	1	50.0	ND	ug/L	U
2,4-Dinitrotoluene	121-14-2	1	30.0	ND	ug/L	U
Hexachlorobenzene	118-74-1	1	10.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	100	ND	ug/L	U
Pyridine	110-86-1	1	50.0	ND	ug/L	U
Surrogate: 2-Fluorophenol			*23-120 %*	*77.4*	*%*	
Surrogate: Phenol-d5			*16-120 %*	*73.0*	*%*	
Surrogate: 2-Chlorophenol-d4			*33-120 %*	*86.5*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4			*27-120 %*	*69.6*	*%*	
Surrogate: Nitrobenzene-d5			*34-120 %*	*84.6*	*%*	
Surrogate: 2-Fluorobiphenyl			*38-120 %*	*83.1*	*%*	
Surrogate: 2,4,6-Tribromophenol			*31-128 %*	*93.2*	*%*	
Surrogate: p-Terphenyl-d14			*27-122 %*	*97.9*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-RC-Comp

21A0119-01 (Solid (as-rec))

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/07/2021 15:15
Instrument: ICP2 Analyst: TCH — Analyzed: 01/25/2021 17:42

Sample Preparation: Preparation Method: SWC EPA 3050B — Extract ID: 21A0119-01 A 01
Preparation Batch: BJA0544 — Sample Size: 1.073 g (wet)
Prepared: 01/21/2021 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	1.07	11.6	ND	mg/kg	U
Barium	7440-39-3	5	0.606	1.40	5.71	mg/kg	D
Cadmium	7440-43-9	5	0.163	0.466	0.856	mg/kg	D
Chromium	7440-47-3	5	1.03	2.10	1.41	mg/kg	J, D
Lead	7439-92-1	5	0.559	4.66	26.0	mg/kg	D
Selenium	7782-49-2	5	2.98	11.6	ND	mg/kg	U
Silver	7440-22-4	5	0.182	0.699	ND	mg/kg	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-RC-Comp

21A0119-01 (Solid (as-rec))

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/07/2021 15:15
Instrument: HYDRA Analyst: BLC — Analyzed: 01/22/2021 13:47

Sample Preparation: Preparation Method: SMM EPA 7471B — Extract ID: 21A0119-01 A
Preparation Batch: BJA0545 — Sample Size: 0.248 g (wet)
Prepared: 01/21/2021 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.00423	0.0202	0.00534	mg/kg wet	J

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-RC-Comp

21A0119-01 (Solid (as-rec))

TCLP Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/07/2021 15:15
Instrument: ICP2 Analyst: TCH — Analyzed: 01/25/2021 16:11

Sample Preparation: Preparation Method: LEN Digestion of EPA 1311 Elutriate — Extract ID: 21A0119-01 A 06
Preparation Batch: BJA0588 — Sample Size: 25 mL (wet)
Prepared: 01/22/2021 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.0230	0.250	ND	mg/L	U
Barium	7440-39-3	5	0.0130	0.0300	0.0391	mg/L	
Cadmium	7440-43-9	5	0.0035	0.0100	ND	mg/L	U
Chromium	7440-47-3	5	0.0221	0.0450	ND	mg/L	U
Lead	7439-92-1	5	0.0120	0.100	0.0263	mg/L	J
Selenium	7782-49-2	5	0.0640	0.250	ND	mg/L	U
Silver	7440-22-4	5	0.0039	0.0150	ND	mg/L	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-RC-Comp

21A0119-01 (Solid (as-rec))

TCLP Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 01/07/2021 15:15
Instrument: HYDRA Analyst: BLC — Analyzed: 01/22/2021 15:24

Sample Preparation: Preparation Method: LEM 7470A Digestion of EPA 1311 Elutriate for Hg — Extract ID: 21A0119-01 A 03
Preparation Batch: BJA0589 — Sample Size: 20 mL (wet)
Prepared: 01/22/2021 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000007	0.000100	ND	mg/L	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-RC-Comp

21A0119-01RE1 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 15:15
Instrument: NT10 Analyst: VTS — Analyzed: 02/06/2021 16:17

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 21A0119-01RE1 A 02
Preparation Batch: BJA0580 — Sample Size: 10.78 g (wet)
Prepared: 01/21/2021 — Final Volume: 1 mL

Sample Cleanup: Cleanup Method: GPC — Extract ID:21A0119-01RE1 A 02
Cleanup Batch: CJA0232 — Initial Volume: 1 uL
Cleaned: 28-Jan-2021 — Final Volume: 1 uL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Phenol	108-95-2	100	763	1860	ND	ug/kg	U
bis(2-chloroethyl) ether	111-44-4	100	629	1860	ND	ug/kg	U
2-Chlorophenol	95-57-8	100	600	1860	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	100	470	1860	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	100	407	1860	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	100	432	1860	ND	ug/kg	U
Benzyl Alcohol	100-51-6	100	1380	1860	ND	ug/kg	U
2,2'-Oxybis(1-chloropropane)	108-60-1	100	526	1860	ND	ug/kg	U
2-Methylphenol	95-48-7	100	727	1860	ND	ug/kg	U
Hexachloroethane	67-72-1	100	524	1860	ND	ug/kg	U
N-Nitroso-di-n-Propylamine	621-64-7	100	1000	1860	ND	ug/kg	U
4-Methylphenol	106-44-5	100	1360	1860	ND	ug/kg	U
Nitrobenzene	98-95-3	100	737	1860	ND	ug/kg	U
Isophorone	78-59-1	100	719	1860	ND	ug/kg	U
2-Nitrophenol	88-75-5	100	642	1860	ND	ug/kg	U
2,4-Dimethylphenol	105-67-9	100	2490	9280	ND	ug/kg	U
Bis(2-Chloroethoxy)methane	111-91-1	100	588	1860	ND	ug/kg	U
2,4-Dichlorophenol	120-83-2	100	2970	9280	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	100	553	1860	ND	ug/kg	U
Naphthalene	91-20-3	100	487	1860	ND	ug/kg	U
Benzoic acid	65-85-0	100	5480	18600	ND	ug/kg	U
4-Chloroaniline	106-47-8	100	3130	9280	ND	ug/kg	U
Hexachlorobutadiene	87-68-3	100	465	1860	ND	ug/kg	U
4-Chloro-3-Methylphenol	59-50-7	100	2680	9280	ND	ug/kg	U
2-Methylnaphthalene	91-57-6	100	526	1860	ND	ug/kg	U
Hexachlorocyclopentadiene	77-47-4	100	3830	9280	ND	ug/kg	U
2,4,6-Trichlorophenol	88-06-2	100	2360	9280	ND	ug/kg	U
2,4,5-Trichlorophenol	95-95-4	100	2500	9280	ND	ug/kg	U
2-Chloronaphthalene	91-58-7	100	412	1860	ND	ug/kg	U
2-Nitroaniline	88-74-4	100	2800	9280	ND	ug/kg	U
Acenaphthylene	208-96-8	100	442	1860	ND	ug/kg	U
Dimethylphthalate	131-11-3	100	597	1860	ND	ug/kg	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-RC-Comp

21A0119-01RE1 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 15:15
Instrument: NT10 Analyst: VTS — Analyzed: 02/06/2021 16:17

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2,6-Dinitrotoluene	606-20-2	100	2480	9280	ND	ug/kg	U
Acenaphthene	83-32-9	100	476	1860	ND	ug/kg	U
3-Nitroaniline	99-09-2	100	3500	9280	ND	ug/kg	U
2,4-Dinitrophenol	51-28-5	100	3830	18600	ND	ug/kg	U
Dibenzofuran	132-64-9	100	428	1860	ND	ug/kg	U
4-Nitrophenol	100-02-7	100	4120	9280	ND	ug/kg	U
2,4-Dinitrotoluene	121-14-2	100	2120	9280	ND	ug/kg	U
Fluorene	86-73-7	100	459	1860	ND	ug/kg	U
4-Chlorophenylphenyl ether	7005-72-3	100	646	1860	ND	ug/kg	U
Diethyl phthalate	84-66-2	100	1640	1860	ND	ug/kg	U
4-Nitroaniline	100-01-6	100	3240	9280	ND	ug/kg	U
4,6-Dinitro-2-methylphenol	534-52-1	100	4680	18600	ND	ug/kg	U
N-Nitrosodiphenylamine	86-30-6	100	888	1860	ND	ug/kg	U
4-Bromophenyl phenyl ether	101-55-3	100	563	1860	ND	ug/kg	U
Hexachlorobenzene	118-74-1	100	440	1860	ND	ug/kg	U
Pentachlorophenol	87-86-5	100	2900	9280	ND	ug/kg	U
Phenanthrene	85-01-8	100	435	1860	ND	ug/kg	U
Anthracene	120-12-7	100	550	1860	ND	ug/kg	U
Carbazole	86-74-8	100	684	1860	ND	ug/kg	U
Di-n-Butylphthalate	84-74-2	100	493	1860	ND	ug/kg	U
Fluoranthene	206-44-0	100	419	1860	1610	ug/kg	J, D
Pyrene	129-00-0	100	515	1860	4070	ug/kg	D
Butylbenzylphthalate	85-68-7	100	747	1860	ND	ug/kg	U
Benzo(a)anthracene	56-55-3	100	481	1860	ND	ug/kg	U
3,3'-Dichlorobenzidine	91-94-1	100	2890	9280	ND	ug/kg	U
Chrysene	218-01-9	100	484	1860	ND	ug/kg	U
bis(2-Ethylhexyl)phthalate	117-81-7	100	2670	4640	80900	ug/kg	D
Di-n-Octylphthalate	117-84-0	100	809	1860	ND	ug/kg	U
Benzofluoranthenes, Total		100	946	3710	1440	ug/kg	J, D
Benzo(a)pyrene	50-32-8	100	601	1860	730	ug/kg	J, D
Indeno(1,2,3-cd)pyrene	193-39-5	100	556	1860	ND	ug/kg	U
Dibenzo(a,h)anthracene	53-70-3	100	571	1860	ND	ug/kg	U
Benzo(g,h,i)perylene	191-24-2	100	540	1860	2600	ug/kg	D
1-Methylnaphthalene	90-12-0	100	552	1860	ND	ug/kg	U
Surrogate: 2-Fluorophenol				*27-120 %*	*65.2*	*%*	
Surrogate: Phenol-d5				*29-120 %*		*D1*	D1
Surrogate: 2-Chlorophenol-d4				*31-120 %*		*D1*	D1
Surrogate: 1,2-Dichlorobenzene-d4				*32-120 %*		*D1*	D1

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-RC-Comp

21A0119-01RE1 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 15:15
Instrument: NT10 Analyst: VTS — Analyzed: 02/06/2021 16:17

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Nitrobenzene-d5		*30-120 %*		*D1*	D1
Surrogate: 2-Fluorobiphenyl		*35-120 %*		*D1*	D1
Surrogate: 2,4,6-Tribromophenol		*24-134 %*		*D1*	D1
Surrogate: p-Terphenyl-d14		*37-120 %*		*D1*	D1

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-PT-Comp

21A0119-02 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 15:03
Instrument: NT10 Analyst: VTS — Analyzed: 01/30/2021 15:57

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 21A0119-02 A 02
Preparation Batch: BJA0580 — Sample Size: 10.07 g (wet)
Prepared: 01/21/2021 — Final Volume: 1 mL

Sample Cleanup: Cleanup Method: GPC — Extract ID:21A0119-02 A 02
Cleanup Batch: CJA0232 — Initial Volume: 1 uL
Cleaned: 28-Jan-2021 — Final Volume: 1 uL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Phenol	108-95-2	1	8.2	19.9	24.7	ug/kg	
bis(2-chloroethyl) ether	111-44-4	1	6.7	19.9	ND	ug/kg	U
2-Chlorophenol	95-57-8	1	6.4	19.9	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	5.0	19.9	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	4.4	19.9	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	4.6	19.9	10.6	ug/kg	J
Benzyl Alcohol	100-51-6	1	14.8	19.9	ND	ug/kg	U
2,2'-Oxybis(1-chloropropane)	108-60-1	1	5.6	19.9	ND	ug/kg	U
2-Methylphenol	95-48-7	1	7.8	19.9	ND	ug/kg	U
Hexachloroethane	67-72-1	1	5.6	19.9	ND	ug/kg	U
N-Nitroso-di-n-Propylamine	621-64-7	1	10.7	19.9	ND	ug/kg	U
4-Methylphenol	106-44-5	1	14.6	19.9	ND	ug/kg	U
Nitrobenzene	98-95-3	1	7.9	19.9	ND	ug/kg	U
Isophorone	78-59-1	1	7.7	19.9	ND	ug/kg	U
2-Nitrophenol	88-75-5	1	6.9	19.9	ND	ug/kg	U
2,4-Dimethylphenol	105-67-9	1	26.6	99.3	ND	ug/kg	U
Bis(2-Chloroethoxy)methane	111-91-1	1	6.3	19.9	ND	ug/kg	U
2,4-Dichlorophenol	120-83-2	1	31.8	99.3	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	5.9	19.9	ND	ug/kg	U
Naphthalene	91-20-3	1	5.2	19.9	23.7	ug/kg	
Benzoic acid	65-85-0	1	58.7	199	88.8	ug/kg	J
4-Chloroaniline	106-47-8	1	33.5	99.3	ND	ug/kg	U
Hexachlorobutadiene	87-68-3	1	5.0	19.9	ND	ug/kg	U
4-Chloro-3-Methylphenol	59-50-7	1	28.7	99.3	ND	ug/kg	U
2-Methylnaphthalene	91-57-6	1	5.6	19.9	16.1	ug/kg	J
Hexachlorocyclopentadiene	77-47-4	1	41.0	99.3	ND	ug/kg	U
2,4,6-Trichlorophenol	88-06-2	1	25.2	99.3	ND	ug/kg	U
2,4,5-Trichlorophenol	95-95-4	1	26.7	99.3	ND	ug/kg	U
2-Chloronaphthalene	91-58-7	1	4.4	19.9	ND	ug/kg	U
2-Nitroaniline	88-74-4	1	30.0	99.3	ND	ug/kg	U
Acenaphthylene	208-96-8	1	4.7	19.9	10.6	ug/kg	J
Dimethylphthalate	131-11-3	1	6.4	19.9	ND	ug/kg	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-PT-Comp

21A0119-02 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 15:03
Instrument: NT10 Analyst: VTS — Analyzed: 01/30/2021 15:57

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2,6-Dinitrotoluene	606-20-2	1	26.5	99.3	ND	ug/kg	U
Acenaphthene	83-32-9	1	5.1	19.9	ND	ug/kg	U
3-Nitroaniline	99-09-2	1	37.4	99.3	ND	ug/kg	U
2,4-Dinitrophenol	51-28-5	1	41.0	199	ND	ug/kg	U
Dibenzofuran	132-64-9	1	4.6	19.9	ND	ug/kg	U
4-Nitrophenol	100-02-7	1	44.1	99.3	ND	ug/kg	U
2,4-Dinitrotoluene	121-14-2	1	22.7	99.3	ND	ug/kg	U
Fluorene	86-73-7	1	4.9	19.9	ND	ug/kg	U
4-Chlorophenylphenyl ether	7005-72-3	1	6.9	19.9	ND	ug/kg	U
Diethyl phthalate	84-66-2	1	17.6	19.9	ND	ug/kg	U
4-Nitroaniline	100-01-6	1	34.7	99.3	ND	ug/kg	U
4,6-Dinitro-2-methylphenol	534-52-1	1	50.1	199	ND	ug/kg	U
N-Nitrosodiphenylamine	86-30-6	1	9.5	19.9	ND	ug/kg	U
4-Bromophenyl phenyl ether	101-55-3	1	6.0	19.9	ND	ug/kg	U
Hexachlorobenzene	118-74-1	1	4.7	19.9	ND	ug/kg	U
Pentachlorophenol	87-86-5	1	31.1	99.3	ND	ug/kg	U
Phenanthrene	85-01-8	1	4.7	19.9	90.1	ug/kg	
Anthracene	120-12-7	1	5.9	19.9	21.9	ug/kg	
Carbazole	86-74-8	1	7.3	19.9	ND	ug/kg	U
Di-n-Butylphthalate	84-74-2	1	5.3	19.9	ND	ug/kg	U
Fluoranthene	206-44-0	1	4.5	19.9	310	ug/kg	
Pyrene	129-00-0	1	5.5	19.9	922	ug/kg	
Butylbenzylphthalate	85-68-7	1	8.0	19.9	ND	ug/kg	U
Benzo(a)anthracene	56-55-3	1	5.1	19.9	121	ug/kg	
3,3'-Dichlorobenzidine	91-94-1	1	31.0	99.3	ND	ug/kg	U
Chrysene	218-01-9	1	5.2	19.9	1090	ug/kg	
bis(2-Ethylhexyl)phthalate	117-81-7	1	28.6	49.7	10400	ug/kg	E
Di-n-Octylphthalate	117-84-0	1	8.7	19.9	ND	ug/kg	U
Benzofluoranthenes, Total		1	10.1	39.7	414	ug/kg	
Benzo(a)pyrene	50-32-8	1	6.4	19.9	351	ug/kg	
Indeno(1,2,3-cd)pyrene	193-39-5	1	5.9	19.9	39.8	ug/kg	
Dibenzo(a,h)anthracene	53-70-3	1	6.1	19.9	ND	ug/kg	U
Benzo(g,h,i)perylene	191-24-2	1	5.8	19.9	170	ug/kg	
1-Methylnaphthalene	90-12-0	1	5.9	19.9	7.9	ug/kg	J
Surrogate: 2-Fluorophenol				*27-120 %*	*55.9*	*%*	
Surrogate: Phenol-d5				*29-120 %*	*62.2*	*%*	
Surrogate: 2-Chlorophenol-d4				*31-120 %*	*83.1*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4				*32-120 %*	*66.5*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-PT-Comp

21A0119-02 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 15:03
Instrument: NT10 Analyst: VTS — Analyzed: 01/30/2021 15:57

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Nitrobenzene-d5		*30-120 %*	*85.6*	*%*	
Surrogate: 2-Fluorobiphenyl		*35-120 %*	*91.3*	*%*	
Surrogate: 2,4,6-Tribromophenol		*24-134 %*	*100*	*%*	
Surrogate: p-Terphenyl-d14		*37-120 %*	*76.6*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-PT-Comp

21A0119-02 (Solid (as-rec))

TCLP Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 15:03
Instrument: NT12 Analyst: JZ — Analyzed: 01/25/2021 14:31

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 21A0119-02 A 05
Preparation Batch: BJA0610 — Sample Size: 100 mL (wet)
Prepared: 01/22/2021 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Methylphenol	95-48-7	1	10.0	ND	ug/L	U
Hexachloroethane	67-72-1	1	20.0	ND	ug/L	U
4-Methylphenol	106-44-5	1	20.0	ND	ug/L	U
Nitrobenzene	98-95-3	1	10.0	ND	ug/L	U
Hexachlorobutadiene	87-68-3	1	30.0	ND	ug/L	U
2,4,6-Trichlorophenol	88-06-2	1	30.0	ND	ug/L	U
2,4,5-Trichlorophenol	95-95-4	1	50.0	ND	ug/L	U
2,4-Dinitrotoluene	121-14-2	1	30.0	ND	ug/L	U
Hexachlorobenzene	118-74-1	1	10.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	100	ND	ug/L	U
Pyridine	110-86-1	1	50.0	ND	ug/L	U
Surrogate: 2-Fluorophenol			*23-120 %*	*71.4*	*%*	
Surrogate: Phenol-d5			*16-120 %*	*66.5*	*%*	
Surrogate: 2-Chlorophenol-d4			*33-120 %*	*78.9*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4			*27-120 %*	*63.3*	*%*	
Surrogate: Nitrobenzene-d5			*34-120 %*	*81.3*	*%*	
Surrogate: 2-Fluorobiphenyl			*38-120 %*	*75.6*	*%*	
Surrogate: 2,4,6-Tribromophenol			*31-128 %*	*85.2*	*%*	
Surrogate: p-Terphenyl-d14			*27-122 %*	*93.2*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-PT-Comp

21A0119-02 (Solid (as-rec))

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/07/2021 15:03
Instrument: ICP2 Analyst: TCH — Analyzed: 01/25/2021 17:45

Sample Preparation: Preparation Method: SWC EPA 3050B — Extract ID: 21A0119-02 A 01
Preparation Batch: BJA0544 — Sample Size: 1.091 g (wet)
Prepared: 01/21/2021 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	1.05	11.5	ND	mg/kg	U
Barium	7440-39-3	5	0.596	1.37	200	mg/kg	D
Cadmium	7440-43-9	5	0.160	0.458	0.679	mg/kg	D
Chromium	7440-47-3	5	1.01	2.06	8.43	mg/kg	D
Lead	7439-92-1	5	0.550	4.58	9.19	mg/kg	D
Selenium	7782-49-2	5	2.93	11.5	ND	mg/kg	U
Silver	7440-22-4	5	0.179	0.687	ND	mg/kg	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-PT-Comp

21A0119-02 (Solid (as-rec))

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/07/2021 15:03
Instrument: HYDRA Analyst: BLC — Analyzed: 01/22/2021 13:49

Sample Preparation: Preparation Method: SMM EPA 7471B — Extract ID: 21A0119-02 A
Preparation Batch: BJA0545 — Sample Size: 0.237 g (wet)
Prepared: 01/21/2021 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.00443	0.0211	0.0903	mg/kg wet	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-PT-Comp

21A0119-02 (Solid (as-rec))

TCLP Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/07/2021 15:03
Instrument: ICP2 Analyst: TCH — Analyzed: 01/25/2021 17:04

Sample Preparation: Preparation Method: LEN Digestion of EPA 1311 Elutriate — Extract ID: 21A0119-02 A 06
Preparation Batch: BJA0588 — Sample Size: 25 mL (wet)
Prepared: 01/22/2021 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.0230	0.250	ND	mg/L	U
Barium	7440-39-3	5	0.0130	0.0300	0.256	mg/L	
Cadmium	7440-43-9	5	0.0035	0.0100	0.0069	mg/L	J
Chromium	7440-47-3	5	0.0221	0.0450	ND	mg/L	U
Lead	7439-92-1	5	0.0120	0.100	0.0442	mg/L	J
Selenium	7782-49-2	5	0.0640	0.250	ND	mg/L	U
Silver	7440-22-4	5	0.0039	0.0150	ND	mg/L	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-PT-Comp

21A0119-02 (Solid (as-rec))

TCLP Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 01/07/2021 15:03
Instrument: HYDRA Analyst: BLC — Analyzed: 01/22/2021 15:30

Sample Preparation: Preparation Method: LEM 7470A Digestion of EPA 1311 Elutriate for Hg — Extract ID: 21A0119-02 A 03
Preparation Batch: BJA0589 — Sample Size: 20 mL (wet)
Prepared: 01/22/2021 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000007	0.000100	ND	mg/L	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-PT-Comp

21A0119-02RE1 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 15:03
Instrument: NT10 Analyst: VTS — Analyzed: 02/03/2021 13:27

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 21A0119-02RE1 A 02
Preparation Batch: BJA0580 — Sample Size: 10.07 g (wet)
Prepared: 01/21/2021 — Final Volume: 1 mL

Sample Cleanup: Cleanup Method: GPC — Extract ID:21A0119-02RE1 A 02
Cleanup Batch: CJA0232 — Initial Volume: 1 uL
Cleaned: 28-Jan-2021 — Final Volume: 1 uL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Phenol	108-95-2	10	81.7	199	ND	ug/kg	U
bis(2-chloroethyl) ether	111-44-4	10	67.3	199	ND	ug/kg	U
2-Chlorophenol	95-57-8	10	64.3	199	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	10	50.3	199	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	10	43.6	199	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	10	46.3	199	ND	ug/kg	U
Benzyl Alcohol	100-51-6	10	148	199	ND	ug/kg	U
2,2'-Oxybis(1-chloropropane)	108-60-1	10	56.3	199	ND	ug/kg	U
2-Methylphenol	95-48-7	10	77.9	199	ND	ug/kg	U
Hexachloroethane	67-72-1	10	56.1	199	ND	ug/kg	U
N-Nitroso-di-n-Propylamine	621-64-7	10	107	199	ND	ug/kg	U
4-Methylphenol	106-44-5	10	146	199	ND	ug/kg	U
Nitrobenzene	98-95-3	10	78.9	199	ND	ug/kg	U
Isophorone	78-59-1	10	77.0	199	ND	ug/kg	U
2-Nitrophenol	88-75-5	10	68.7	199	ND	ug/kg	U
2,4-Dimethylphenol	105-67-9	10	266	993	ND	ug/kg	U
Bis(2-Chloroethoxy)methane	111-91-1	10	63.0	199	ND	ug/kg	U
2,4-Dichlorophenol	120-83-2	10	318	993	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	10	59.2	199	ND	ug/kg	U
Naphthalene	91-20-3	10	52.1	199	ND	ug/kg	U
Benzoic acid	65-85-0	10	587	1990	ND	ug/kg	U
4-Chloroaniline	106-47-8	10	335	993	ND	ug/kg	U
Hexachlorobutadiene	87-68-3	10	49.8	199	ND	ug/kg	U
4-Chloro-3-Methylphenol	59-50-7	10	287	993	ND	ug/kg	U
2-Methylnaphthalene	91-57-6	10	56.3	199	ND	ug/kg	U
Hexachlorocyclopentadiene	77-47-4	10	410	993	ND	ug/kg	U
2,4,6-Trichlorophenol	88-06-2	10	252	993	ND	ug/kg	U
2,4,5-Trichlorophenol	95-95-4	10	267	993	ND	ug/kg	U
2-Chloronaphthalene	91-58-7	10	44.1	199	ND	ug/kg	U
2-Nitroaniline	88-74-4	10	300	993	ND	ug/kg	U
Acenaphthylene	208-96-8	10	47.4	199	ND	ug/kg	U
Dimethylphthalate	131-11-3	10	64.0	199	ND	ug/kg	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-PT-Comp

21A0119-02RE1 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 15:03
Instrument: NT10 Analyst: VTS — Analyzed: 02/03/2021 13:27

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2,6-Dinitrotoluene	606-20-2	10	265	993	ND	ug/kg	U
Acenaphthene	83-32-9	10	50.9	199	ND	ug/kg	U
3-Nitroaniline	99-09-2	10	374	993	ND	ug/kg	U
2,4-Dinitrophenol	51-28-5	10	410	1990	ND	ug/kg	U
Dibenzofuran	132-64-9	10	45.8	199	ND	ug/kg	U
4-Nitrophenol	100-02-7	10	441	993	ND	ug/kg	U
2,4-Dinitrotoluene	121-14-2	10	227	993	ND	ug/kg	U
Fluorene	86-73-7	10	49.2	199	ND	ug/kg	U
4-Chlorophenylphenyl ether	7005-72-3	10	69.1	199	ND	ug/kg	U
Diethyl phthalate	84-66-2	10	176	199	ND	ug/kg	U
4-Nitroaniline	100-01-6	10	347	993	ND	ug/kg	U
4,6-Dinitro-2-methylphenol	534-52-1	10	501	1990	ND	ug/kg	U
N-Nitrosodiphenylamine	86-30-6	10	95.0	199	ND	ug/kg	U
4-Bromophenyl phenyl ether	101-55-3	10	60.3	199	ND	ug/kg	U
Hexachlorobenzene	118-74-1	10	47.1	199	ND	ug/kg	U
Pentachlorophenol	87-86-5	10	311	993	ND	ug/kg	U
Phenanthrene	85-01-8	10	46.6	199	78.6	ug/kg	J, D
Anthracene	120-12-7	10	58.9	199	ND	ug/kg	U
Carbazole	86-74-8	10	73.2	199	ND	ug/kg	U
Di-n-Butylphthalate	84-74-2	10	52.7	199	ND	ug/kg	U
Fluoranthene	206-44-0	10	44.9	199	544	ug/kg	D
Pyrene	129-00-0	10	55.1	199	1300	ug/kg	D
Butylbenzylphthalate	85-68-7	10	79.9	199	ND	ug/kg	U
Benzo(a)anthracene	56-55-3	10	51.4	199	175	ug/kg	J, D
3,3'-Dichlorobenzidine	91-94-1	10	310	993	ND	ug/kg	U
Chrysene	218-01-9	10	51.8	199	1140	ug/kg	D
bis(2-Ethylhexyl)phthalate	117-81-7	10	286	497	10100	ug/kg	Q, D
Di-n-Octylphthalate	117-84-0	10	86.6	199	ND	ug/kg	U
Benzofluoranthenes, Total		10	101	397	405	ug/kg	D
Benzo(a)pyrene	50-32-8	10	64.3	199	187	ug/kg	J, D
Indeno(1,2,3-cd)pyrene	193-39-5	10	59.5	199	152	ug/kg	J, D
Dibenzo(a,h)anthracene	53-70-3	10	61.2	199	ND	ug/kg	U
Benzo(g,h,i)perylene	191-24-2	10	57.8	199	781	ug/kg	D
1-Methylnaphthalene	90-12-0	10	59.1	199	ND	ug/kg	U
Surrogate: 2-Fluorophenol				*27-120 %*	*67.8*	*%*	
Surrogate: Phenol-d5				*29-120 %*	*55.6*	*%*	
Surrogate: 2-Chlorophenol-d4				*31-120 %*	*76.0*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4				*32-120 %*	*68.4*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

SC-PT-Comp

21A0119-02RE1 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 15:03
Instrument: NT10 Analyst: VTS — Analyzed: 02/03/2021 13:27

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Nitrobenzene-d5		*30-120 %*	*89.4*	*%*	
Surrogate: 2-Fluorobiphenyl		*35-120 %*	*95.2*	*%*	
Surrogate: 2,4,6-Tribromophenol		*24-134 %*	*88.9*	*%*	
Surrogate: p-Terphenyl-d14		*37-120 %*	*120*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-RC-Comp

21A0119-03 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 16:30
Instrument: NT10 Analyst: VTS — Analyzed: 02/02/2021 16:48

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 21A0119-03 A 02
Preparation Batch: BJA0580 — Sample Size: 10.1 g (wet)
Prepared: 01/21/2021 — Final Volume: 1 mL

Sample Cleanup: Cleanup Method: GPC — Extract ID:21A0119-03 A 02
Cleanup Batch: CJA0232 — Initial Volume: 1 uL
Cleaned: 28-Jan-2021 — Final Volume: 1 uL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Phenol	108-95-2	10	81.5	198	ND	ug/kg	U
bis(2-chloroethyl) ether	111-44-4	10	67.1	198	ND	ug/kg	U
2-Chlorophenol	95-57-8	10	64.1	198	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	10	50.2	198	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	10	43.5	198	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	10	46.1	198	ND	ug/kg	U
Benzyl Alcohol	100-51-6	10	148	198	ND	ug/kg	U
2,2'-Oxybis(1-chloropropane)	108-60-1	10	56.1	198	ND	ug/kg	U
2-Methylphenol	95-48-7	10	77.6	198	ND	ug/kg	U
Hexachloroethane	67-72-1	10	55.9	198	ND	ug/kg	U
N-Nitroso-di-n-Propylamine	621-64-7	10	107	198	ND	ug/kg	U
4-Methylphenol	106-44-5	10	146	198	ND	ug/kg	U
Nitrobenzene	98-95-3	10	78.7	198	ND	ug/kg	U
Isophorone	78-59-1	10	76.7	198	ND	ug/kg	U
2-Nitrophenol	88-75-5	10	68.5	198	ND	ug/kg	U
2,4-Dimethylphenol	105-67-9	10	265	990	ND	ug/kg	U
Bis(2-Chloroethoxy)methane	111-91-1	10	62.8	198	ND	ug/kg	U
2,4-Dichlorophenol	120-83-2	10	317	990	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	10	59.0	198	ND	ug/kg	U
Naphthalene	91-20-3	10	52.0	198	74.9	ug/kg	J, D
Benzoic acid	65-85-0	10	585	1980	ND	ug/kg	U
4-Chloroaniline	106-47-8	10	334	990	ND	ug/kg	U
Hexachlorobutadiene	87-68-3	10	49.6	198	ND	ug/kg	U
4-Chloro-3-Methylphenol	59-50-7	10	286	990	ND	ug/kg	U
2-Methylnaphthalene	91-57-6	10	56.1	198	ND	ug/kg	U
Hexachlorocyclopentadiene	77-47-4	10	409	990	ND	ug/kg	U
2,4,6-Trichlorophenol	88-06-2	10	251	990	ND	ug/kg	U
2,4,5-Trichlorophenol	95-95-4	10	266	990	ND	ug/kg	U
2-Chloronaphthalene	91-58-7	10	44.0	198	ND	ug/kg	U
2-Nitroaniline	88-74-4	10	299	990	ND	ug/kg	U
Acenaphthylene	208-96-8	10	47.2	198	50.7	ug/kg	J, D
Dimethylphthalate	131-11-3	10	63.8	198	ND	ug/kg	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-RC-Comp

21A0119-03 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 16:30

Instrument: NT10 Analyst: VTS — Analyzed: 02/02/2021 16:48

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2,6-Dinitrotoluene	606-20-2	10	264	990	ND	ug/kg	U
Acenaphthene	83-32-9	10	50.8	198	ND	ug/kg	U
3-Nitroaniline	99-09-2	10	373	990	ND	ug/kg	U
2,4-Dinitrophenol	51-28-5	10	409	1980	ND	ug/kg	U
Dibenzofuran	132-64-9	10	45.6	198	ND	ug/kg	U
4-Nitrophenol	100-02-7	10	440	990	ND	ug/kg	U
2,4-Dinitrotoluene	121-14-2	10	227	990	ND	ug/kg	U
Fluorene	86-73-7	10	49.0	198	ND	ug/kg	U
4-Chlorophenylphenyl ether	7005-72-3	10	68.9	198	ND	ug/kg	U
Diethyl phthalate	84-66-2	10	175	198	ND	ug/kg	U
4-Nitroaniline	100-01-6	10	346	990	ND	ug/kg	U
4,6-Dinitro-2-methylphenol	534-52-1	10	500	1980	ND	ug/kg	U
N-Nitrosodiphenylamine	86-30-6	10	94.8	198	ND	ug/kg	U
4-Bromophenyl phenyl ether	101-55-3	10	60.1	198	ND	ug/kg	U
Hexachlorobenzene	118-74-1	10	46.9	198	ND	ug/kg	U
Pentachlorophenol	87-86-5	10	310	990	ND	ug/kg	U
Phenanthrene	85-01-8	10	46.4	198	157	ug/kg	J, D
Anthracene	120-12-7	10	58.7	198	ND	ug/kg	U
Carbazole	86-74-8	10	73.0	198	ND	ug/kg	U
Di-n-Butylphthalate	84-74-2	10	52.6	198	ND	ug/kg	U
Fluoranthene	206-44-0	10	44.8	198	687	ug/kg	D
Pyrene	129-00-0	10	55.0	198	1650	ug/kg	D
Butylbenzylphthalate	85-68-7	10	79.7	198	ND	ug/kg	U
Benzo(a)anthracene	56-55-3	10	51.3	198	306	ug/kg	D
3,3'-Dichlorobenzidine	91-94-1	10	309	990	ND	ug/kg	U
Chrysene	218-01-9	10	51.7	198	1800	ug/kg	D
bis(2-Ethylhexyl)phthalate	117-81-7	10	285	495	49000	ug/kg	D, E
Di-n-Octylphthalate	117-84-0	10	86.3	198	ND	ug/kg	U
Benzofluoranthenes, Total		10	101	396	981	ug/kg	D
Benzo(a)pyrene	50-32-8	10	64.2	198	464	ug/kg	Q, D
Indeno(1,2,3-cd)pyrene	193-39-5	10	59.3	198	221	ug/kg	D
Dibenzo(a,h)anthracene	53-70-3	10	61.0	198	ND	ug/kg	U
Benzo(g,h,i)perylene	191-24-2	10	57.6	198	1260	ug/kg	D
1-Methylnaphthalene	90-12-0	10	58.9	198	ND	ug/kg	U
Surrogate: 2-Fluorophenol				*27-120 %*	*67.8*	*%*	
Surrogate: Phenol-d5				*29-120 %*	*63.5*	*%*	
Surrogate: 2-Chlorophenol-d4				*31-120 %*	*78.1*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4				*32-120 %*	*77.2*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-RC-Comp

21A0119-03 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 16:30
Instrument: NT10 Analyst: VTS — Analyzed: 02/02/2021 16:48

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Nitrobenzene-d5		*30-120 %*	*97.4*	*%*	
Surrogate: 2-Fluorobiphenyl		*35-120 %*	*96.8*	*%*	
Surrogate: 2,4,6-Tribromophenol		*24-134 %*	*115*	*%*	
Surrogate: p-Terphenyl-d14		*37-120 %*	*98.5*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-RC-Comp

21A0119-03 (Solid (as-rec))

TCLP Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 16:30
Instrument: NT12 Analyst: JZ — Analyzed: 01/25/2021 15:11

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 21A0119-03 A 05
Preparation Batch: BJA0610 — Sample Size: 100 mL (wet)
Prepared: 01/22/2021 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Methylphenol	95-48-7	1	10.0	ND	ug/L	U
Hexachloroethane	67-72-1	1	20.0	ND	ug/L	U
4-Methylphenol	106-44-5	1	20.0	ND	ug/L	U
Nitrobenzene	98-95-3	1	10.0	ND	ug/L	U
Hexachlorobutadiene	87-68-3	1	30.0	ND	ug/L	U
2,4,6-Trichlorophenol	88-06-2	1	30.0	ND	ug/L	U
2,4,5-Trichlorophenol	95-95-4	1	50.0	ND	ug/L	U
2,4-Dinitrotoluene	121-14-2	1	30.0	ND	ug/L	U
Hexachlorobenzene	118-74-1	1	10.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	100	ND	ug/L	U
Pyridine	110-86-1	1	50.0	ND	ug/L	U
Surrogate: 2-Fluorophenol			*23-120 %*	*70.1*	*%*	
Surrogate: Phenol-d5			*16-120 %*	*65.0*	*%*	
Surrogate: 2-Chlorophenol-d4			*33-120 %*	*77.8*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4			*27-120 %*	*64.0*	*%*	
Surrogate: Nitrobenzene-d5			*34-120 %*	*79.1*	*%*	
Surrogate: 2-Fluorobiphenyl			*38-120 %*	*73.8*	*%*	
Surrogate: 2,4,6-Tribromophenol			*31-128 %*	*81.6*	*%*	
Surrogate: p-Terphenyl-d14			*27-122 %*	*90.9*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-RC-Comp

21A0119-03 (Solid (as-rec))

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/07/2021 16:30
Instrument: ICP2 Analyst: TCH — Analyzed: 01/25/2021 17:47

Sample Preparation: Preparation Method: SWC EPA 3050B — Extract ID: 21A0119-03 A 01
Preparation Batch: BJA0544 — Sample Size: 1.078 g (wet)
Prepared: 01/21/2021 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	1.07	11.6	ND	mg/kg	U
Barium	7440-39-3	5	0.603	1.39	9.56	mg/kg	D
Cadmium	7440-43-9	5	0.162	0.464	0.469	mg/kg	D
Chromium	7440-47-3	5	1.02	2.09	6.13	mg/kg	D
Lead	7439-92-1	5	0.557	4.64	35.8	mg/kg	D
Selenium	7782-49-2	5	2.97	11.6	ND	mg/kg	U
Silver	7440-22-4	5	0.181	0.696	ND	mg/kg	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-RC-Comp

21A0119-03 (Solid (as-rec))

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/07/2021 16:30
Instrument: HYDRA Analyst: BLC — Analyzed: 01/22/2021 13:51

Sample Preparation: Preparation Method: SMM EPA 7471B — Extract ID: 21A0119-03 A
Preparation Batch: BJA0545 — Sample Size: 0.218 g (wet)
Prepared: 01/21/2021 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.00482	0.0229	ND	mg/kg wet	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-RC-Comp

21A0119-03 (Solid (as-rec))

TCLP Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/07/2021 16:30
Instrument: ICP2 Analyst: TCH — Analyzed: 01/25/2021 16:05

Sample Preparation: Preparation Method: LEN Digestion of EPA 1311 Elutriate — Extract ID: 21A0119-03 A 06
Preparation Batch: BJA0588 — Sample Size: 25 mL (wet)
Prepared: 01/22/2021 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.0230	0.250	ND	mg/L	U
Barium	7440-39-3	5	0.0130	0.0300	0.0813	mg/L	
Cadmium	7440-43-9	5	0.0035	0.0100	ND	mg/L	U
Chromium	7440-47-3	5	0.0221	0.0450	ND	mg/L	U
Lead	7439-92-1	5	0.0120	0.100	ND	mg/L	U
Selenium	7782-49-2	5	0.0640	0.250	ND	mg/L	U
Silver	7440-22-4	5	0.0039	0.0150	ND	mg/L	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-RC-Comp

21A0119-03 (Solid (as-rec))

TCLP Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 01/07/2021 16:30
Instrument: HYDRA Analyst: BLC — Analyzed: 01/22/2021 15:37

Sample Preparation: Preparation Method: LEM 7470A Digestion of EPA 1311 Elutriate for Hg — Extract ID: 21A0119-03 A 03
Preparation Batch: BJA0589 — Sample Size: 20 mL (wet)
Prepared: 01/22/2021 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000007	0.000100	ND	mg/L	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-RC-Comp

21A0119-03RE1 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 16:30
Instrument: NT10 Analyst: VTS — Analyzed: 02/06/2021 16:55

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 21A0119-03RE1 A 02
Preparation Batch: BJA0580 — Sample Size: 10.1 g (wet)
Prepared: 01/21/2021 — Final Volume: 1 mL

Sample Cleanup: Cleanup Method: GPC — Extract ID:21A0119-03RE1 A 02
Cleanup Batch: CJA0232 — Initial Volume: 1 uL
Cleaned: 28-Jan-2021 — Final Volume: 1 uL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Phenol	108-95-2	50	407	990	ND	ug/kg	U
bis(2-chloroethyl) ether	111-44-4	50	336	990	ND	ug/kg	U
2-Chlorophenol	95-57-8	50	320	990	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	50	251	990	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	50	217	990	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	50	231	990	ND	ug/kg	U
Benzyl Alcohol	100-51-6	50	738	990	ND	ug/kg	U
2,2'-Oxybis(1-chloropropane)	108-60-1	50	281	990	ND	ug/kg	U
2-Methylphenol	95-48-7	50	388	990	ND	ug/kg	U
Hexachloroethane	67-72-1	50	280	990	ND	ug/kg	U
N-Nitroso-di-n-Propylamine	621-64-7	50	535	990	ND	ug/kg	U
4-Methylphenol	106-44-5	50	728	990	ND	ug/kg	U
Nitrobenzene	98-95-3	50	394	990	ND	ug/kg	U
Isophorone	78-59-1	50	384	990	ND	ug/kg	U
2-Nitrophenol	88-75-5	50	343	990	ND	ug/kg	U
2,4-Dimethylphenol	105-67-9	50	1330	4950	ND	ug/kg	U
Bis(2-Chloroethoxy)methane	111-91-1	50	314	990	ND	ug/kg	U
2,4-Dichlorophenol	120-83-2	50	1580	4950	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	50	295	990	ND	ug/kg	U
Naphthalene	91-20-3	50	260	990	ND	ug/kg	U
Benzoic acid	65-85-0	50	2930	9900	ND	ug/kg	U
4-Chloroaniline	106-47-8	50	1670	4950	ND	ug/kg	U
Hexachlorobutadiene	87-68-3	50	248	990	ND	ug/kg	U
4-Chloro-3-Methylphenol	59-50-7	50	1430	4950	ND	ug/kg	U
2-Methylnaphthalene	91-57-6	50	281	990	ND	ug/kg	U
Hexachlorocyclopentadiene	77-47-4	50	2040	4950	ND	ug/kg	U
2,4,6-Trichlorophenol	88-06-2	50	1260	4950	ND	ug/kg	U
2,4,5-Trichlorophenol	95-95-4	50	1330	4950	ND	ug/kg	U
2-Chloronaphthalene	91-58-7	50	220	990	ND	ug/kg	U
2-Nitroaniline	88-74-4	50	1500	4950	ND	ug/kg	U
Acenaphthylene	208-96-8	50	236	990	ND	ug/kg	U
Dimethylphthalate	131-11-3	50	319	990	ND	ug/kg	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-RC-Comp

21A0119-03RE1 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 16:30
Instrument: NT10 Analyst: VTS — Analyzed: 02/06/2021 16:55

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2,6-Dinitrotoluene	606-20-2	50	1320	4950	ND	ug/kg	U
Acenaphthene	83-32-9	50	254	990	ND	ug/kg	U
3-Nitroaniline	99-09-2	50	1870	4950	ND	ug/kg	U
2,4-Dinitrophenol	51-28-5	50	2040	9900	ND	ug/kg	U
Dibenzofuran	132-64-9	50	228	990	ND	ug/kg	U
4-Nitrophenol	100-02-7	50	2200	4950	ND	ug/kg	U
2,4-Dinitrotoluene	121-14-2	50	1130	4950	ND	ug/kg	U
Fluorene	86-73-7	50	245	990	ND	ug/kg	U
4-Chlorophenylphenyl ether	7005-72-3	50	345	990	ND	ug/kg	U
Diethyl phthalate	84-66-2	50	876	990	ND	ug/kg	U
4-Nitroaniline	100-01-6	50	1730	4950	ND	ug/kg	U
4,6-Dinitro-2-methylphenol	534-52-1	50	2500	9900	ND	ug/kg	U
N-Nitrosodiphenylamine	86-30-6	50	474	990	ND	ug/kg	U
4-Bromophenyl phenyl ether	101-55-3	50	300	990	ND	ug/kg	U
Hexachlorobenzene	118-74-1	50	235	990	ND	ug/kg	U
Pentachlorophenol	87-86-5	50	1550	4950	ND	ug/kg	U
Phenanthrene	85-01-8	50	232	990	ND	ug/kg	U
Anthracene	120-12-7	50	294	990	ND	ug/kg	U
Carbazole	86-74-8	50	365	990	ND	ug/kg	U
Di-n-Butylphthalate	84-74-2	50	263	990	ND	ug/kg	U
Fluoranthene	206-44-0	50	224	990	767	ug/kg	J, D
Pyrene	129-00-0	50	275	990	1810	ug/kg	D
Butylbenzylphthalate	85-68-7	50	399	990	ND	ug/kg	U
Benzo(a)anthracene	56-55-3	50	256	990	ND	ug/kg	U
3,3'-Dichlorobenzidine	91-94-1	50	1540	4950	ND	ug/kg	U
Chrysene	218-01-9	50	258	990	1630	ug/kg	D
bis(2-Ethylhexyl)phthalate	117-81-7	50	1430	2480	42900	ug/kg	D
Di-n-Octylphthalate	117-84-0	50	432	990	ND	ug/kg	U
Benzofluoranthenes, Total		50	505	1980	1010	ug/kg	J, D
Benzo(a)pyrene	50-32-8	50	321	990	599	ug/kg	J, D
Indeno(1,2,3-cd)pyrene	193-39-5	50	297	990	ND	ug/kg	U
Dibenzo(a,h)anthracene	53-70-3	50	305	990	ND	ug/kg	U
Benzo(g,h,i)perylene	191-24-2	50	288	990	1610	ug/kg	D
1-Methylnaphthalene	90-12-0	50	295	990	ND	ug/kg	U
Surrogate: 2-Fluorophenol				*27-120 %*	*73.3*	*%*	
Surrogate: Phenol-d5				*29-120 %*	*64.4*	*%*	
Surrogate: 2-Chlorophenol-d4				*31-120 %*	*76.8*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4				*32-120 %*	*69.5*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-RC-Comp

21A0119-03RE1 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 16:30
Instrument: NT10 Analyst: VTS — Analyzed: 02/06/2021 16:55

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Nitrobenzene-d5		*30-120 %*	*78.4*	*%*	
Surrogate: 2-Fluorobiphenyl		*35-120 %*	*81.4*	*%*	
Surrogate: 2,4,6-Tribromophenol		*24-134 %*	*76.3*	*%*	
Surrogate: p-Terphenyl-d14		*37-120 %*	*101*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-PT-Comp

21A0119-04 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 16:07
Instrument: NT10 Analyst: VTS — Analyzed: 01/30/2021 17:13

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 21A0119-04 A 02
Preparation Batch: BJA0580 — Sample Size: 10.02 g (wet)
Prepared: 01/21/2021 — Final Volume: 1 mL

Sample Cleanup: Cleanup Method: GPC — Extract ID:21A0119-04 A 02
Cleanup Batch: CJA0232 — Initial Volume: 1 uL
Cleaned: 28-Jan-2021 — Final Volume: 1 uL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Phenol	108-95-2	1	8.2	20.0	ND	ug/kg	U
bis(2-chloroethyl) ether	111-44-4	1	6.8	20.0	ND	ug/kg	U
2-Chlorophenol	95-57-8	1	6.5	20.0	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	5.1	20.0	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	4.4	20.0	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	4.7	20.0	ND	ug/kg	U
Benzyl Alcohol	100-51-6	1	14.9	20.0	ND	ug/kg	U
2,2'-Oxybis(1-chloropropane)	108-60-1	1	5.7	20.0	ND	ug/kg	U
2-Methylphenol	95-48-7	1	7.8	20.0	ND	ug/kg	U
Hexachloroethane	67-72-1	1	5.6	20.0	ND	ug/kg	U
N-Nitroso-di-n-Propylamine	621-64-7	1	10.8	20.0	ND	ug/kg	U
4-Methylphenol	106-44-5	1	14.7	20.0	ND	ug/kg	U
Nitrobenzene	98-95-3	1	7.9	20.0	ND	ug/kg	U
Isophorone	78-59-1	1	7.7	20.0	ND	ug/kg	U
2-Nitrophenol	88-75-5	1	6.9	20.0	ND	ug/kg	U
2,4-Dimethylphenol	105-67-9	1	26.7	99.8	ND	ug/kg	U
Bis(2-Chloroethoxy)methane	111-91-1	1	6.3	20.0	ND	ug/kg	U
2,4-Dichlorophenol	120-83-2	1	31.9	99.8	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	5.9	20.0	ND	ug/kg	U
Naphthalene	91-20-3	1	5.2	20.0	ND	ug/kg	U
Benzoic acid	65-85-0	1	59.0	200	ND	ug/kg	U
4-Chloroaniline	106-47-8	1	33.6	99.8	ND	ug/kg	U
Hexachlorobutadiene	87-68-3	1	5.0	20.0	ND	ug/kg	U
4-Chloro-3-Methylphenol	59-50-7	1	28.8	99.8	ND	ug/kg	U
2-Methylnaphthalene	91-57-6	1	5.7	20.0	ND	ug/kg	U
Hexachlorocyclopentadiene	77-47-4	1	41.2	99.8	ND	ug/kg	U
2,4,6-Trichlorophenol	88-06-2	1	25.3	99.8	ND	ug/kg	U
2,4,5-Trichlorophenol	95-95-4	1	26.8	99.8	ND	ug/kg	U
2-Chloronaphthalene	91-58-7	1	4.4	20.0	ND	ug/kg	U
2-Nitroaniline	88-74-4	1	30.1	99.8	ND	ug/kg	U
Acenaphthylene	208-96-8	1	4.8	20.0	ND	ug/kg	U
Dimethylphthalate	131-11-3	1	6.4	20.0	ND	ug/kg	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-PT-Comp

21A0119-04 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 16:07
Instrument: NT10 Analyst: VTS — Analyzed: 01/30/2021 17:13

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2,6-Dinitrotoluene	606-20-2	1	26.6	99.8	ND	ug/kg	U
Acenaphthene	83-32-9	1	5.1	20.0	ND	ug/kg	U
3-Nitroaniline	99-09-2	1	37.6	99.8	ND	ug/kg	U
2,4-Dinitrophenol	51-28-5	1	41.2	200	ND	ug/kg	U
Dibenzofuran	132-64-9	1	4.6	20.0	ND	ug/kg	U
4-Nitrophenol	100-02-7	1	44.3	99.8	ND	ug/kg	U
2,4-Dinitrotoluene	121-14-2	1	22.9	99.8	ND	ug/kg	U
Fluorene	86-73-7	1	4.9	20.0	ND	ug/kg	U
4-Chlorophenylphenyl ether	7005-72-3	1	6.9	20.0	ND	ug/kg	U
Diethyl phthalate	84-66-2	1	17.7	20.0	ND	ug/kg	U
4-Nitroaniline	100-01-6	1	34.8	99.8	ND	ug/kg	U
4,6-Dinitro-2-methylphenol	534-52-1	1	50.4	200	ND	ug/kg	U
N-Nitrosodiphenylamine	86-30-6	1	9.6	20.0	17.2	ug/kg	J
4-Bromophenyl phenyl ether	101-55-3	1	6.1	20.0	ND	ug/kg	U
Hexachlorobenzene	118-74-1	1	4.7	20.0	ND	ug/kg	U
Pentachlorophenol	87-86-5	1	31.2	99.8	ND	ug/kg	U
Phenanthrene	85-01-8	1	4.7	20.0	18.2	ug/kg	J
Anthracene	120-12-7	1	5.9	20.0	ND	ug/kg	U
Carbazole	86-74-8	1	7.4	20.0	ND	ug/kg	U
Di-n-Butylphthalate	84-74-2	1	5.3	20.0	ND	ug/kg	U
Fluoranthene	206-44-0	1	4.5	20.0	48.9	ug/kg	
Pyrene	129-00-0	1	5.5	20.0	114	ug/kg	
Butylbenzylphthalate	85-68-7	1	8.0	20.0	ND	ug/kg	U
Benzo(a)anthracene	56-55-3	1	5.2	20.0	43.1	ug/kg	
3,3'-Dichlorobenzidine	91-94-1	1	31.1	99.8	ND	ug/kg	U
Chrysene	218-01-9	1	5.2	20.0	227	ug/kg	
bis(2-Ethylhexyl)phthalate	117-81-7	1	28.7	49.9	1360	ug/kg	
Di-n-Octylphthalate	117-84-0	1	8.7	20.0	691	ug/kg	
Benzofluoranthenes, Total		1	10.2	39.9	116	ug/kg	
Benzo(a)pyrene	50-32-8	1	6.5	20.0	35.1	ug/kg	
Indeno(1,2,3-cd)pyrene	193-39-5	1	6.0	20.0	12.8	ug/kg	J
Dibenzo(a,h)anthracene	53-70-3	1	6.1	20.0	ND	ug/kg	U
Benzo(g,h,i)perylene	191-24-2	1	5.8	20.0	57.1	ug/kg	
1-Methylnaphthalene	90-12-0	1	5.9	20.0	ND	ug/kg	U
Surrogate: 2-Fluorophenol				*27-120 %*	*50.1*	*%*	
Surrogate: Phenol-d5				*29-120 %*	*55.4*	*%*	
Surrogate: 2-Chlorophenol-d4				*31-120 %*	*77.2*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4				*32-120 %*	*63.8*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-PT-Comp

21A0119-04 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 16:07
Instrument: NT10 Analyst: VTS — Analyzed: 01/30/2021 17:13

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Nitrobenzene-d5		*30-120 %*	*80.5*	*%*	
Surrogate: 2-Fluorobiphenyl		*35-120 %*	*88.3*	*%*	
Surrogate: 2,4,6-Tribromophenol		*24-134 %*	*93.8*	*%*	
Surrogate: p-Terphenyl-d14		*37-120 %*	*80.9*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-PT-Comp

21A0119-04 (Solid (as-rec))

TCLP Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 16:07
Instrument: NT12 Analyst: JZ — Analyzed: 01/25/2021 15:51

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 21A0119-04 A 05
Preparation Batch: BJA0610 — Sample Size: 100 mL (wet)
Prepared: 01/22/2021 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Methylphenol	95-48-7	1	10.0	ND	ug/L	U
Hexachloroethane	67-72-1	1	20.0	ND	ug/L	U
4-Methylphenol	106-44-5	1	20.0	ND	ug/L	U
Nitrobenzene	98-95-3	1	10.0	ND	ug/L	U
Hexachlorobutadiene	87-68-3	1	30.0	ND	ug/L	U
2,4,6-Trichlorophenol	88-06-2	1	30.0	ND	ug/L	U
2,4,5-Trichlorophenol	95-95-4	1	50.0	ND	ug/L	U
2,4-Dinitrotoluene	121-14-2	1	30.0	ND	ug/L	U
Hexachlorobenzene	118-74-1	1	10.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	100	ND	ug/L	U
Pyridine	110-86-1	1	50.0	ND	ug/L	U
Surrogate: 2-Fluorophenol			*23-120 %*	*78.9*	*%*	
Surrogate: Phenol-d5			*16-120 %*	*75.5*	*%*	
Surrogate: 2-Chlorophenol-d4			*33-120 %*	*90.1*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4			*27-120 %*	*73.0*	*%*	
Surrogate: Nitrobenzene-d5			*34-120 %*	*91.3*	*%*	
Surrogate: 2-Fluorobiphenyl			*38-120 %*	*84.0*	*%*	
Surrogate: 2,4,6-Tribromophenol			*31-128 %*	*102*	*%*	
Surrogate: p-Terphenyl-d14			*27-122 %*	*106*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-PT-Comp

21A0119-04 (Solid (as-rec))

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/07/2021 16:07
Instrument: ICP2 Analyst: TCH — Analyzed: 01/25/2021 17:50

Sample Preparation: Preparation Method: SWC EPA 3050B — Extract ID: 21A0119-04 A 01
Preparation Batch: BJA0544 — Sample Size: 1.044 g (wet)
Prepared: 01/21/2021 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	1.10	12.0	2.33	mg/kg	J, D
Barium	7440-39-3	5	0.623	1.44	7.24	mg/kg	D
Cadmium	7440-43-9	5	0.168	0.479	0.613	mg/kg	D
Chromium	7440-47-3	5	1.06	2.16	2.19	mg/kg	D
Lead	7439-92-1	5	0.575	4.79	0.879	mg/kg	J, D
Selenium	7782-49-2	5	3.07	12.0	4.31	mg/kg	J, D
Silver	7440-22-4	5	0.187	0.718	ND	mg/kg	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-PT-Comp

21A0119-04 (Solid (as-rec))

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/07/2021 16:07
Instrument: HYDRA Analyst: BLC — Analyzed: 01/22/2021 13:53

Sample Preparation: Preparation Method: SMM EPA 7471B — Extract ID: 21A0119-04 A
Preparation Batch: BJA0545 — Sample Size: 0.228 g (wet)
Prepared: 01/21/2021 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.00461	0.0219	0.0111	mg/kg wet	J

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-PT-Comp

21A0119-04 (Solid (as-rec))

TCLP Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/07/2021 16:07
Instrument: ICP2 Analyst: TCH — Analyzed: 01/25/2021 16:24

Sample Preparation: Preparation Method: LEN Digestion of EPA 1311 Elutriate — Extract ID: 21A0119-04 A 06
Preparation Batch: BJA0588 — Sample Size: 25 mL (wet)
Prepared: 01/22/2021 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.0230	0.250	0.0339	mg/L	J
Barium	7440-39-3	5	0.0130	0.0300	0.128	mg/L	
Cadmium	7440-43-9	5	0.0035	0.0100	0.0050	mg/L	J
Chromium	7440-47-3	5	0.0221	0.0450	ND	mg/L	U
Lead	7439-92-1	5	0.0120	0.100	ND	mg/L	U
Selenium	7782-49-2	5	0.0640	0.250	ND	mg/L	U
Silver	7440-22-4	5	0.0039	0.0150	ND	mg/L	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

RP-PT-Comp

21A0119-04 (Solid (as-rec))

TCLP Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 01/07/2021 16:07
Instrument: HYDRA Analyst: BLC — Analyzed: 01/22/2021 15:39

Sample Preparation: Preparation Method: LEM 7470A Digestion of EPA 1311 Elutriate for Hg — Extract ID: 21A0119-04 A 03
Preparation Batch: BJA0589 — Sample Size: 20 mL (wet)
Prepared: 01/22/2021 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000007	0.000100	ND	mg/L	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Sediment-Upstream

21A0119-05 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 10:00
Instrument: NT10 Analyst: VTS — Analyzed: 01/30/2021 17:50

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 21A0119-05 A 02
Preparation Batch: BJA0580 — Sample Size: 10.23 g (wet)
Prepared: 01/21/2021 — Final Volume: 1 mL

Sample Cleanup: Cleanup Method: GPC — Extract ID:21A0119-05 A 02
Cleanup Batch: CJA0232 — Initial Volume: 1 uL
Cleaned: 28-Jan-2021 — Final Volume: 1 uL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Phenol	108-95-2	1	8.0	19.6	ND	ug/kg	U
bis(2-chloroethyl) ether	111-44-4	1	6.6	19.6	ND	ug/kg	U
2-Chlorophenol	95-57-8	1	6.3	19.6	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	5.0	19.6	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	4.3	19.6	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	4.6	19.6	ND	ug/kg	U
Benzyl Alcohol	100-51-6	1	14.6	19.6	ND	ug/kg	U
2,2'-Oxybis(1-chloropropane)	108-60-1	1	5.5	19.6	ND	ug/kg	U
2-Methylphenol	95-48-7	1	7.7	19.6	ND	ug/kg	U
Hexachloroethane	67-72-1	1	5.5	19.6	ND	ug/kg	U
N-Nitroso-di-n-Propylamine	621-64-7	1	10.6	19.6	ND	ug/kg	U
4-Methylphenol	106-44-5	1	14.4	19.6	ND	ug/kg	U
Nitrobenzene	98-95-3	1	7.8	19.6	ND	ug/kg	U
Isophorone	78-59-1	1	7.6	19.6	ND	ug/kg	U
2-Nitrophenol	88-75-5	1	6.8	19.6	ND	ug/kg	U
2,4-Dimethylphenol	105-67-9	1	26.2	97.8	ND	ug/kg	U
Bis(2-Chloroethoxy)methane	111-91-1	1	6.2	19.6	ND	ug/kg	U
2,4-Dichlorophenol	120-83-2	1	31.3	97.8	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	5.8	19.6	ND	ug/kg	U
Naphthalene	91-20-3	1	5.1	19.6	ND	ug/kg	U
Benzoic acid	65-85-0	1	57.8	196	ND	ug/kg	U
4-Chloroaniline	106-47-8	1	32.9	97.8	ND	ug/kg	U
Hexachlorobutadiene	87-68-3	1	4.9	19.6	ND	ug/kg	U
4-Chloro-3-Methylphenol	59-50-7	1	28.3	97.8	ND	ug/kg	U
2-Methylnaphthalene	91-57-6	1	5.5	19.6	ND	ug/kg	U
Hexachlorocyclopentadiene	77-47-4	1	40.4	97.8	ND	ug/kg	U
2,4,6-Trichlorophenol	88-06-2	1	24.8	97.8	ND	ug/kg	U
2,4,5-Trichlorophenol	95-95-4	1	26.3	97.8	ND	ug/kg	U
2-Chloronaphthalene	91-58-7	1	4.3	19.6	ND	ug/kg	U
2-Nitroaniline	88-74-4	1	29.5	97.8	ND	ug/kg	U
Acenaphthylene	208-96-8	1	4.7	19.6	ND	ug/kg	U
Dimethylphthalate	131-11-3	1	6.3	19.6	ND	ug/kg	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Sediment-Upstream

21A0119-05 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 10:00
Instrument: NT10 Analyst: VTS — Analyzed: 01/30/2021 17:50

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2,6-Dinitrotoluene	606-20-2	1	26.1	97.8	ND	ug/kg	U
Acenaphthene	83-32-9	1	5.0	19.6	ND	ug/kg	U
3-Nitroaniline	99-09-2	1	36.9	97.8	ND	ug/kg	U
2,4-Dinitrophenol	51-28-5	1	40.4	196	ND	ug/kg	U
Dibenzofuran	132-64-9	1	4.5	19.6	ND	ug/kg	U
4-Nitrophenol	100-02-7	1	43.4	97.8	ND	ug/kg	U
2,4-Dinitrotoluene	121-14-2	1	22.4	97.8	ND	ug/kg	U
Fluorene	86-73-7	1	4.8	19.6	ND	ug/kg	U
4-Chlorophenylphenyl ether	7005-72-3	1	6.8	19.6	ND	ug/kg	U
Diethyl phthalate	84-66-2	1	17.3	19.6	ND	ug/kg	U
4-Nitroaniline	100-01-6	1	34.1	97.8	ND	ug/kg	U
4,6-Dinitro-2-methylphenol	534-52-1	1	49.4	196	ND	ug/kg	U
N-Nitrosodiphenylamine	86-30-6	1	9.4	19.6	ND	ug/kg	U
4-Bromophenyl phenyl ether	101-55-3	1	5.9	19.6	ND	ug/kg	U
Hexachlorobenzene	118-74-1	1	4.6	19.6	ND	ug/kg	U
Pentachlorophenol	87-86-5	1	30.6	97.8	ND	ug/kg	U
Phenanthrene	85-01-8	1	4.6	19.6	ND	ug/kg	U
Anthracene	120-12-7	1	5.8	19.6	ND	ug/kg	U
Carbazole	86-74-8	1	7.2	19.6	ND	ug/kg	U
Di-n-Butylphthalate	84-74-2	1	5.2	19.6	ND	ug/kg	U
Fluoranthene	206-44-0	1	4.4	19.6	ND	ug/kg	U
Pyrene	129-00-0	1	5.4	19.6	ND	ug/kg	U
Butylbenzylphthalate	85-68-7	1	7.9	19.6	ND	ug/kg	U
Benzo(a)anthracene	56-55-3	1	5.1	19.6	ND	ug/kg	U
3,3'-Dichlorobenzidine	91-94-1	1	30.5	97.8	ND	ug/kg	U
Chrysene	218-01-9	1	5.1	19.6	ND	ug/kg	U
bis(2-Ethylhexyl)phthalate	117-81-7	1	28.2	48.9	88.7	ug/kg	
Di-n-Octylphthalate	117-84-0	1	8.5	19.6	ND	ug/kg	U
Benzofluoranthenes, Total		1	10.0	39.1	ND	ug/kg	U
Benzo(a)pyrene	50-32-8	1	6.3	19.6	ND	ug/kg	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	5.9	19.6	ND	ug/kg	U
Dibenzo(a,h)anthracene	53-70-3	1	6.0	19.6	ND	ug/kg	U
Benzo(g,h,i)perylene	191-24-2	1	5.7	19.6	ND	ug/kg	U
1-Methylnaphthalene	90-12-0	1	5.8	19.6	ND	ug/kg	U
Surrogate: 2-Fluorophenol				*27-120 %*	*55.0*	*%*	
Surrogate: Phenol-d5				*29-120 %*	*60.0*	*%*	
Surrogate: 2-Chlorophenol-d4				*31-120 %*	*83.1*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4				*32-120 %*	*74.0*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Sediment-Upstream

21A0119-05 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 10:00
Instrument: NT10 Analyst: VTS — Analyzed: 01/30/2021 17:50

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Nitrobenzene-d5		*30-120 %*	*90.1*	*%*	
Surrogate: 2-Fluorobiphenyl		*35-120 %*	*87.1*	*%*	
Surrogate: 2,4,6-Tribromophenol		*24-134 %*	*88.7*	*%*	
Surrogate: p-Terphenyl-d14		*37-120 %*	*93.1*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Sediment-Upstream

21A0119-05 (Solid (as-rec))

TCLP Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 10:00
Instrument: NT12 Analyst: JZ — Analyzed: 01/25/2021 16:30

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 21A0119-05 A 05
Preparation Batch: BJA0610 — Sample Size: 100 mL (wet)
Prepared: 01/22/2021 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Methylphenol	95-48-7	1	10.0	ND	ug/L	U
Hexachloroethane	67-72-1	1	20.0	ND	ug/L	U
4-Methylphenol	106-44-5	1	20.0	ND	ug/L	U
Nitrobenzene	98-95-3	1	10.0	ND	ug/L	U
Hexachlorobutadiene	87-68-3	1	30.0	ND	ug/L	U
2,4,6-Trichlorophenol	88-06-2	1	30.0	ND	ug/L	U
2,4,5-Trichlorophenol	95-95-4	1	50.0	ND	ug/L	U
2,4-Dinitrotoluene	121-14-2	1	30.0	ND	ug/L	U
Hexachlorobenzene	118-74-1	1	10.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	100	ND	ug/L	U
Pyridine	110-86-1	1	50.0	ND	ug/L	U
Surrogate: 2-Fluorophenol			*23-120 %*	*68.9*	*%*	
Surrogate: Phenol-d5			*16-120 %*	*64.7*	*%*	
Surrogate: 2-Chlorophenol-d4			*33-120 %*	*78.0*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4			*27-120 %*	*62.8*	*%*	
Surrogate: Nitrobenzene-d5			*34-120 %*	*78.4*	*%*	
Surrogate: 2-Fluorobiphenyl			*38-120 %*	*72.5*	*%*	
Surrogate: 2,4,6-Tribromophenol			*31-128 %*	*85.2*	*%*	
Surrogate: p-Terphenyl-d14			*27-122 %*	*89.5*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Sediment-Upstream

21A0119-05 (Solid (as-rec))

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/07/2021 10:00
Instrument: ICP2 Analyst: TCH — Analyzed: 01/25/2021 17:53

Sample Preparation: Preparation Method: SWC EPA 3050B — Extract ID: 21A0119-05 A 01
Preparation Batch: BJA0544 — Sample Size: 1.061 g (wet)
Prepared: 01/21/2021 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	1.08	11.8	ND	mg/kg	U
Barium	7440-39-3	5	0.613	1.41	20.3	mg/kg	D
Cadmium	7440-43-9	5	0.165	0.471	0.377	mg/kg	J, D
Chromium	7440-47-3	5	1.04	2.12	14.8	mg/kg	D
Lead	7439-92-1	5	0.566	4.71	1.01	mg/kg	J, D
Selenium	7782-49-2	5	3.02	11.8	ND	mg/kg	U
Silver	7440-22-4	5	0.184	0.707	ND	mg/kg	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Sediment-Upstream

21A0119-05 (Solid (as-rec))

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/07/2021 10:00
Instrument: HYDRA Analyst: BLC — Analyzed: 01/22/2021 13:55

Sample Preparation: Preparation Method: SMM EPA 7471B — Extract ID: 21A0119-05 A
Preparation Batch: BJA0545 — Sample Size: 0.249 g (wet)
Prepared: 01/21/2021 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.00422	0.0201	0.00906	mg/kg wet	J

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Sediment-Upstream

21A0119-05 (Solid (as-rec))

TCLP Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/07/2021 10:00
Instrument: ICP2 Analyst: TCH — Analyzed: 01/25/2021 16:27

Sample Preparation: Preparation Method: LEN Digestion of EPA 1311 Elutriate — Extract ID: 21A0119-05 A 06
Preparation Batch: BJA0588 — Sample Size: 25 mL (wet)
Prepared: 01/22/2021 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.0230	0.250	ND	mg/L	U
Barium	7440-39-3	5	0.0130	0.0300	0.114	mg/L	
Cadmium	7440-43-9	5	0.0035	0.0100	ND	mg/L	U
Chromium	7440-47-3	5	0.0221	0.0450	ND	mg/L	U
Lead	7439-92-1	5	0.0120	0.100	ND	mg/L	U
Selenium	7782-49-2	5	0.0640	0.250	ND	mg/L	U
Silver	7440-22-4	5	0.0039	0.0150	ND	mg/L	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Sediment-Upstream

21A0119-05 (Solid (as-rec))

TCLP Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 01/07/2021 10:00
Instrument: HYDRA Analyst: BLC — Analyzed: 01/22/2021 15:41

Sample Preparation: Preparation Method: LEM 7470A Digestion of EPA 1311 Elutriate for Hg — Extract ID: 21A0119-05 A 03
Preparation Batch: BJA0589 — Sample Size: 20 mL (wet)
Prepared: 01/22/2021 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000007	0.000100	ND	mg/L	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Sediment-Downstream

21A0119-06 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 09:55
Instrument: NT10 Analyst: VTS — Analyzed: 01/30/2021 18:28

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 21A0119-06 A 02
Preparation Batch: BJA0580 — Sample Size: 10.51 g (wet)
Prepared: 01/21/2021 — Final Volume: 1 mL

Sample Cleanup: Cleanup Method: GPC — Extract ID:21A0119-06 A 02
Cleanup Batch: CJA0232 — Initial Volume: 1 uL
Cleaned: 28-Jan-2021 — Final Volume: 1 uL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Phenol	108-95-2	1	7.8	19.0	ND	ug/kg	U
bis(2-chloroethyl) ether	111-44-4	1	6.5	19.0	ND	ug/kg	U
2-Chlorophenol	95-57-8	1	6.2	19.0	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	4.8	19.0	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	4.2	19.0	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	4.4	19.0	ND	ug/kg	U
Benzyl Alcohol	100-51-6	1	14.2	19.0	ND	ug/kg	U
2,2'-Oxybis(1-chloropropane)	108-60-1	1	5.4	19.0	ND	ug/kg	U
2-Methylphenol	95-48-7	1	7.5	19.0	ND	ug/kg	U
Hexachloroethane	67-72-1	1	5.4	19.0	ND	ug/kg	U
N-Nitroso-di-n-Propylamine	621-64-7	1	10.3	19.0	ND	ug/kg	U
4-Methylphenol	106-44-5	1	14.0	19.0	ND	ug/kg	U
Nitrobenzene	98-95-3	1	7.6	19.0	ND	ug/kg	U
Isophorone	78-59-1	1	7.4	19.0	ND	ug/kg	U
2-Nitrophenol	88-75-5	1	6.6	19.0	ND	ug/kg	U
2,4-Dimethylphenol	105-67-9	1	25.5	95.1	ND	ug/kg	U
Bis(2-Chloroethoxy)methane	111-91-1	1	6.0	19.0	ND	ug/kg	U
2,4-Dichlorophenol	120-83-2	1	30.4	95.1	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	5.7	19.0	ND	ug/kg	U
Naphthalene	91-20-3	1	5.0	19.0	ND	ug/kg	U
Benzoic acid	65-85-0	1	56.2	190	ND	ug/kg	U
4-Chloroaniline	106-47-8	1	32.1	95.1	ND	ug/kg	U
Hexachlorobutadiene	87-68-3	1	4.8	19.0	ND	ug/kg	U
4-Chloro-3-Methylphenol	59-50-7	1	27.5	95.1	ND	ug/kg	U
2-Methylnaphthalene	91-57-6	1	5.4	19.0	ND	ug/kg	U
Hexachlorocyclopentadiene	77-47-4	1	39.3	95.1	ND	ug/kg	U
2,4,6-Trichlorophenol	88-06-2	1	24.2	95.1	ND	ug/kg	U
2,4,5-Trichlorophenol	95-95-4	1	25.6	95.1	ND	ug/kg	U
2-Chloronaphthalene	91-58-7	1	4.2	19.0	ND	ug/kg	U
2-Nitroaniline	88-74-4	1	28.7	95.1	ND	ug/kg	U
Acenaphthylene	208-96-8	1	4.5	19.0	ND	ug/kg	U
Dimethylphthalate	131-11-3	1	6.1	19.0	ND	ug/kg	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Sediment-Downstream

21A0119-06 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 09:55
Instrument: NT10 Analyst: VTS — Analyzed: 01/30/2021 18:28

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2,6-Dinitrotoluene	606-20-2	1	25.4	95.1	ND	ug/kg	U
Acenaphthene	83-32-9	1	4.9	19.0	ND	ug/kg	U
3-Nitroaniline	99-09-2	1	35.9	95.1	ND	ug/kg	U
2,4-Dinitrophenol	51-28-5	1	39.3	190	ND	ug/kg	U
Dibenzofuran	132-64-9	1	4.4	19.0	ND	ug/kg	U
4-Nitrophenol	100-02-7	1	42.2	95.1	ND	ug/kg	U
2,4-Dinitrotoluene	121-14-2	1	21.8	95.1	ND	ug/kg	U
Fluorene	86-73-7	1	4.7	19.0	ND	ug/kg	U
4-Chlorophenylphenyl ether	7005-72-3	1	6.6	19.0	ND	ug/kg	U
Diethyl phthalate	84-66-2	1	16.8	19.0	29.8	ug/kg	Q
4-Nitroaniline	100-01-6	1	33.2	95.1	ND	ug/kg	U
4,6-Dinitro-2-methylphenol	534-52-1	1	48.0	190	ND	ug/kg	U
N-Nitrosodiphenylamine	86-30-6	1	9.1	19.0	ND	ug/kg	U
4-Bromophenyl phenyl ether	101-55-3	1	5.8	19.0	ND	ug/kg	U
Hexachlorobenzene	118-74-1	1	4.5	19.0	ND	ug/kg	U
Pentachlorophenol	87-86-5	1	29.8	95.1	ND	ug/kg	U
Phenanthrene	85-01-8	1	4.5	19.0	ND	ug/kg	U
Anthracene	120-12-7	1	5.6	19.0	ND	ug/kg	U
Carbazole	86-74-8	1	7.0	19.0	ND	ug/kg	U
Di-n-Butylphthalate	84-74-2	1	5.1	19.0	ND	ug/kg	U
Fluoranthene	206-44-0	1	4.3	19.0	ND	ug/kg	U
Pyrene	129-00-0	1	5.3	19.0	ND	ug/kg	U
Butylbenzylphthalate	85-68-7	1	7.7	19.0	ND	ug/kg	U
Benzo(a)anthracene	56-55-3	1	4.9	19.0	ND	ug/kg	U
3,3'-Dichlorobenzidine	91-94-1	1	29.7	95.1	ND	ug/kg	U
Chrysene	218-01-9	1	5.0	19.0	ND	ug/kg	U
bis(2-Ethylhexyl)phthalate	117-81-7	1	27.4	47.6	ND	ug/kg	U
Di-n-Octylphthalate	117-84-0	1	8.3	19.0	ND	ug/kg	U
Benzofluoranthenes, Total		1	9.7	38.1	ND	ug/kg	U
Benzo(a)pyrene	50-32-8	1	6.2	19.0	ND	ug/kg	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	5.7	19.0	ND	ug/kg	U
Dibenzo(a,h)anthracene	53-70-3	1	5.9	19.0	ND	ug/kg	U
Benzo(g,h,i)perylene	191-24-2	1	5.5	19.0	ND	ug/kg	U
1-Methylnaphthalene	90-12-0	1	5.7	19.0	ND	ug/kg	U
Surrogate: 2-Fluorophenol				*27-120 %*	*55.2*	*%*	
Surrogate: Phenol-d5				*29-120 %*	*56.5*	*%*	
Surrogate: 2-Chlorophenol-d4				*31-120 %*	*72.8*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4				*32-120 %*	*69.6*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Sediment-Downstream

21A0119-06 (Solid (as-rec))

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 09:55

Instrument: NT10 Analyst: VTS — Analyzed: 01/30/2021 18:28

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Nitrobenzene-d5		*30-120 %*	*85.6*	*%*	
Surrogate: 2-Fluorobiphenyl		*35-120 %*	*84.3*	*%*	
Surrogate: 2,4,6-Tribromophenol		*24-134 %*	*97.1*	*%*	
Surrogate: p-Terphenyl-d14		*37-120 %*	*96.9*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Sediment-Downstream

21A0119-06 (Solid (as-rec))

TCLP Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 01/07/2021 09:55
Instrument: NT12 Analyst: JZ — Analyzed: 01/25/2021 17:09

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 21A0119-06 A 05
Preparation Batch: BJA0610 — Sample Size: 100 mL (wet)
Prepared: 01/22/2021 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Methylphenol	95-48-7	1	10.0	ND	ug/L	U
Hexachloroethane	67-72-1	1	20.0	ND	ug/L	U
4-Methylphenol	106-44-5	1	20.0	ND	ug/L	U
Nitrobenzene	98-95-3	1	10.0	ND	ug/L	U
Hexachlorobutadiene	87-68-3	1	30.0	ND	ug/L	U
2,4,6-Trichlorophenol	88-06-2	1	30.0	ND	ug/L	U
2,4,5-Trichlorophenol	95-95-4	1	50.0	ND	ug/L	U
2,4-Dinitrotoluene	121-14-2	1	30.0	ND	ug/L	U
Hexachlorobenzene	118-74-1	1	10.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	100	ND	ug/L	U
Pyridine	110-86-1	1	50.0	ND	ug/L	U
Surrogate: 2-Fluorophenol			*23-120 %*	*73.4*	*%*	
Surrogate: Phenol-d5			*16-120 %*	*68.9*	*%*	
Surrogate: 2-Chlorophenol-d4			*33-120 %*	*83.3*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4			*27-120 %*	*70.4*	*%*	
Surrogate: Nitrobenzene-d5			*34-120 %*	*84.4*	*%*	
Surrogate: 2-Fluorobiphenyl			*38-120 %*	*80.1*	*%*	
Surrogate: 2,4,6-Tribromophenol			*31-128 %*	*88.4*	*%*	
Surrogate: p-Terphenyl-d14			*27-122 %*	*95.1*	*%*	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Sediment-Downstream

21A0119-06 (Solid (as-rec))

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/07/2021 09:55
Instrument: ICP2 Analyst: TCH — Analyzed: 01/25/2021 17:56

Sample Preparation: Preparation Method: SWC EPA 3050B — Extract ID: 21A0119-06 A 01
Preparation Batch: BJA0544 — Sample Size: 1.057 g (wet)
Prepared: 01/21/2021 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	1.09	11.8	ND	mg/kg	U
Barium	7440-39-3	5	0.615	1.42	11.1	mg/kg	D
Cadmium	7440-43-9	5	0.166	0.473	0.287	mg/kg	J, D
Chromium	7440-47-3	5	1.04	2.13	8.42	mg/kg	D
Lead	7439-92-1	5	0.568	4.73	0.671	mg/kg	J, D
Selenium	7782-49-2	5	3.03	11.8	ND	mg/kg	U
Silver	7440-22-4	5	0.184	0.710	ND	mg/kg	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Sediment-Downstream

21A0119-06 (Solid (as-rec))

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/07/2021 09:55
Instrument: HYDRA Analyst: BLC — Analyzed: 01/22/2021 13:57

Sample Preparation: Preparation Method: SMM EPA 7471B — Extract ID: 21A0119-06 A
Preparation Batch: BJA0545 — Sample Size: 0.214 g (wet)
Prepared: 01/21/2021 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.00491	0.0234	0.00724	mg/kg wet	J

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Sediment-Downstream

21A0119-06 (Solid (as-rec))

TCLP Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/07/2021 09:55
Instrument: ICP2 Analyst: TCH — Analyzed: 01/25/2021 16:30

Sample Preparation: Preparation Method: LEN Digestion of EPA 1311 Elutriate — Extract ID: 21A0119-06 A 07
Preparation Batch: BJA0588 — Sample Size: 25 mL (wet)
Prepared: 01/22/2021 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.0230	0.250	ND	mg/L	U
Barium	7440-39-3	5	0.0130	0.0300	0.105	mg/L	
Cadmium	7440-43-9	5	0.0035	0.0100	ND	mg/L	U
Chromium	7440-47-3	5	0.0221	0.0450	ND	mg/L	U
Lead	7439-92-1	5	0.0120	0.100	ND	mg/L	U
Selenium	7782-49-2	5	0.0640	0.250	ND	mg/L	U
Silver	7440-22-4	5	0.0039	0.0150	ND	mg/L	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Sediment-Downstream

21A0119-06 (Solid (as-rec))

TCLP Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 01/07/2021 09:55

Instrument: HYDRA Analyst: BLC — Analyzed: 01/22/2021 15:43

Sample Preparation: Preparation Method: LEM 7470A Digestion of EPA 1311 Elutriate for Hg — Extract ID: 21A0119-06 A 03

Preparation Batch: BJA0589 — Sample Size: 20 mL (wet)

Prepared: 01/22/2021 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000007	0.000100	ND	mg/L	U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Semivolatile Organic Compounds - Quality Control

Batch BJA0580 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJA0580-BLK1)				Prepared: 21-Jan-2021 Analyzed: 30-Jan-2021 13:26							
Phenol	ND	8.2	20.0	ug/kg							U
bis(2-chloroethyl) ether	ND	6.8	20.0	ug/kg							U
2-Chlorophenol	ND	6.5	20.0	ug/kg							U
1,3-Dichlorobenzene	ND	5.1	20.0	ug/kg							U
1,4-Dichlorobenzene	ND	4.4	20.0	ug/kg							U
1,2-Dichlorobenzene	ND	4.7	20.0	ug/kg							U
Benzyl Alcohol	ND	14.9	20.0	ug/kg							U
2,2'-Oxybis(1-chloropropane)	ND	5.7	20.0	ug/kg							U
2-Methylphenol	ND	7.8	20.0	ug/kg							U
Hexachloroethane	ND	5.7	20.0	ug/kg							U
N-Nitroso-di-n-Propylamine	ND	10.8	20.0	ug/kg							U
4-Methylphenol	ND	14.7	20.0	ug/kg							U
Nitrobenzene	ND	8.0	20.0	ug/kg							U
Isophorone	ND	7.8	20.0	ug/kg							U
2-Nitrophenol	ND	6.9	20.0	ug/kg							U
2,4-Dimethylphenol	ND	26.8	100	ug/kg							U
Bis(2-Chloroethoxy)methane	ND	6.3	20.0	ug/kg							U
2,4-Dichlorophenol	ND	32.0	100	ug/kg							U
1,2,4-Trichlorobenzene	ND	6.0	20.0	ug/kg							U
Naphthalene	ND	5.3	20.0	ug/kg							U
Benzoic acid	ND	59.1	200	ug/kg							U
4-Chloroaniline	ND	33.7	100	ug/kg							U
Hexachlorobutadiene	ND	5.0	20.0	ug/kg							U
4-Chloro-3-Methylphenol	ND	28.9	100	ug/kg							U
2-Methylnaphthalene	ND	5.7	20.0	ug/kg							U
Hexachlorocyclopentadiene	ND	41.3	100	ug/kg							U
2,4,6-Trichlorophenol	ND	25.4	100	ug/kg							U
2,4,5-Trichlorophenol	ND	26.9	100	ug/kg							U
2-Chloronaphthalene	ND	4.4	20.0	ug/kg							U
2-Nitroaniline	ND	30.2	100	ug/kg							U
Acenaphthylene	ND	4.8	20.0	ug/kg							U
Dimethylphthalate	ND	6.4	20.0	ug/kg							U
2,6-Dinitrotoluene	ND	26.7	100	ug/kg							U
Acenaphthene	ND	5.1	20.0	ug/kg							U
3-Nitroaniline	ND	37.7	100	ug/kg							U

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Semivolatile Organic Compounds - Quality Control

Batch BJA0580 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJA0580-BLK1)				Prepared: 21-Jan-2021 Analyzed: 30-Jan-2021 13:26							
2,4-Dinitrophenol	ND	41.3	200	ug/kg							U
Dibenzofuran	ND	4.6	20.0	ug/kg							U
4-Nitrophenol	ND	44.4	100	ug/kg							U
2,4-Dinitrotoluene	ND	22.9	100	ug/kg							U
Fluorene	ND	5.0	20.0	ug/kg							U
4-Chlorophenylphenyl ether	ND	7.0	20.0	ug/kg							U
Diethyl phthalate	ND	17.7	20.0	ug/kg							U
4-Nitroaniline	ND	34.9	100	ug/kg							U
4,6-Dinitro-2-methylphenol	ND	50.5	200	ug/kg							U
N-Nitrosodiphenylamine	ND	9.6	20.0	ug/kg							U
4-Bromophenyl phenyl ether	ND	6.1	20.0	ug/kg							U
Hexachlorobenzene	ND	4.7	20.0	ug/kg							U
Pentachlorophenol	ND	31.3	100	ug/kg							U
Phenanthrene	ND	4.7	20.0	ug/kg							U
Anthracene	ND	5.9	20.0	ug/kg							U
Carbazole	ND	7.4	20.0	ug/kg							U
Di-n-Butylphthalate	ND	5.3	20.0	ug/kg							U
Fluoranthene	ND	4.5	20.0	ug/kg							U
Pyrene	ND	5.6	20.0	ug/kg							U
Butylbenzylphthalate	ND	8.1	20.0	ug/kg							U
Benzo(a)anthracene	ND	5.2	20.0	ug/kg							U
3,3'-Dichlorobenzidine	ND	31.2	100	ug/kg							U
Chrysene	ND	5.2	20.0	ug/kg							U
bis(2-Ethylhexyl)phthalate	ND	28.8	50.0	ug/kg							U
Di-n-Octylphthalate	ND	8.7	20.0	ug/kg							U
Benzofluoranthenes, Total	ND	10.2	40.0	ug/kg							U
Benzo(a)pyrene	ND	6.5	20.0	ug/kg							U
Indeno(1,2,3-cd)pyrene	ND	6.0	20.0	ug/kg							U
Dibenzo(a,h)anthracene	ND	6.2	20.0	ug/kg							U
Benzo(g,h,i)perylene	ND	5.8	20.0	ug/kg							U
1-Methylnaphthalene	ND	6.0	20.0	ug/kg							U
Surrogate: 2-Fluorophenol	477			ug/kg	*750*		*63.6*	*27-120*			
Surrogate: Phenol-d5	449			ug/kg	*750*		*59.9*	*29-120*			
Surrogate: 2-Chlorophenol-d4	572			ug/kg	*750*		*76.3*	*31-120*			
Surrogate: 1,2-Dichlorobenzene-d4	368			ug/kg	*500*		*73.7*	*32-120*			

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Semivolatile Organic Compounds - Quality Control

Batch BJA0580 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJA0580-BLK1)					Prepared: 21-Jan-2021 Analyzed: 30-Jan-2021 13:26						
Surrogate: Nitrobenzene-d5	426			ug/kg	*500*		*85.1*	*30-120*			
Surrogate: 2-Fluorobiphenyl	426			ug/kg	*500*		*85.2*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	715			ug/kg	*750*		*95.4*	*24-134*			
Surrogate: p-Terphenyl-d14	462			ug/kg	*500*		*92.4*	*37-120*			
LCS (BJA0580-BS1)					Prepared: 21-Jan-2021 Analyzed: 30-Jan-2021 14:04						
Phenol	343	8.2	20.0	ug/kg	500		68.5	34-120			
bis(2-chloroethyl) ether	349	6.8	20.0	ug/kg	500		69.8	36-120			
2-Chlorophenol	342	6.5	20.0	ug/kg	500		68.4	39-120			
1,3-Dichlorobenzene	378	5.1	20.0	ug/kg	500		75.7	40-120			
1,4-Dichlorobenzene	403	4.4	20.0	ug/kg	500		80.5	39-120			
1,2-Dichlorobenzene	384	4.7	20.0	ug/kg	500		76.9	40-120			
Benzyl Alcohol	350	14.9	20.0	ug/kg	500		70.0	19-120			
2,2'-Oxybis(1-chloropropane)	323	5.7	20.0	ug/kg	500		64.6	32-120			
2-Methylphenol	333	7.8	20.0	ug/kg	500		66.7	28-120			
Hexachloroethane	409	5.7	20.0	ug/kg	500		81.7	38-120			
N-Nitroso-di-n-Propylamine	397	10.8	20.0	ug/kg	500		79.4	34-120			
4-Methylphenol	306	14.7	20.0	ug/kg	500		61.2	29-120			Q
Nitrobenzene	436	8.0	20.0	ug/kg	500		87.2	36-120			
Isophorone	419	7.8	20.0	ug/kg	500		83.7	37-120			
2-Nitrophenol	384	6.9	20.0	ug/kg	500		76.9	30-120			
2,4-Dimethylphenol	980	26.8	100	ug/kg	1300		75.4	10-120			
Bis(2-Chloroethoxy)methane	372	6.3	20.0	ug/kg	500		74.4	39-120			
2,4-Dichlorophenol	1280	32.0	100	ug/kg	1300		98.7	28-120			
1,2,4-Trichlorobenzene	406	6.0	20.0	ug/kg	500		81.3	35-120			
Naphthalene	404	5.3	20.0	ug/kg	500		80.8	43-120			
Benzoic acid	1980	59.1	200	ug/kg	2300		86.0	10-120			
4-Chloroaniline	1010	33.7	100	ug/kg	1300		77.4	11-120			
Hexachlorobutadiene	487	5.0	20.0	ug/kg	500		97.4	37-120			
4-Chloro-3-Methylphenol	1400	28.9	100	ug/kg	1300		108	32-120			
2-Methylnaphthalene	374	5.7	20.0	ug/kg	500		74.9	43-120			
Hexachlorocyclopentadiene	1090	41.3	100	ug/kg	1300		83.9	10-120			
2,4,6-Trichlorophenol	1310	25.4	100	ug/kg	1300		101	44.6-132			
2,4,5-Trichlorophenol	1360	26.9	100	ug/kg	1300		105	51.5-129			
2-Chloronaphthalene	444	4.4	20.0	ug/kg	500		88.7	40-120			

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Semivolatile Organic Compounds - Quality Control

Batch BJA0580 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BJA0580-BS1)					Prepared: 21-Jan-2021 Analyzed: 30-Jan-2021 14:04						
2-Nitroaniline	1620	30.2	100	ug/kg	1300		125	40-152			
Acenaphthylene	381	4.8	20.0	ug/kg	500		76.1	42-120			
Dimethylphthalate	524	6.4	20.0	ug/kg	500		105	43-120			
2,6-Dinitrotoluene	1540	26.7	100	ug/kg	1300		118	31-156			
Acenaphthene	437	5.1	20.0	ug/kg	500		87.4	45-120			
3-Nitroaniline	1050	37.7	100	ug/kg	1300		80.9	22-120			
2,4-Dinitrophenol	2120	41.3	200	ug/kg	2300		92.0	10-120			
Dibenzofuran	406	4.6	20.0	ug/kg	500		81.1	43-120			
4-Nitrophenol	2060	44.4	100	ug/kg	1300		159	15-138			*, Q
2,4-Dinitrotoluene	1680	22.9	100	ug/kg	1300		129	44-150			
Fluorene	539	5.0	20.0	ug/kg	500		108	45-120			
4-Chlorophenylphenyl ether	601	7.0	20.0	ug/kg	500		120	36-141			Q
Diethyl phthalate	587	17.7	20.0	ug/kg	500		117	50-120			Q
4-Nitroaniline	1170	34.9	100	ug/kg	1300		90.2	24-168			
4,6-Dinitro-2-methylphenol	2550	50.5	200	ug/kg	2300		111	33-144			
N-Nitrosodiphenylamine	474	9.6	20.0	ug/kg	500		94.8	70-154			
4-Bromophenyl phenyl ether	495	6.1	20.0	ug/kg	500		99.0	39-120			
Hexachlorobenzene	495	4.7	20.0	ug/kg	500		99.0	33-120			
Pentachlorophenol	943	31.3	100	ug/kg	1300		72.6	16-120			Q
Phenanthrene	502	4.7	20.0	ug/kg	500		100	49-120			
Anthracene	454	5.9	20.0	ug/kg	500		90.7	45-120			
Carbazole	501	7.4	20.0	ug/kg	500		100	43-135			
Di-n-Butylphthalate	556	5.3	20.0	ug/kg	500		111	48-126			
Fluoranthene	545	4.5	20.0	ug/kg	500		109	53-145			
Pyrene	545	5.6	20.0	ug/kg	500		109	52-134			
Butylbenzylphthalate	567	8.1	20.0	ug/kg	500		113	45-132			
Benzo(a)anthracene	487	5.2	20.0	ug/kg	500		97.4	49-120			
3,3'-Dichlorobenzidine	1160	31.2	100	ug/kg	1300		89.6	10-120			
Chrysene	535	5.2	20.0	ug/kg	500		107	47-120			
bis(2-Ethylhexyl)phthalate	626	28.8	50.0	ug/kg	500		125	34-130			
Di-n-Octylphthalate	536	8.7	20.0	ug/kg	500		107	28-124			
Benzofluoranthenes, Total	1040	10.2	40.0	ug/kg	1000		104	30-160			
Benzo(a)pyrene	488	6.5	20.0	ug/kg	500		97.5	42-120			
Indeno(1,2,3-cd)pyrene	527	6.0	20.0	ug/kg	500		105	42-163			
Dibenzo(a,h)anthracene	541	6.2	20.0	ug/kg	500		108	30-133			

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Semivolatile Organic Compounds - Quality Control

Batch BJA0580 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BJA0580-BS1)					Prepared: 21-Jan-2021 Analyzed: 30-Jan-2021 14:04						
Benzo(g,h,i)perylene	542	5.8	20.0	ug/kg	500		108	46-148			
1-Methylnaphthalene	379	6.0	20.0	ug/kg	500		75.9	42-120			
Surrogate: 2-Fluorophenol	552			ug/kg	*750*		*73.6*	*27-120*			
Surrogate: Phenol-d5	549			ug/kg	*750*		*73.2*	*29-120*			
Surrogate: 2-Chlorophenol-d4	613			ug/kg	*750*		*81.7*	*31-120*			
Surrogate: 1,2-Dichlorobenzene-d4	361			ug/kg	*500*		*72.2*	*32-120*			
Surrogate: Nitrobenzene-d5	446			ug/kg	*500*		*89.2*	*30-120*			
Surrogate: 2-Fluorobiphenyl	433			ug/kg	*500*		*86.6*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	829			ug/kg	*750*		*110*	*24-134*			
Surrogate: p-Terphenyl-d14	510			ug/kg	*500*		*102*	*37-120*			
LCS Dup (BJA0580-BSD1)					Prepared: 21-Jan-2021 Analyzed: 30-Jan-2021 14:41						
Phenol	392	8.2	20.0	ug/kg	500		78.4	34-120	13.50	30	
bis(2-chloroethyl) ether	397	6.8	20.0	ug/kg	500		79.3	36-120	12.70	30	
2-Chlorophenol	372	6.5	20.0	ug/kg	500		74.5	39-120	8.56	30	
1,3-Dichlorobenzene	410	5.1	20.0	ug/kg	500		81.9	40-120	7.96	30	
1,4-Dichlorobenzene	445	4.4	20.0	ug/kg	500		88.9	39-120	9.88	30	
1,2-Dichlorobenzene	428	4.7	20.0	ug/kg	500		85.6	40-120	10.70	30	
Benzyl Alcohol	360	14.9	20.0	ug/kg	500		71.9	19-120	2.75	30	
2,2'-Oxybis(1-chloropropane)	374	5.7	20.0	ug/kg	500		74.9	32-120	14.70	30	
2-Methylphenol	363	7.8	20.0	ug/kg	500		72.6	28-120	8.55	30	
Hexachloroethane	445	5.7	20.0	ug/kg	500		89.0	38-120	8.52	30	
N-Nitroso-di-n-Propylamine	438	10.8	20.0	ug/kg	500		87.6	34-120	9.82	30	
4-Methylphenol	332	14.7	20.0	ug/kg	500		66.4	29-120	8.10	30	Q
Nitrobenzene	473	8.0	20.0	ug/kg	500		94.6	36-120	8.18	30	
Isophorone	444	7.8	20.0	ug/kg	500		88.8	37-120	5.93	30	
2-Nitrophenol	416	6.9	20.0	ug/kg	500		83.2	30-120	7.92	30	
2,4-Dimethylphenol	1110	26.8	100	ug/kg	1300		85.4	10-120	12.50	30	
Bis(2-Chloroethoxy)methane	386	6.3	20.0	ug/kg	500		77.2	39-120	3.63	30	
2,4-Dichlorophenol	1290	32.0	100	ug/kg	1300		99.0	28-120	0.22	30	
1,2,4-Trichlorobenzene	436	6.0	20.0	ug/kg	500		87.3	35-120	7.11	30	
Naphthalene	432	5.3	20.0	ug/kg	500		86.3	43-120	6.56	30	
Benzoic acid	2120	59.1	200	ug/kg	2300		92.1	10-120	6.85	30	
4-Chloroaniline	1030	33.7	100	ug/kg	1300		79.4	11-120	2.55	30	
Hexachlorobutadiene	500	5.0	20.0	ug/kg	500		100	37-120	2.64	30	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Semivolatile Organic Compounds - Quality Control

Batch BJA0580 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BJA0580-BSD1)					Prepared: 21-Jan-2021 Analyzed: 30-Jan-2021 14:41						
4-Chloro-3-Methylphenol	1510	28.9	100	ug/kg	1300		116	32-120	7.65	30	
2-Methylnaphthalene	402	5.7	20.0	ug/kg	500		80.4	43-120	7.09	30	
Hexachlorocyclopentadiene	1190	41.3	100	ug/kg	1300		91.2	10-120	8.38	30	
2,4,6-Trichlorophenol	1400	25.4	100	ug/kg	1300		107	44.6-132	6.07	30	
2,4,5-Trichlorophenol	1470	26.9	100	ug/kg	1300		113	51.5-129	7.63	30	
2-Chloronaphthalene	462	4.4	20.0	ug/kg	500		92.4	40-120	4.03	30	
2-Nitroaniline	1710	30.2	100	ug/kg	1300		131	40-152	5.27	30	
Acenaphthylene	421	4.8	20.0	ug/kg	500		84.1	42-120	10.00	30	
Dimethylphthalate	572	6.4	20.0	ug/kg	500		114	43-120	8.64	30	
2,6-Dinitrotoluene	1640	26.7	100	ug/kg	1300		126	31-156	6.25	30	
Acenaphthene	467	5.1	20.0	ug/kg	500		93.3	45-120	6.59	30	
3-Nitroaniline	1140	37.7	100	ug/kg	1300		87.8	22-120	8.19	30	
2,4-Dinitrophenol	2250	41.3	200	ug/kg	2300		97.9	10-120	6.23	30	
Dibenzofuran	436	4.6	20.0	ug/kg	500		87.1	43-120	7.15	30	
4-Nitrophenol	2260	44.4	100	ug/kg	1300		174	15-138	9.16	30	*, Q
2,4-Dinitrotoluene	1750	22.9	100	ug/kg	1300		135	44-150	3.96	30	
Fluorene	581	5.0	20.0	ug/kg	500		116	45-120	7.48	30	
4-Chlorophenylphenyl ether	638	7.0	20.0	ug/kg	500		128	36-141	6.00	30	Q
Diethyl phthalate	677	17.7	20.0	ug/kg	500		135	50-120	14.20	30	*, Q
4-Nitroaniline	1310	34.9	100	ug/kg	1300		101	24-168	11.10	30	
4,6-Dinitro-2-methylphenol	2720	50.5	200	ug/kg	2300		118	33-144	6.22	30	
N-Nitrosodiphenylamine	513	9.6	20.0	ug/kg	500		103	70-154	7.95	30	
4-Bromophenyl phenyl ether	535	6.1	20.0	ug/kg	500		107	39-120	7.65	30	
Hexachlorobenzene	549	4.7	20.0	ug/kg	500		110	33-120	10.30	30	
Pentachlorophenol	995	31.3	100	ug/kg	1300		76.6	16-120	5.36	30	Q
Phenanthrene	545	4.7	20.0	ug/kg	500		109	49-120	8.16	30	
Anthracene	490	5.9	20.0	ug/kg	500		98.0	45-120	7.68	30	
Carbazole	510	7.4	20.0	ug/kg	500		102	43-135	1.82	30	
Di-n-Butylphthalate	600	5.3	20.0	ug/kg	500		120	48-126	7.71	30	
Fluoranthene	566	4.5	20.0	ug/kg	500		113	53-145	3.85	30	
Pyrene	574	5.6	20.0	ug/kg	500		115	52-134	5.19	30	
Butylbenzylphthalate	626	8.1	20.0	ug/kg	500		125	45-132	9.75	30	
Benzo(a)anthracene	521	5.2	20.0	ug/kg	500		104	49-120	6.83	30	
3,3'-Dichlorobenzidine	1240	31.2	100	ug/kg	1300		95.8	10-120	6.68	30	
Chrysene	570	5.2	20.0	ug/kg	500		114	47-120	6.39	30	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Semivolatile Organic Compounds - Quality Control

Batch BJA0580 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BJA0580-BSD1)					Prepared: 21-Jan-2021 Analyzed: 30-Jan-2021 14:41						
bis(2-Ethylhexyl)phthalate	646	28.8	50.0	ug/kg	500		129	34-130	3.12	30	
Di-n-Octylphthalate	566	8.7	20.0	ug/kg	500		113	28-124	5.42	30	
Benzofluoranthenes, Total	1150	10.2	40.0	ug/kg	1000		115	30-160	10.40	30	
Benzo(a)pyrene	534	6.5	20.0	ug/kg	500		107	42-120	9.10	30	
Indeno(1,2,3-cd)pyrene	557	6.0	20.0	ug/kg	500		111	42-163	5.48	30	
Dibenzo(a,h)anthracene	593	6.2	20.0	ug/kg	500		119	30-133	9.13	30	
Benzo(g,h,i)perylene	588	5.8	20.0	ug/kg	500		118	46-148	8.11	30	
1-Methylnaphthalene	418	6.0	20.0	ug/kg	500		83.7	42-120	9.75	30	
Surrogate: 2-Fluorophenol	575			ug/kg	*750*		*76.7*	*27-120*			
Surrogate: Phenol-d5	575			ug/kg	*750*		*76.6*	*29-120*			
Surrogate: 2-Chlorophenol-d4	644			ug/kg	*750*		*85.8*	*31-120*			
Surrogate: 1,2-Dichlorobenzene-d4	370			ug/kg	*500*		*73.9*	*32-120*			
Surrogate: Nitrobenzene-d5	470			ug/kg	*500*		*94.1*	*30-120*			
Surrogate: 2-Fluorobiphenyl	442			ug/kg	*500*		*88.3*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	817			ug/kg	*750*		*109*	*24-134*			
Surrogate: p-Terphenyl-d14	515			ug/kg	*500*		*103*	*37-120*			
Matrix Spike (BJA0580-MS1)		**Source: 21A0119-06**			Prepared: 21-Jan-2021 Analyzed: 30-Jan-2021 19:06						
Phenol	361	8.0	19.4	ug/kg	484	ND	74.4	34-120			
bis(2-chloroethyl) ether	356	6.6	19.4	ug/kg	484	ND	73.5	36-120			
2-Chlorophenol	393	6.3	19.4	ug/kg	484	ND	81.1	39-120			
1,3-Dichlorobenzene	390	4.9	19.4	ug/kg	484	ND	80.6	40-120			
1,4-Dichlorobenzene	409	4.3	19.4	ug/kg	484	ND	84.5	39-120			
1,2-Dichlorobenzene	391	4.5	19.4	ug/kg	484	ND	80.6	40-120			
Benzyl Alcohol	354	14.4	19.4	ug/kg	484	ND	73.0	19-120			
2,2'-Oxybis(1-chloropropane)	333	5.5	19.4	ug/kg	484	ND	68.8	32-120			
2-Methylphenol	340	7.6	19.4	ug/kg	484	ND	70.1	28-120			
Hexachloroethane	397	5.5	19.4	ug/kg	484	ND	82.0	38-120			
N-Nitroso-di-n-Propylamine	423	10.5	19.4	ug/kg	484	ND	87.4	34-120			
4-Methylphenol	305	14.2	19.4	ug/kg	484	ND	62.9	29-120			Q
Nitrobenzene	438	7.7	19.4	ug/kg	484	ND	90.3	36-120			
Isophorone	496	7.5	19.4	ug/kg	484	ND	102	37-120			
2-Nitrophenol	406	6.7	19.4	ug/kg	484	ND	83.8	30-120			
2,4-Dimethylphenol	901	26.0	96.9	ug/kg	1260	ND	71.5	10-120			
Bis(2-Chloroethoxy)methane	401	6.1	19.4	ug/kg	484	ND	82.8	39-120			

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Semivolatile Organic Compounds - Quality Control

Batch BJA0580 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BJA0580-MS1)		**Source: 21A0119-06**		Prepared: 21-Jan-2021 Analyzed: 30-Jan-2021 19:06							
2,4-Dichlorophenol	1450	31.0	96.9	ug/kg	1260	ND	115	28-120			
1,2,4-Trichlorobenzene	415	5.8	19.4	ug/kg	484	ND	85.7	35-120			
Naphthalene	406	5.1	19.4	ug/kg	484	ND	83.8	43-120			
Benzoic acid	1640	57.3	194	ug/kg	2230	ND	73.7	10-120			
4-Chloroaniline	950	32.7	96.9	ug/kg	1260	ND	75.4	11-120			
Hexachlorobutadiene	505	4.9	19.4	ug/kg	484	ND	104	37-120			
4-Chloro-3-Methylphenol	1450	28.0	96.9	ug/kg	1260	ND	115	32-120			
2-Methylnaphthalene	385	5.5	19.4	ug/kg	484	ND	79.5	43-120			
Hexachlorocyclopentadiene	606	40.0	96.9	ug/kg	1260	ND	48.1	10-120			
2,4,6-Trichlorophenol	1340	24.6	96.9	ug/kg	1260	ND	107	44.6-132			
2,4,5-Trichlorophenol	1430	26.1	96.9	ug/kg	1260	ND	113	51.5-129			
2-Chloronaphthalene	449	4.3	19.4	ug/kg	484	ND	92.7	40-120			
2-Nitroaniline	1610	29.3	96.9	ug/kg	1260	ND	128	40-152			
Acenaphthylene	473	4.6	19.4	ug/kg	484	ND	97.7	42-120			
Dimethylphthalate	533	6.2	19.4	ug/kg	484	ND	110	43-120			
2,6-Dinitrotoluene	1550	25.9	96.9	ug/kg	1260	ND	123	31-156			
Acenaphthene	449	5.0	19.4	ug/kg	484	ND	92.6	45-120			
3-Nitroaniline	1150	36.5	96.9	ug/kg	1260	ND	91.5	22-120			
2,4-Dinitrophenol	731	40.0	194	ug/kg	2230	ND	32.8	10-120			
Dibenzofuran	422	4.5	19.4	ug/kg	484	ND	87.1	43-120			
4-Nitrophenol	1980	43.0	96.9	ug/kg	1260	ND	157	15-138			*, Q
2,4-Dinitrotoluene	1670	22.2	96.9	ug/kg	1260	ND	132	44-150			
Fluorene	553	4.8	19.4	ug/kg	484	ND	114	45-120			
4-Chlorophenylphenyl ether	610	6.7	19.4	ug/kg	484	ND	126	36-141			Q
Diethyl phthalate	393	17.2	19.4	ug/kg	484	29.8	75.0	50-120			Q
4-Nitroaniline	1600	33.8	96.9	ug/kg	1260	ND	127	24-168			
4,6-Dinitro-2-methylphenol	1290	48.9	194	ug/kg	2230	ND	58.0	33-144			
N-Nitrosodiphenylamine	465	9.3	19.4	ug/kg	484	ND	95.9	70-154			
4-Bromophenyl phenyl ether	574	5.9	19.4	ug/kg	484	ND	118	39-120			
Hexachlorobenzene	510	4.6	19.4	ug/kg	484	ND	105	33-120			
Pentachlorophenol	767	30.3	96.9	ug/kg	1260	ND	60.9	16-120			Q
Phenanthrene	518	4.5	19.4	ug/kg	484	ND	107	49-120			
Anthracene	479	5.7	19.4	ug/kg	484	ND	98.9	45-120			
Carbazole	517	7.1	19.4	ug/kg	484	ND	107	43-135			
Di-n-Butylphthalate	515	5.1	19.4	ug/kg	484	ND	106	48-126			

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Semivolatile Organic Compounds - Quality Control

Batch BJA0580 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BJA0580-MS1)		**Source: 21A0119-06**		Prepared: 21-Jan-2021 Analyzed: 30-Jan-2021 19:06							
Fluoranthene	555	4.4	19.4	ug/kg	484	ND	114	53-145			
Pyrene	524	5.4	19.4	ug/kg	484	ND	108	52-134			
Butylbenzylphthalate	547	7.8	19.4	ug/kg	484	ND	113	45-132			
Benzo(a)anthracene	476	5.0	19.4	ug/kg	484	ND	98.3	49-120			
3,3'-Dichlorobenzidine	903	30.2	96.9	ug/kg	1260	ND	71.7	10-120			
Chrysene	523	5.1	19.4	ug/kg	484	ND	108	47-120			
bis(2-Ethylhexyl)phthalate	626	27.9	48.4	ug/kg	484	ND	129	34-130			
Di-n-Octylphthalate	514	8.4	19.4	ug/kg	484	ND	106	28-124			
Benzofluoranthenes, Total	943	9.9	38.8	ug/kg	969	ND	97.3	30-160			
Benzo(a)pyrene	446	6.3	19.4	ug/kg	484	ND	92.1	42-120			
Indeno(1,2,3-cd)pyrene	406	5.8	19.4	ug/kg	484	ND	83.7	42-163			
Dibenzo(a,h)anthracene	442	6.0	19.4	ug/kg	484	ND	91.3	30-133			
Benzo(g,h,i)perylene	358	5.6	19.4	ug/kg	484	ND	74.0	46-148			
1-Methylnaphthalene	399	5.8	19.4	ug/kg	484	ND	82.4	42-120			
Surrogate: 2-Fluorophenol	523			ug/kg	*727*	*394*	*72.0*	*27-120*			
Surrogate: Phenol-d5	530			ug/kg	*727*	*403*	*72.9*	*29-120*			
Surrogate: 2-Chlorophenol-d4	665			ug/kg	*727*	*520*	*91.5*	*31-120*			
Surrogate: 1,2-Dichlorobenzene-d4	353			ug/kg	*484*	*331*	*72.9*	*32-120*			
Surrogate: Nitrobenzene-d5	424			ug/kg	*484*	*407*	*87.5*	*30-120*			
Surrogate: 2-Fluorobiphenyl	424			ug/kg	*484*	*401*	*87.5*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	814			ug/kg	*727*	*693*	*112*	*24-134*			
Surrogate: p-Terphenyl-d14	478			ug/kg	*484*	*461*	*98.6*	*37-120*			

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

Matrix Spike Dup (BJA0580-MSD1)		**Source: 21A0119-06**		Prepared: 21-Jan-2021 Analyzed: 30-Jan-2021 19:44						
Phenol	333	7.8	19.0	ug/kg	474	ND	70.2	34-120	7.93	30
bis(2-chloroethyl) ether	331	6.4	19.0	ug/kg	474	ND	69.7	36-120	7.48	30
2-Chlorophenol	375	6.1	19.0	ug/kg	474	ND	79.2	39-120	4.57	30
1,3-Dichlorobenzene	356	4.8	19.0	ug/kg	474	ND	75.0	40-120	9.34	30
1,4-Dichlorobenzene	380	4.2	19.0	ug/kg	474	ND	80.2	39-120	7.38	30
1,2-Dichlorobenzene	353	4.4	19.0	ug/kg	474	ND	74.4	40-120	10.20	30
Benzyl Alcohol	330	14.1	19.0	ug/kg	474	ND	69.5	19-120	7.03	30
2,2'-Oxybis(1-chloropropane)	311	5.4	19.0	ug/kg	474	ND	65.6	32-120	6.92	30
2-Methylphenol	324	7.4	19.0	ug/kg	474	ND	68.4	28-120	4.57	30
Hexachloroethane	370	5.4	19.0	ug/kg	474	ND	77.9	38-120	7.15	30

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Semivolatile Organic Compounds - Quality Control

Batch BJA0580 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike Dup (BJA0580-MSD1)		**Source: 21A0119-06**		Prepared: 21-Jan-2021 Analyzed: 30-Jan-2021 19:44							
N-Nitroso-di-n-Propylamine	381	10.2	19.0	ug/kg	474	ND	80.4	34-120	10.50	30	
4-Methylphenol	274	13.9	19.0	ug/kg	474	ND	57.8	29-120	10.70	30	Q
Nitrobenzene	425	7.5	19.0	ug/kg	474	ND	89.5	36-120	2.99	30	
Isophorone	481	7.4	19.0	ug/kg	474	ND	101	37-120	3.11	30	
2-Nitrophenol	393	6.6	19.0	ug/kg	474	ND	82.8	30-120	3.26	30	
2,4-Dimethylphenol	866	25.4	94.9	ug/kg	1230	ND	70.2	10-120	3.90	30	
Bis(2-Chloroethoxy)methane	393	6.0	19.0	ug/kg	474	ND	82.8	39-120	2.07	30	
2,4-Dichlorophenol	1450	30.4	94.9	ug/kg	1230	ND	117	28-120	0.08	30	
1,2,4-Trichlorobenzene	412	5.7	19.0	ug/kg	474	ND	86.8	35-120	0.83	30	
Naphthalene	402	5.0	19.0	ug/kg	474	ND	84.6	43-120	1.12	30	
Benzoic acid	1360	56.1	190	ug/kg	2180	ND	62.5	10-120	18.50	30	
4-Chloroaniline	988	32.0	94.9	ug/kg	1230	ND	80.1	11-120	3.86	30	
Hexachlorobutadiene	495	4.8	19.0	ug/kg	474	ND	104	37-120	1.98	30	
4-Chloro-3-Methylphenol	1450	27.4	94.9	ug/kg	1230	ND	118	32-120	0.24	30	
2-Methylnaphthalene	380	5.4	19.0	ug/kg	474	ND	80.1	43-120	1.44	30	
Hexachlorocyclopentadiene	577	39.2	94.9	ug/kg	1230	ND	46.8	10-120	4.79	30	
2,4,6-Trichlorophenol	1320	24.1	94.9	ug/kg	1230	ND	107	44.6-132	1.60	30	
2,4,5-Trichlorophenol	1380	25.5	94.9	ug/kg	1230	ND	112	51.5-129	3.13	30	
2-Chloronaphthalene	447	4.2	19.0	ug/kg	474	ND	94.2	40-120	0.43	30	
2-Nitroaniline	1590	28.7	94.9	ug/kg	1230	ND	129	40-152	1.43	30	
Acenaphthylene	445	4.5	19.0	ug/kg	474	ND	93.7	42-120	6.20	30	
Dimethylphthalate	518	6.1	19.0	ug/kg	474	ND	109	43-120	2.84	30	
2,6-Dinitrotoluene	1720	25.3	94.9	ug/kg	1230	ND	139	31-156	10.40	30	
Acenaphthene	429	4.9	19.0	ug/kg	474	ND	90.4	45-120	4.54	30	
3-Nitroaniline	1120	35.8	94.9	ug/kg	1230	ND	91.0	22-120	2.63	30	
2,4-Dinitrophenol	789	39.2	190	ug/kg	2180	ND	36.2	10-120	7.62	30	
Dibenzofuran	416	4.4	19.0	ug/kg	474	ND	87.7	43-120	1.37	30	
4-Nitrophenol	1980	42.1	94.9	ug/kg	1230	ND	160	15-138	0.03	30	*, Q
2,4-Dinitrotoluene	1650	21.7	94.9	ug/kg	1230	ND	133	44-150	1.23	30	
Fluorene	539	4.7	19.0	ug/kg	474	ND	114	45-120	2.52	30	
4-Chlorophenylphenyl ether	604	6.6	19.0	ug/kg	474	ND	127	36-141	0.97	30	Q
Diethyl phthalate	336	16.8	19.0	ug/kg	474	29.8	64.6	50-120	15.60	30	Q
4-Nitroaniline	1590	33.1	94.9	ug/kg	1230	ND	129	24-168	0.57	30	
4,6-Dinitro-2-methylphenol	1460	47.9	190	ug/kg	2180	ND	66.9	33-144	12.10	30	
N-Nitrosodiphenylamine	461	9.1	19.0	ug/kg	474	ND	97.1	70-154	0.91	30	

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Semivolatile Organic Compounds - Quality Control

Batch BJA0580 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike Dup (BJA0580-MSD1)		**Source: 21A0119-06**		Prepared: 21-Jan-2021 Analyzed: 30-Jan-2021 19:44							
4-Bromophenyl phenyl ether	586	5.8	19.0	ug/kg	474	ND	123	39-120	2.05	30	*
Hexachlorobenzene	475	4.5	19.0	ug/kg	474	ND	100	33-120	7.10	30	
Pentachlorophenol	701	29.7	94.9	ug/kg	1230	ND	56.9	16-120	8.90	30	Q
Phenanthrene	489	4.4	19.0	ug/kg	474	ND	103	49-120	5.74	30	
Anthracene	454	5.6	19.0	ug/kg	474	ND	95.7	45-120	5.41	30	
Carbazole	497	7.0	19.0	ug/kg	474	ND	105	43-135	3.90	30	
Di-n-Butylphthalate	513	5.0	19.0	ug/kg	474	ND	108	48-126	0.48	30	
Fluoranthene	573	4.3	19.0	ug/kg	474	ND	121	53-145	3.28	30	
Pyrene	558	5.3	19.0	ug/kg	474	ND	118	52-134	6.26	30	
Butylbenzylphthalate	558	7.6	19.0	ug/kg	474	ND	118	45-132	2.02	30	
Benzo(a)anthracene	474	4.9	19.0	ug/kg	474	ND	99.8	49-120	0.59	30	
3,3'-Dichlorobenzidine	977	29.6	94.9	ug/kg	1230	ND	79.2	10-120	7.85	30	
Chrysene	529	5.0	19.0	ug/kg	474	ND	112	47-120	1.17	30	
bis(2-Ethylhexyl)phthalate	598	27.3	47.4	ug/kg	474	ND	126	34-130	4.58	30	
Di-n-Octylphthalate	505	8.3	19.0	ug/kg	474	ND	106	28-124	1.89	30	
Benzofluoranthenes, Total	941	9.7	38.0	ug/kg	949	ND	99.2	30-160	0.18	30	
Benzo(a)pyrene	449	6.1	19.0	ug/kg	474	ND	94.6	42-120	0.53	30	
Indeno(1,2,3-cd)pyrene	407	5.7	19.0	ug/kg	474	ND	85.8	42-163	0.35	30	
Dibenzo(a,h)anthracene	441	5.8	19.0	ug/kg	474	ND	93.1	30-133	0.17	30	
Benzo(g,h,i)perylene	354	5.5	19.0	ug/kg	474	ND	74.7	46-148	1.09	30	
1-Methylnaphthalene	390	5.6	19.0	ug/kg	474	ND	82.3	42-120	2.23	30	
Surrogate: 2-Fluorophenol	487			ug/kg	*712*	*394*	*68.4*	*27-120*			
Surrogate: Phenol-d5	499			ug/kg	*712*	*403*	*70.1*	*29-120*			
Surrogate: 2-Chlorophenol-d4	612			ug/kg	*712*	*520*	*86.1*	*31-120*			
Surrogate: 1,2-Dichlorobenzene-d4	324			ug/kg	*474*	*331*	*68.3*	*32-120*			
Surrogate: Nitrobenzene-d5	421			ug/kg	*474*	*407*	*88.7*	*30-120*			
Surrogate: 2-Fluorobiphenyl	410			ug/kg	*474*	*401*	*86.3*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	791			ug/kg	*712*	*693*	*111*	*24-134*			
Surrogate: p-Terphenyl-d14	498			ug/kg	*474*	*461*	*105*	*37-120*			

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

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

TCLP Semivolatile Organic Compounds - Quality Control

Batch BJA0610 - EPA 3510C SepF

Instrument: NT12 Analyst: JZ

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJA0610-BLK1)				Prepared: 22-Jan-2021 Analyzed: 25-Jan-2021 12:34						
2-Methylphenol	ND	10.0	ug/L							U
Hexachloroethane	ND	20.0	ug/L							U
4-Methylphenol	ND	20.0	ug/L							U
Nitrobenzene	ND	10.0	ug/L							U
Hexachlorobutadiene	ND	30.0	ug/L							U
2,4,6-Trichlorophenol	ND	30.0	ug/L							U
2,4,5-Trichlorophenol	ND	50.0	ug/L							U
2,4-Dinitrotoluene	ND	30.0	ug/L							U
Hexachlorobenzene	ND	10.0	ug/L							U
Pentachlorophenol	ND	100	ug/L							U
Pyridine	ND	50.0	ug/L							U
Surrogate: 2-Fluorophenol	295		ug/L	*375*		*78.7*	*23-120*			
Surrogate: Phenol-d5	280		ug/L	*375*		*74.6*	*16-120*			
Surrogate: 2-Chlorophenol-d4	333		ug/L	*375*		*88.9*	*33-120*			
Surrogate: 1,2-Dichlorobenzene-d4	176		ug/L	*250*		*70.5*	*27-120*			
Surrogate: Nitrobenzene-d5	224		ug/L	*250*		*89.7*	*34-120*			
Surrogate: 2-Fluorobiphenyl	212		ug/L	*250*		*84.8*	*38-120*			
Surrogate: 2,4,6-Tribromophenol	390		ug/L	*375*		*104*	*31-128*			
Surrogate: p-Terphenyl-d14	248		ug/L	*250*		*99.3*	*27-122*			
LCS (BJA0610-BS1)				Prepared: 22-Jan-2021 Analyzed: 25-Jan-2021 13:12						
2-Methylphenol	173	10.0	ug/L	250		69.4	47-120			
Hexachloroethane	171	20.0	ug/L	250		68.3	19-120			
4-Methylphenol	187	20.0	ug/L	250		74.6	46-120			
Nitrobenzene	199	10.0	ug/L	250		79.6	46-120			
Hexachlorobutadiene	211	30.0	ug/L	250		84.4	22-120			Q
2,4,6-Trichlorophenol	590	30.0	ug/L	650		90.7	37-120			
2,4,5-Trichlorophenol	618	50.0	ug/L	650		95.1	37-124			
2,4-Dinitrotoluene	565	30.0	ug/L	650		87.0	33-134			
Hexachlorobenzene	230	10.0	ug/L	250		91.9	54-120			
Pentachlorophenol	573	100	ug/L	650		88.1	25-144			
Pyridine	ND	50.0	ug/L	650			43-120			*, U
Surrogate: 2-Fluorophenol	288		ug/L	*375*		*76.7*	*23-120*			
Surrogate: Phenol-d5	277		ug/L	*375*		*74.0*	*16-120*			

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

TCLP Semivolatile Organic Compounds - Quality Control

Batch BJA0610 - EPA 3510C SepF

Instrument: NT12 Analyst: JZ

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BJA0610-BS1)				Prepared: 22-Jan-2021 Analyzed: 25-Jan-2021 13:12						
Surrogate: 2-Chlorophenol-d4	326		ug/L	*375*		*87.0*	*33-120*			
Surrogate: 1,2-Dichlorobenzene-d4	179		ug/L	*250*		*71.8*	*27-120*			
Surrogate: Nitrobenzene-d5	215		ug/L	*250*		*86.2*	*34-120*			
Surrogate: 2-Fluorobiphenyl	199		ug/L	*250*		*79.4*	*38-120*			
Surrogate: 2,4,6-Tribromophenol	401		ug/L	*375*		*107*	*31-128*			
Surrogate: p-Terphenyl-d14	203		ug/L	*250*		*81.2*	*27-122*			

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Metals and Metallic Compounds - Quality Control

Batch BJA0544 - SWC EPA 3050B

Instrument: ICP2 Analyst: TCH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJA0544-BLK1)				Prepared: 21-Jan-2021 Analyzed: 25-Jan-2021 16:59							
Arsenic	ND	0.460	5.00	mg/kg							U
Barium	ND	0.260	0.600	mg/kg							U
Cadmium	ND	0.0700	0.200	mg/kg							U
Chromium	ND	0.441	0.900	mg/kg							U
Lead	ND	0.240	2.00	mg/kg							U
Selenium	ND	1.28	5.00	mg/kg							U
Silver	ND	0.0780	0.300	mg/kg							U
LCS (BJA0544-BS1)				Prepared: 21-Jan-2021 Analyzed: 25-Jan-2021 17:32							
Arsenic	198	0.460	5.00	mg/kg	200		99.2	80-120			
Barium	207	0.260	0.600	mg/kg	200		103	80-120			
Cadmium	51.5	0.0700	0.200	mg/kg	50.0		103	80-120			
Chromium	51.6	0.441	0.900	mg/kg	50.0		103	80-120			
Lead	199	0.240	2.00	mg/kg	200		99.3	80-120			
Selenium	196	1.28	5.00	mg/kg	200		98.2	80-120			
Silver	53.4	0.0780	0.300	mg/kg	50.0		107	80-120			

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Metals and Metallic Compounds - Quality Control

Batch BJA0545 - SMM EPA 7471B

Instrument: HYDRA Analyst: BLC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJA0545-BLK1)					Prepared: 21-Jan-2021 Analyzed: 22-Jan-2021 13:21						
Mercury	ND	0.00525	0.0250	mg/kg							U
LCS (BJA0545-BS1)					Prepared: 21-Jan-2021 Analyzed: 22-Jan-2021 13:23						
Mercury	0.475	0.00525	0.0250	mg/kg	0.500		95.0	80-120			

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

TCLP Metals and Metallic Compounds - Quality Control

Batch BJA0588 - LEN Digestion of EPA 1311 Elutriate

Instrument: ICP2 Analyst: TCH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJA0588-BLK1)				Prepared: 22-Jan-2021 Analyzed: 25-Jan-2021 15:59							
Arsenic	0.0258	0.0230	0.250	mg/L							J
Barium	ND	0.0130	0.0300	mg/L							U
Cadmium	ND	0.0035	0.0100	mg/L							U
Chromium	ND	0.0221	0.0450	mg/L							U
Lead	ND	0.0120	0.100	mg/L							U
Selenium	ND	0.0640	0.250	mg/L							U
Silver	ND	0.0039	0.0150	mg/L							U
Duplicate (BJA0588-DUP1)		**Source: 21A0119-01**		Prepared: 22-Jan-2021 Analyzed: 25-Jan-2021 16:08							
Arsenic	0.0249	0.0230	0.250	mg/L		ND					J
Barium	0.0438	0.0130	0.0300	mg/L		0.0391			11.40	20	
Cadmium	ND	0.0035	0.0100	mg/L		ND					U
Chromium	ND	0.0221	0.0450	mg/L		ND					U
Lead	0.0226	0.0120	0.100	mg/L		0.0263			14.90	20	J
Selenium	ND	0.0640	0.250	mg/L		ND					U
Silver	ND	0.0039	0.0150	mg/L		ND					U
Matrix Spike (BJA0588-MS1)		**Source: 21A0119-01**		Prepared: 22-Jan-2021 Analyzed: 25-Jan-2021 16:14							
Arsenic	4.09	0.0230	0.250	mg/L	4.00	ND	102	75-125			
Barium	4.01	0.0130	0.0300	mg/L	4.00	0.0391	99.3	75-125			
Cadmium	1.04	0.0035	0.0100	mg/L	1.00	ND	104	75-125			
Chromium	0.984	0.0221	0.0450	mg/L	1.00	ND	98.4	75-125			
Lead	3.99	0.0120	0.100	mg/L	4.00	0.0263	99.2	75-125			
Selenium	4.13	0.0640	0.250	mg/L	4.00	ND	103	75-125			
Silver	0.998	0.0039	0.0150	mg/L	1.00	ND	99.8	75-125			

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

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	**Reported:**
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

TCLP Metals and Metallic Compounds - Quality Control

Batch BJA0589 - LEM 7470A Digestion of EPA 1311 Elutriate for Hg

Instrument: HYDRA Analyst: BLC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJA0589-BLK1)					Prepared: 22-Jan-2021 Analyzed: 22-Jan-2021 15:22						
Mercury	ND	0.000007	0.000100	mg/L							U
Duplicate (BJA0589-DUP1)		**Source: 21A0119-01**			Prepared: 22-Jan-2021 Analyzed: 22-Jan-2021 15:26						
Mercury	ND	0.000007	0.000100	mg/L		ND					U
Matrix Spike (BJA0589-MS1)		**Source: 21A0119-01**			Prepared: 22-Jan-2021 Analyzed: 22-Jan-2021 15:28						
Mercury	0.00105	0.000007	0.000100	mg/L	0.00100	ND	105	75-125			

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

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
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Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Certified Analyses included in this Report

Analyte	Certifications
EPA 6010C in Solid (as-rec)	
Silver	DoD-ELAP
Silver	DoD-ELAP
Silver	DoD-ELAP
Silver	DoD-ELAP
EPA 7470A in Solid	
Mercury	WADOE,NELAP,DoD-ELAP
Mercury	NELAP,DoD-ELAP
Mercury	WADOE,DoD-ELAP
Mercury	WADOE,NELAP,DoD-ELAP
EPA 7471B in Solid	
Mercury	WADOE,NELAP,DoD-ELAP,CALAP
Mercury	NELAP,DoD-ELAP,CALAP
Mercury	WADOE,DoD-ELAP,CALAP
Mercury	WADOE,NELAP,DoD-ELAP
EPA 8270E in Solid	
Phenol	CALAP,DoD-ELAP,WADOE
Phenol	CALAP,DoD-ELAP,NELAP,WADOE
Phenol	DoD-ELAP,NELAP,WADOE
Phenol	CALAP,DoD-ELAP,NELAP
bis(2-chloroethyl) ether	DoD-ELAP,NELAP,WADOE
bis(2-chloroethyl) ether	CALAP,DoD-ELAP,WADOE
bis(2-chloroethyl) ether	CALAP,DoD-ELAP,NELAP
bis(2-chloroethyl) ether	CALAP,DoD-ELAP,NELAP,WADOE
2-Chlorophenol	CALAP,DoD-ELAP,NELAP,WADOE
2-Chlorophenol	CALAP,DoD-ELAP,WADOE
2-Chlorophenol	CALAP,DoD-ELAP,NELAP
2-Chlorophenol	DoD-ELAP,NELAP,WADOE
1,3-Dichlorobenzene	CALAP,DoD-ELAP,NELAP
1,3-Dichlorobenzene	CALAP,DoD-ELAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,NELAP,WADOE
1,3-Dichlorobenzene	CALAP,DoD-ELAP,NELAP,WADOE
1,4-Dichlorobenzene	CALAP,DoD-ELAP,NELAP
1,4-Dichlorobenzene	CALAP,DoD-ELAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,NELAP,WADOE

1,4-Dichlorobenzene	CALAP,DoD-ELAP,NELAP,WADOE
1,2-Dichlorobenzene	CALAP,DoD-ELAP,NELAP,WADOE
1,2-Dichlorobenzene	CALAP,DoD-ELAP,NELAP
1,2-Dichlorobenzene	CALAP,DoD-ELAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,NELAP,WADOE
Benzyl Alcohol	DoD-ELAP,NELAP,WADOE
Benzyl Alcohol	CALAP,DoD-ELAP,WADOE
Benzyl Alcohol	CALAP,DoD-ELAP,NELAP,WADOE
Benzyl Alcohol	CALAP,DoD-ELAP,NELAP
2,2'-Oxybis(1-chloropropane)	DoD-ELAP,NELAP
2,2'-Oxybis(1-chloropropane)	DoD-ELAP,NELAP
2,2'-Oxybis(1-chloropropane)	DoD-ELAP
2,2'-Oxybis(1-chloropropane)	DoD-ELAP,NELAP
2-Methylphenol	CALAP,DoD-ELAP,NELAP
2-Methylphenol	CALAP,DoD-ELAP,NELAP,WADOE
2-Methylphenol	CALAP,DoD-ELAP,WADOE
2-Methylphenol	DoD-ELAP,NELAP,WADOE
Hexachloroethane	DoD-ELAP,NELAP,WADOE
Hexachloroethane	CALAP,DoD-ELAP,WADOE
Hexachloroethane	CALAP,DoD-ELAP,NELAP
Hexachloroethane	CALAP,DoD-ELAP,NELAP,WADOE
N-Nitroso-di-n-Propylamine	CALAP,DoD-ELAP,NELAP,WADOE
N-Nitroso-di-n-Propylamine	CALAP,DoD-ELAP,NELAP
N-Nitroso-di-n-Propylamine	DoD-ELAP,NELAP,WADOE
N-Nitroso-di-n-Propylamine	CALAP,DoD-ELAP,WADOE
4-Methylphenol	CALAP,DoD-ELAP,WADOE
4-Methylphenol	CALAP,DoD-ELAP,NELAP
4-Methylphenol	DoD-ELAP,NELAP,WADOE
4-Methylphenol	CALAP,DoD-ELAP,NELAP,WADOE
Nitrobenzene	CALAP,DoD-ELAP,NELAP,WADOE
Nitrobenzene	CALAP,DoD-ELAP,NELAP
Nitrobenzene	CALAP,DoD-ELAP,WADOE
Nitrobenzene	DoD-ELAP,NELAP,WADOE
Isophorone	CALAP,DoD-ELAP,WADOE
Isophorone	CALAP,DoD-ELAP,NELAP
Isophorone	DoD-ELAP,NELAP,WADOE
Isophorone	CALAP,DoD-ELAP,NELAP,WADOE
2-Nitrophenol	CALAP,DoD-ELAP,WADOE
2-Nitrophenol	DoD-ELAP,NELAP,WADOE

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
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2-Nitrophenol	CALAP,DoD-ELAP,NELAP,WADOE
2-Nitrophenol	CALAP,DoD-ELAP,NELAP
2,4-Dimethylphenol	DoD-ELAP,NELAP,WADOE
2,4-Dimethylphenol	CALAP,DoD-ELAP,WADOE
2,4-Dimethylphenol	CALAP,DoD-ELAP,NELAP
2,4-Dimethylphenol	CALAP,DoD-ELAP,NELAP,WADOE
Bis(2-Chloroethoxy)methane	CALAP,DoD-ELAP,NELAP,WADOE
Bis(2-Chloroethoxy)methane	CALAP,DoD-ELAP,NELAP
Bis(2-Chloroethoxy)methane	CALAP,DoD-ELAP,WADOE
Bis(2-Chloroethoxy)methane	DoD-ELAP,NELAP,WADOE
2,4-Dichlorophenol	CALAP,DoD-ELAP,NELAP,WADOE
2,4-Dichlorophenol	DoD-ELAP,NELAP,WADOE
2,4-Dichlorophenol	CALAP,DoD-ELAP,NELAP
2,4-Dichlorophenol	CALAP,DoD-ELAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,NELAP,WADOE
1,2,4-Trichlorobenzene	CALAP,DoD-ELAP,WADOE
1,2,4-Trichlorobenzene	CALAP,DoD-ELAP,NELAP
1,2,4-Trichlorobenzene	CALAP,DoD-ELAP,NELAP,WADOE
Naphthalene	DoD-ELAP,NELAP,WADOE,ADEC
Naphthalene	CALAP,DoD-ELAP,NELAP,ADEC
Naphthalene	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
Naphthalene	CALAP,DoD-ELAP,WADOE,ADEC
Benzoic acid	CALAP,DoD-ELAP,NELAP
Benzoic acid	DoD-ELAP,NELAP,WADOE
Benzoic acid	CALAP,DoD-ELAP,WADOE
Benzoic acid	CALAP,DoD-ELAP,NELAP,WADOE
4-Chloroaniline	CALAP,DoD-ELAP,WADOE
4-Chloroaniline	CALAP,DoD-ELAP,NELAP
4-Chloroaniline	CALAP,DoD-ELAP,NELAP,WADOE
4-Chloroaniline	DoD-ELAP,NELAP,WADOE
Hexachlorobutadiene	CALAP,DoD-ELAP,NELAP,WADOE
Hexachlorobutadiene	CALAP,DoD-ELAP,NELAP
Hexachlorobutadiene	CALAP,DoD-ELAP,WADOE
Hexachlorobutadiene	DoD-ELAP,NELAP,WADOE
4-Chloro-3-Methylphenol	DoD-ELAP,NELAP,WADOE
4-Chloro-3-Methylphenol	CALAP,DoD-ELAP,WADOE
4-Chloro-3-Methylphenol	CALAP,DoD-ELAP,NELAP
4-Chloro-3-Methylphenol	CALAP,DoD-ELAP,NELAP,WADOE
2-Methylnaphthalene	CALAP,DoD-ELAP,WADOE,ADEC

2-Methylnaphthalene	CALAP,DoD-ELAP,NELAP,ADEC
2-Methylnaphthalene	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
2-Methylnaphthalene	DoD-ELAP,NELAP,WADOE,ADEC
Hexachlorocyclopentadiene	CALAP,DoD-ELAP,NELAP,WADOE
Hexachlorocyclopentadiene	DoD-ELAP,NELAP,WADOE
Hexachlorocyclopentadiene	CALAP,DoD-ELAP,WADOE
Hexachlorocyclopentadiene	CALAP,DoD-ELAP,NELAP
2,4,6-Trichlorophenol	CALAP,DoD-ELAP,WADOE
2,4,6-Trichlorophenol	CALAP,DoD-ELAP,NELAP
2,4,6-Trichlorophenol	CALAP,DoD-ELAP,NELAP,WADOE
2,4,6-Trichlorophenol	DoD-ELAP,NELAP,WADOE
2,4,5-Trichlorophenol	CALAP,DoD-ELAP,NELAP,WADOE
2,4,5-Trichlorophenol	DoD-ELAP,NELAP,WADOE
2,4,5-Trichlorophenol	CALAP,DoD-ELAP,NELAP
2,4,5-Trichlorophenol	CALAP,DoD-ELAP,WADOE
2-Chloronaphthalene	CALAP,DoD-ELAP,WADOE
2-Chloronaphthalene	CALAP,DoD-ELAP,NELAP,WADOE
2-Chloronaphthalene	DoD-ELAP,NELAP,WADOE
2-Chloronaphthalene	CALAP,DoD-ELAP,NELAP
2-Nitroaniline	CALAP,DoD-ELAP,NELAP
2-Nitroaniline	CALAP,DoD-ELAP,NELAP,WADOE
2-Nitroaniline	DoD-ELAP,NELAP,WADOE
2-Nitroaniline	CALAP,DoD-ELAP,WADOE
Acenaphthylene	CALAP,DoD-ELAP,NELAP,ADEC
Acenaphthylene	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
Acenaphthylene	CALAP,DoD-ELAP,WADOE,ADEC
Acenaphthylene	DoD-ELAP,NELAP,WADOE,ADEC
Dimethylphthalate	CALAP,DoD-ELAP,NELAP,WADOE
Dimethylphthalate	CALAP,DoD-ELAP,NELAP
Dimethylphthalate	CALAP,DoD-ELAP,WADOE
Dimethylphthalate	DoD-ELAP,NELAP,WADOE
2,6-Dinitrotoluene	CALAP,DoD-ELAP,WADOE
2,6-Dinitrotoluene	CALAP,DoD-ELAP,NELAP
2,6-Dinitrotoluene	CALAP,DoD-ELAP,NELAP,WADOE
2,6-Dinitrotoluene	DoD-ELAP,NELAP,WADOE
Acenaphthene	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
Acenaphthene	DoD-ELAP,NELAP,WADOE,ADEC
Acenaphthene	CALAP,DoD-ELAP,WADOE,ADEC
Acenaphthene	CALAP,DoD-ELAP,NELAP,ADEC

3-Nitroaniline	CALAP,DoD-ELAP,NELAP
3-Nitroaniline	CALAP,DoD-ELAP,WADOE
3-Nitroaniline	DoD-ELAP,NELAP,WADOE
3-Nitroaniline	CALAP,DoD-ELAP,NELAP,WADOE
2,4-Dinitrophenol	CALAP,DoD-ELAP,WADOE
2,4-Dinitrophenol	CALAP,DoD-ELAP,NELAP,WADOE
2,4-Dinitrophenol	DoD-ELAP,NELAP,WADOE
2,4-Dinitrophenol	CALAP,DoD-ELAP,NELAP
Dibenzofuran	DoD-ELAP,NELAP,WADOE,ADEC
Dibenzofuran	CALAP,DoD-ELAP,WADOE,ADEC
Dibenzofuran	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
Dibenzofuran	CALAP,DoD-ELAP,NELAP,ADEC
4-Nitrophenol	CALAP,DoD-ELAP,NELAP,WADOE
4-Nitrophenol	CALAP,DoD-ELAP,NELAP
4-Nitrophenol	CALAP,DoD-ELAP,WADOE
4-Nitrophenol	DoD-ELAP,NELAP,WADOE
2,4-Dinitrotoluene	CALAP,DoD-ELAP,NELAP,WADOE
2,4-Dinitrotoluene	CALAP,DoD-ELAP,NELAP
2,4-Dinitrotoluene	DoD-ELAP,NELAP,WADOE
2,4-Dinitrotoluene	CALAP,DoD-ELAP,WADOE
Fluorene	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
Fluorene	CALAP,DoD-ELAP,NELAP,ADEC
Fluorene	DoD-ELAP,NELAP,WADOE,ADEC
Fluorene	CALAP,DoD-ELAP,WADOE,ADEC
4-Chlorophenylphenyl ether	DoD-ELAP,NELAP
4-Chlorophenylphenyl ether	CALAP,DoD-ELAP
4-Chlorophenylphenyl ether	CALAP,DoD-ELAP,NELAP
4-Chlorophenylphenyl ether	CALAP,DoD-ELAP,NELAP
Diethyl phthalate	CALAP,DoD-ELAP,NELAP,WADOE
Diethyl phthalate	CALAP,DoD-ELAP,NELAP
Diethyl phthalate	CALAP,DoD-ELAP,WADOE
Diethyl phthalate	DoD-ELAP,NELAP,WADOE
4-Nitroaniline	CALAP,DoD-ELAP,WADOE
4-Nitroaniline	CALAP,DoD-ELAP,NELAP,WADOE
4-Nitroaniline	CALAP,DoD-ELAP,NELAP
4-Nitroaniline	DoD-ELAP,NELAP,WADOE
4,6-Dinitro-2-methylphenol	DoD-ELAP,NELAP,WADOE
4,6-Dinitro-2-methylphenol	CALAP,DoD-ELAP,WADOE
4,6-Dinitro-2-methylphenol	CALAP,DoD-ELAP,NELAP

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	Reported:
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4,6-Dinitro-2-methylphenol	CALAP,DoD-ELAP,NELAP,WADOE
N-Nitrosodiphenylamine	DoD-ELAP,NELAP
N-Nitrosodiphenylamine	DoD-ELAP,WADOE
N-Nitrosodiphenylamine	DoD-ELAP,NELAP,WADOE
N-Nitrosodiphenylamine	DoD-ELAP,NELAP,WADOE
4-Bromophenyl phenyl ether	CALAP,DoD-ELAP,NELAP,WADOE
4-Bromophenyl phenyl ether	DoD-ELAP,NELAP,WADOE
4-Bromophenyl phenyl ether	CALAP,DoD-ELAP,NELAP
4-Bromophenyl phenyl ether	CALAP,DoD-ELAP,WADOE
Hexachlorobenzene	CALAP,DoD-ELAP,WADOE
Hexachlorobenzene	CALAP,DoD-ELAP,NELAP
Hexachlorobenzene	CALAP,DoD-ELAP,NELAP,WADOE
Hexachlorobenzene	DoD-ELAP,NELAP,WADOE
Pentachlorophenol	CALAP,DoD-ELAP,WADOE
Pentachlorophenol	DoD-ELAP,NELAP,WADOE
Pentachlorophenol	CALAP,DoD-ELAP,NELAP
Pentachlorophenol	CALAP,DoD-ELAP,NELAP,WADOE
Phenanthrene	DoD-ELAP,NELAP,WADOE,ADEC
Phenanthrene	CALAP,DoD-ELAP,WADOE,ADEC
Phenanthrene	CALAP,DoD-ELAP,NELAP,ADEC
Phenanthrene	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
Anthracene	DoD-ELAP,NELAP,WADOE,ADEC
Anthracene	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
Anthracene	CALAP,DoD-ELAP,NELAP,ADEC
Anthracene	CALAP,DoD-ELAP,WADOE,ADEC
Carbazole	CALAP,DoD-ELAP,WADOE,ADEC
Carbazole	CALAP,DoD-ELAP,NELAP,ADEC
Carbazole	DoD-ELAP,NELAP,WADOE,ADEC
Carbazole	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
Di-n-Butylphthalate	DoD-ELAP,NELAP,WADOE
Di-n-Butylphthalate	CALAP,DoD-ELAP,NELAP,WADOE
Di-n-Butylphthalate	CALAP,DoD-ELAP,NELAP
Di-n-Butylphthalate	CALAP,DoD-ELAP,WADOE
Fluoranthene	CALAP,DoD-ELAP,NELAP,ADEC
Fluoranthene	CALAP,DoD-ELAP,WADOE,ADEC
Fluoranthene	DoD-ELAP,NELAP,WADOE,ADEC
Fluoranthene	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
Pyrene	CALAP,DoD-ELAP,NELAP,ADEC
Pyrene	DoD-ELAP,NELAP,WADOE,ADEC

EcoAnalysts, Inc.	Project: Electron Intake Project 2020	
4729 NE View Drive, PO Box 216	Project Number: [none]	Reported:
Port Gamble WA, 98364	Project Manager: Michelle Knowlen	10-Feb-2021 12:09

Pyrene	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
Pyrene	CALAP,DoD-ELAP,WADOE,ADEC
Butylbenzylphthalate	CALAP,DoD-ELAP,NELAP
Butylbenzylphthalate	CALAP,DoD-ELAP,NELAP,WADOE
Butylbenzylphthalate	DoD-ELAP,NELAP,WADOE
Butylbenzylphthalate	CALAP,DoD-ELAP,WADOE
Benzo(a)anthracene	DoD-ELAP,NELAP,WADOE,ADEC
Benzo(a)anthracene	CALAP,DoD-ELAP,WADOE,ADEC
Benzo(a)anthracene	CALAP,DoD-ELAP,NELAP,ADEC
Benzo(a)anthracene	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
3,3'-Dichlorobenzidine	DoD-ELAP,NELAP,WADOE
3,3'-Dichlorobenzidine	DoD-ELAP,WADOE
3,3'-Dichlorobenzidine	DoD-ELAP,NELAP
3,3'-Dichlorobenzidine	DoD-ELAP,NELAP,WADOE
Chrysene	CALAP,DoD-ELAP,WADOE,ADEC
Chrysene	DoD-ELAP,NELAP,WADOE,ADEC
Chrysene	CALAP,DoD-ELAP,NELAP,ADEC
Chrysene	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
bis(2-Ethylhexyl)phthalate	DoD-ELAP,NELAP,WADOE
bis(2-Ethylhexyl)phthalate	CALAP,DoD-ELAP,WADOE
bis(2-Ethylhexyl)phthalate	CALAP,DoD-ELAP,NELAP,WADOE
bis(2-Ethylhexyl)phthalate	CALAP,DoD-ELAP,NELAP
Di-n-Octylphthalate	CALAP,DoD-ELAP,WADOE
Di-n-Octylphthalate	CALAP,DoD-ELAP,NELAP
Di-n-Octylphthalate	CALAP,DoD-ELAP,NELAP,WADOE
Di-n-Octylphthalate	DoD-ELAP,NELAP,WADOE
Benzo(b)fluoranthene	CALAP,DoD-ELAP,NELAP,ADEC
Benzo(b)fluoranthene	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
Benzo(b)fluoranthene	CALAP,DoD-ELAP,WADOE,ADEC
Benzo(b)fluoranthene	DoD-ELAP,NELAP,WADOE,ADEC
Benzo(k)fluoranthene	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
Benzo(k)fluoranthene	CALAP,DoD-ELAP,NELAP,ADEC
Benzo(k)fluoranthene	CALAP,DoD-ELAP,WADOE,ADEC
Benzo(k)fluoranthene	DoD-ELAP,NELAP,WADOE,ADEC
Benzofluoranthenes, Total	CALAP,WADOE,ADEC
Benzofluoranthenes, Total	CALAP,ADEC
Benzofluoranthenes, Total	WADOE,ADEC
Benzofluoranthenes, Total	CALAP,WADOE,ADEC
Benzo(a)pyrene	CALAP,DoD-ELAP,NELAP,WADOE,ADEC

Benzo(a)pyrene	CALAP,DoD-ELAP,NELAP,ADEC
Benzo(a)pyrene	CALAP,DoD-ELAP,WADOE,ADEC
Benzo(a)pyrene	DoD-ELAP,NELAP,WADOE,ADEC
Indeno(1,2,3-cd)pyrene	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
Indeno(1,2,3-cd)pyrene	DoD-ELAP,NELAP,WADOE,ADEC
Indeno(1,2,3-cd)pyrene	CALAP,DoD-ELAP,WADOE,ADEC
Indeno(1,2,3-cd)pyrene	CALAP,DoD-ELAP,NELAP,ADEC
Dibenzo(a,h)anthracene	CALAP,DoD-ELAP,NELAP,ADEC
Dibenzo(a,h)anthracene	CALAP,DoD-ELAP,WADOE,ADEC
Dibenzo(a,h)anthracene	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
Dibenzo(a,h)anthracene	DoD-ELAP,NELAP,WADOE,ADEC
Benzo(g,h,i)perylene	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
Benzo(g,h,i)perylene	CALAP,DoD-ELAP,NELAP,ADEC
Benzo(g,h,i)perylene	CALAP,DoD-ELAP,WADOE,ADEC
Benzo(g,h,i)perylene	DoD-ELAP,NELAP,WADOE,ADEC
N-Nitrosodimethylamine	CALAP,DoD-ELAP,NELAP,WADOE
N-Nitrosodimethylamine	CALAP,DoD-ELAP,NELAP
N-Nitrosodimethylamine	CALAP,DoD-ELAP,WADOE
N-Nitrosodimethylamine	DoD-ELAP,NELAP,WADOE
Aniline	CALAP,DoD-ELAP,NELAP
Aniline	CALAP,DoD-ELAP,WADOE
Aniline	DoD-ELAP,NELAP,WADOE
Aniline	CALAP,DoD-ELAP,NELAP,WADOE
Retene	CALAP,DoD-ELAP,WADOE
Retene	CALAP,DoD-ELAP,NELAP
Retene	CALAP,DoD-ELAP,NELAP,WADOE
Retene	DoD-ELAP,NELAP,WADOE
Pyridine	CALAP,DoD-ELAP,NELAP
Pyridine	CALAP,DoD-ELAP,NELAP,WADOE
Pyridine	CALAP,DoD-ELAP,WADOE
Pyridine	DoD-ELAP,NELAP,WADOE
1-Methylnaphthalene	CALAP,DoD-ELAP,NELAP,ADEC
1-Methylnaphthalene	CALAP,DoD-ELAP,WADOE,ADEC
1-Methylnaphthalene	DoD-ELAP,NELAP,WADOE,ADEC
1-Methylnaphthalene	CALAP,DoD-ELAP,NELAP,WADOE,ADEC
Azobenzene (1,2-DP-Hydrazine)	CALAP,NELAP,WADOE
Azobenzene (1,2-DP-Hydrazine)	CALAP,NELAP
Azobenzene (1,2-DP-Hydrazine)	CALAP,WADOE
Azobenzene (1,2-DP-Hydrazine)	NELAP,WADOE

2,3,4,6-Tetrachlorophenol	DoD-ELAP
2,3,4,6-Tetrachlorophenol	DoD-ELAP,WADOE
2,3,4,6-Tetrachlorophenol	DoD-ELAP,WADOE
2,3,4,6-Tetrachlorophenol	DoD-ELAP,WADOE
Benzidine	DoD-ELAP,NELAP
Benzidine	DoD-ELAP
Benzidine	DoD-ELAP,NELAP
Benzidine	DoD-ELAP,NELAP
Tetrachloroguaiacol	DoD-ELAP,WADOE
Tetrachloroguaiacol	DoD-ELAP
Tetrachloroguaiacol	DoD-ELAP,WADOE
Tetrachloroguaiacol	DoD-ELAP,WADOE
3,4,5-Trichloroguaiacol	WADOE
3,4,5-Trichloroguaiacol	
3,4,5-Trichloroguaiacol	WADOE
3,4,5-Trichloroguaiacol	WADOE
3,4,6-Trichloroguaiacol	WADOE
3,4,6-Trichloroguaiacol	
3,4,6-Trichloroguaiacol	WADOE
3,4,6-Trichloroguaiacol	WADOE
4,5,6-Trichloroguaiacol	
4,5,6-Trichloroguaiacol	WADOE
4,5,6-Trichloroguaiacol	WADOE
4,5,6-Trichloroguaiacol	WADOE
Guaiacol	WADOE
Guaiacol	WADOE
Guaiacol	WADOE
Guaiacol	
Phenol	DoD-ELAP,WADOE,NELAP
Phenol	DoD-ELAP,WADOE,CALAP
Phenol	DoD-ELAP,NELAP,CALAP
Phenol	DoD-ELAP,WADOE,NELAP,CALAP
bis(2-chloroethyl) ether	DoD-ELAP,WADOE,CALAP
bis(2-chloroethyl) ether	DoD-ELAP,WADOE,NELAP
bis(2-chloroethyl) ether	DoD-ELAP,WADOE,NELAP,CALAP
bis(2-chloroethyl) ether	DoD-ELAP,NELAP,CALAP
2-Chlorophenol	DoD-ELAP,WADOE,NELAP,CALAP
2-Chlorophenol	DoD-ELAP,WADOE,CALAP
2-Chlorophenol	DoD-ELAP,NELAP,CALAP

2-Chlorophenol	DoD-ELAP,WADOE,NELAP
1,3-Dichlorobenzene	DoD-ELAP,NELAP,CALAP
1,3-Dichlorobenzene	DoD-ELAP,WADOE,NELAP,CALAP
1,3-Dichlorobenzene	DoD-ELAP,WADOE,CALAP
1,3-Dichlorobenzene	DoD-ELAP,WADOE,NELAP
1,4-Dichlorobenzene	DoD-ELAP,WADOE,NELAP
1,4-Dichlorobenzene	DoD-ELAP,WADOE,CALAP
1,4-Dichlorobenzene	DoD-ELAP,NELAP,CALAP
1,4-Dichlorobenzene	DoD-ELAP,WADOE,NELAP,CALAP
1,2-Dichlorobenzene	DoD-ELAP,WADOE,NELAP
1,2-Dichlorobenzene	DoD-ELAP,NELAP,CALAP
1,2-Dichlorobenzene	DoD-ELAP,WADOE,NELAP,CALAP
1,2-Dichlorobenzene	DoD-ELAP,WADOE,CALAP
Benzyl alcohol	DoD-ELAP,WADOE,NELAP,CALAP
Benzyl alcohol	DoD-ELAP,WADOE,CALAP
Benzyl alcohol	DoD-ELAP,NELAP,CALAP
Benzyl alcohol	DoD-ELAP,WADOE,NELAP
2,2'-Oxybis(1-chloropropane)	DoD-ELAP
2,2'-Oxybis(1-chloropropane)	DoD-ELAP
2,2'-Oxybis(1-chloropropane)	DoD-ELAP
2,2'-Oxybis(1-chloropropane)	DoD-ELAP
2-Methylphenol	DoD-ELAP,WADOE,NELAP,CALAP
2-Methylphenol	DoD-ELAP,NELAP,CALAP
2-Methylphenol	DoD-ELAP,WADOE,NELAP
2-Methylphenol	DoD-ELAP,WADOE,CALAP
Hexachloroethane	DoD-ELAP,WADOE,NELAP,CALAP
Hexachloroethane	DoD-ELAP,WADOE,NELAP
Hexachloroethane	DoD-ELAP,WADOE,CALAP
Hexachloroethane	DoD-ELAP,NELAP,CALAP
N-Nitroso-di-n-Propylamine	DoD-ELAP,WADOE,NELAP
N-Nitroso-di-n-Propylamine	DoD-ELAP,WADOE,CALAP
N-Nitroso-di-n-Propylamine	DoD-ELAP,NELAP,CALAP
N-Nitroso-di-n-Propylamine	DoD-ELAP,WADOE,NELAP,CALAP
4-Methylphenol	DoD-ELAP,WADOE,NELAP,CALAP
4-Methylphenol	DoD-ELAP,NELAP,CALAP
4-Methylphenol	DoD-ELAP,WADOE,CALAP
4-Methylphenol	DoD-ELAP,WADOE,NELAP
Nitrobenzene	DoD-ELAP,WADOE,CALAP
Nitrobenzene	DoD-ELAP,NELAP,CALAP

Nitrobenzene	DoD-ELAP,WADOE,NELAP
Nitrobenzene	DoD-ELAP,WADOE,NELAP,CALAP
Isophorone	DoD-ELAP,WADOE,NELAP,CALAP
Isophorone	DoD-ELAP,WADOE,CALAP
Isophorone	DoD-ELAP,WADOE,NELAP
Isophorone	DoD-ELAP,NELAP,CALAP
2-Nitrophenol	DoD-ELAP,NELAP,CALAP
2-Nitrophenol	DoD-ELAP,WADOE,NELAP
2-Nitrophenol	DoD-ELAP,WADOE,CALAP
2-Nitrophenol	DoD-ELAP,WADOE,NELAP,CALAP
2,4-Dimethylphenol	DoD-ELAP,WADOE,NELAP
2,4-Dimethylphenol	DoD-ELAP,WADOE,CALAP
2,4-Dimethylphenol	DoD-ELAP,NELAP,CALAP
2,4-Dimethylphenol	DoD-ELAP,WADOE,NELAP,CALAP
Bis(2-Chloroethoxy)methane	DoD-ELAP,WADOE,CALAP
Bis(2-Chloroethoxy)methane	DoD-ELAP,WADOE,NELAP
Bis(2-Chloroethoxy)methane	DoD-ELAP,WADOE,NELAP,CALAP
Bis(2-Chloroethoxy)methane	DoD-ELAP,NELAP,CALAP
2,4-Dichlorophenol	DoD-ELAP,NELAP,CALAP
2,4-Dichlorophenol	DoD-ELAP,WADOE,CALAP
2,4-Dichlorophenol	DoD-ELAP,WADOE,NELAP,CALAP
2,4-Dichlorophenol	DoD-ELAP,WADOE,NELAP
1,2,4-Trichlorobenzene	DoD-ELAP,WADOE,NELAP
1,2,4-Trichlorobenzene	DoD-ELAP,WADOE,NELAP,CALAP
1,2,4-Trichlorobenzene	DoD-ELAP,WADOE,CALAP
1,2,4-Trichlorobenzene	DoD-ELAP,NELAP,CALAP
Naphthalene	DoD-ELAP,WADOE,NELAP
Naphthalene	DoD-ELAP,WADOE,CALAP
Naphthalene	DoD-ELAP,NELAP,CALAP
Naphthalene	DoD-ELAP,WADOE,NELAP,CALAP
Benzoic acid	DoD-ELAP,NELAP,CALAP
Benzoic acid	DoD-ELAP,WADOE,NELAP
Benzoic acid	DoD-ELAP,WADOE,NELAP,CALAP
Benzoic acid	DoD-ELAP,WADOE,CALAP
4-Chloroaniline	DoD-ELAP,WADOE,NELAP,CALAP
4-Chloroaniline	DoD-ELAP,WADOE,NELAP
4-Chloroaniline	DoD-ELAP,NELAP,CALAP
4-Chloroaniline	DoD-ELAP,WADOE,CALAP
2,6-Dinitrotoluene	DoD-ELAP,WADOE,NELAP,CALAP

2,6-Dinitrotoluene	DoD-ELAP,WADOE,NELAP
2,6-Dinitrotoluene	DoD-ELAP,WADOE,CALAP
2,6-Dinitrotoluene	DoD-ELAP,NELAP,CALAP
Hexachlorobutadiene	DoD-ELAP,NELAP,CALAP
Hexachlorobutadiene	DoD-ELAP,WADOE,NELAP,CALAP
Hexachlorobutadiene	DoD-ELAP,WADOE,NELAP
Hexachlorobutadiene	DoD-ELAP,WADOE,CALAP
4-Chloro-3-Methylphenol	DoD-ELAP,WADOE,NELAP
4-Chloro-3-Methylphenol	DoD-ELAP,WADOE,NELAP,CALAP
4-Chloro-3-Methylphenol	DoD-ELAP,NELAP,CALAP
4-Chloro-3-Methylphenol	DoD-ELAP,WADOE,CALAP
Hexachlorocyclopentadiene	DoD-ELAP,WADOE,CALAP
Hexachlorocyclopentadiene	DoD-ELAP,WADOE,NELAP,CALAP
Hexachlorocyclopentadiene	DoD-ELAP,NELAP,CALAP
Hexachlorocyclopentadiene	DoD-ELAP,WADOE,NELAP
2,4,6-Trichlorophenol	DoD-ELAP,WADOE,NELAP,CALAP
2,4,6-Trichlorophenol	DoD-ELAP,WADOE,NELAP
2,4,6-Trichlorophenol	DoD-ELAP,WADOE,CALAP
2,4,6-Trichlorophenol	DoD-ELAP,NELAP,CALAP
2,4,5-Trichlorophenol	DoD-ELAP,WADOE,CALAP
2,4,5-Trichlorophenol	DoD-ELAP,NELAP,CALAP
2,4,5-Trichlorophenol	DoD-ELAP,WADOE,NELAP
2,4,5-Trichlorophenol	DoD-ELAP,WADOE,NELAP,CALAP
2-Chloronaphthalene	DoD-ELAP,WADOE,NELAP,CALAP
2-Chloronaphthalene	DoD-ELAP,NELAP,CALAP
2-Chloronaphthalene	DoD-ELAP,WADOE,CALAP
2-Chloronaphthalene	DoD-ELAP,WADOE,NELAP
2-Nitroaniline	DoD-ELAP,WADOE,NELAP,CALAP
2-Nitroaniline	DoD-ELAP,NELAP,CALAP
2-Nitroaniline	DoD-ELAP,WADOE,NELAP
2-Nitroaniline	DoD-ELAP,WADOE,CALAP
Acenaphthylene	DoD-ELAP,WADOE,NELAP
Acenaphthylene	DoD-ELAP,WADOE,CALAP
Acenaphthylene	DoD-ELAP,WADOE,NELAP,CALAP
Acenaphthylene	DoD-ELAP,NELAP,CALAP
Dimethylphthalate	DoD-ELAP,WADOE,NELAP,CALAP
Dimethylphthalate	DoD-ELAP,WADOE,NELAP
Dimethylphthalate	DoD-ELAP,WADOE,CALAP
Dimethylphthalate	DoD-ELAP,NELAP,CALAP

Acenaphthene	DoD-ELAP,WADOE,NELAP
Acenaphthene	DoD-ELAP,NELAP,CALAP
Acenaphthene	DoD-ELAP,WADOE,NELAP,CALAP
Acenaphthene	DoD-ELAP,WADOE,CALAP
3-Nitroaniline	DoD-ELAP,WADOE,NELAP
3-Nitroaniline	DoD-ELAP,WADOE,CALAP
3-Nitroaniline	DoD-ELAP,NELAP,CALAP
3-Nitroaniline	DoD-ELAP,WADOE,NELAP,CALAP
2-Methylnaphthalene	DoD-ELAP,WADOE,NELAP
2-Methylnaphthalene	DoD-ELAP,WADOE,CALAP
2-Methylnaphthalene	DoD-ELAP,NELAP,CALAP
2-Methylnaphthalene	DoD-ELAP,WADOE,NELAP,CALAP
2,4-Dinitrophenol	DoD-ELAP,WADOE,NELAP
2,4-Dinitrophenol	DoD-ELAP,NELAP,CALAP
2,4-Dinitrophenol	DoD-ELAP,WADOE,NELAP,CALAP
2,4-Dinitrophenol	DoD-ELAP,WADOE,CALAP
Dibenzofuran	DoD-ELAP,WADOE,NELAP
Dibenzofuran	DoD-ELAP,WADOE,NELAP,CALAP
Dibenzofuran	DoD-ELAP,NELAP,CALAP
Dibenzofuran	DoD-ELAP,WADOE,CALAP
4-Nitrophenol	DoD-ELAP,WADOE,NELAP,CALAP
4-Nitrophenol	DoD-ELAP,NELAP,CALAP
4-Nitrophenol	DoD-ELAP,WADOE,CALAP
4-Nitrophenol	DoD-ELAP,WADOE,NELAP
2,4-Dinitrotoluene	DoD-ELAP,WADOE,NELAP
2,4-Dinitrotoluene	DoD-ELAP,NELAP,CALAP
2,4-Dinitrotoluene	DoD-ELAP,WADOE,CALAP
2,4-Dinitrotoluene	DoD-ELAP,WADOE,NELAP,CALAP
Fluorene	DoD-ELAP,WADOE,NELAP
Fluorene	DoD-ELAP,WADOE,CALAP
Fluorene	DoD-ELAP,NELAP,CALAP
Fluorene	DoD-ELAP,WADOE,NELAP,CALAP
4-Chlorophenylphenyl ether	DoD-ELAP,NELAP,CALAP
4-Chlorophenylphenyl ether	DoD-ELAP,WADOE,NELAP,CALAP
4-Chlorophenylphenyl ether	DoD-ELAP,WADOE,CALAP
4-Chlorophenylphenyl ether	DoD-ELAP,WADOE,NELAP
Diethyl phthalate	DoD-ELAP,NELAP,CALAP
Diethyl phthalate	DoD-ELAP,WADOE,NELAP
Diethyl phthalate	DoD-ELAP,WADOE,NELAP,CALAP

Diethyl phthalate	DoD-ELAP,WADOE,CALAP
4-Nitroaniline	DoD-ELAP,WADOE,NELAP
4-Nitroaniline	DoD-ELAP,WADOE,CALAP
4-Nitroaniline	DoD-ELAP,NELAP,CALAP
4-Nitroaniline	DoD-ELAP,WADOE,NELAP,CALAP
4,6-Dinitro-2-methylphenol	DoD-ELAP,WADOE,CALAP
4,6-Dinitro-2-methylphenol	DoD-ELAP,NELAP,CALAP
4,6-Dinitro-2-methylphenol	DoD-ELAP,WADOE,NELAP
4,6-Dinitro-2-methylphenol	DoD-ELAP,WADOE,NELAP,CALAP
N-Nitrosodiphenylamine	DoD-ELAP,NELAP,CALAP
N-Nitrosodiphenylamine	DoD-ELAP,WADOE,NELAP
N-Nitrosodiphenylamine	DoD-ELAP,WADOE,NELAP,CALAP
N-Nitrosodiphenylamine	DoD-ELAP,WADOE,CALAP
4-Bromophenyl phenyl ether	DoD-ELAP,NELAP,CALAP
4-Bromophenyl phenyl ether	DoD-ELAP,WADOE,CALAP
4-Bromophenyl phenyl ether	DoD-ELAP,WADOE,NELAP,CALAP
4-Bromophenyl phenyl ether	DoD-ELAP,WADOE,NELAP
Hexachlorobenzene	DoD-ELAP,WADOE,NELAP,CALAP
Hexachlorobenzene	DoD-ELAP,NELAP,CALAP
Hexachlorobenzene	DoD-ELAP,WADOE,CALAP
Hexachlorobenzene	DoD-ELAP,WADOE,NELAP
Pentachlorophenol	DoD-ELAP,NELAP,CALAP
Pentachlorophenol	DoD-ELAP,WADOE,NELAP,CALAP
Pentachlorophenol	DoD-ELAP,WADOE,CALAP
Pentachlorophenol	DoD-ELAP,WADOE,NELAP
Phenanthrene	DoD-ELAP,WADOE,CALAP
Phenanthrene	DoD-ELAP,WADOE,NELAP
Phenanthrene	DoD-ELAP,WADOE,NELAP,CALAP
Phenanthrene	DoD-ELAP,NELAP,CALAP
Anthracene	DoD-ELAP,WADOE,NELAP,CALAP
Anthracene	DoD-ELAP,NELAP,CALAP
Anthracene	DoD-ELAP,WADOE,CALAP
Anthracene	DoD-ELAP,WADOE,NELAP
Carbazole	DoD-ELAP,WADOE,NELAP
Carbazole	DoD-ELAP,WADOE,CALAP
Carbazole	DoD-ELAP,NELAP,CALAP
Carbazole	DoD-ELAP,WADOE,NELAP,CALAP
Di-n-butylphthalate	DoD-ELAP,NELAP,CALAP
Di-n-butylphthalate	DoD-ELAP,WADOE,CALAP

Di-n-butylphthalate	DoD-ELAP,WADOE,NELAP,CALAP
Di-n-butylphthalate	DoD-ELAP,WADOE,NELAP
Fluoranthene	DoD-ELAP,WADOE,NELAP,CALAP
Fluoranthene	DoD-ELAP,WADOE,NELAP
Fluoranthene	DoD-ELAP,NELAP,CALAP
Fluoranthene	DoD-ELAP,WADOE,CALAP
Pyrene	DoD-ELAP,NELAP,CALAP
Pyrene	DoD-ELAP,WADOE,NELAP,CALAP
Pyrene	DoD-ELAP,WADOE,NELAP
Pyrene	DoD-ELAP,WADOE,CALAP
Butylbenzylphthalate	DoD-ELAP,NELAP,CALAP
Butylbenzylphthalate	DoD-ELAP,WADOE,CALAP
Butylbenzylphthalate	DoD-ELAP,WADOE,NELAP
Butylbenzylphthalate	DoD-ELAP,WADOE,NELAP,CALAP
Benzo(a)anthracene	DoD-ELAP,WADOE,NELAP
Benzo(a)anthracene	DoD-ELAP,WADOE,NELAP,CALAP
Benzo(a)anthracene	DoD-ELAP,NELAP,CALAP
Benzo(a)anthracene	DoD-ELAP,WADOE,CALAP
3,3'-Dichlorobenzidine	DoD-ELAP
3,3'-Dichlorobenzidine	DoD-ELAP
3,3'-Dichlorobenzidine	DoD-ELAP
3,3'-Dichlorobenzidine	DoD-ELAP
Chrysene	DoD-ELAP,NELAP,CALAP
Chrysene	DoD-ELAP,WADOE,NELAP,CALAP
Chrysene	DoD-ELAP,WADOE,NELAP
Chrysene	DoD-ELAP,WADOE,CALAP
bis(2-Ethylhexyl)phthalate	DoD-ELAP,WADOE,NELAP,CALAP
bis(2-Ethylhexyl)phthalate	DoD-ELAP,WADOE,NELAP
bis(2-Ethylhexyl)phthalate	DoD-ELAP,WADOE,CALAP
bis(2-Ethylhexyl)phthalate	DoD-ELAP,NELAP,CALAP
Di-n-Octylphthalate	DoD-ELAP,WADOE,NELAP
Di-n-Octylphthalate	DoD-ELAP,WADOE,NELAP,CALAP
Di-n-Octylphthalate	DoD-ELAP,WADOE,CALAP
Di-n-Octylphthalate	DoD-ELAP,NELAP,CALAP
Benzo(b)fluoranthene	DoD-ELAP,WADOE,NELAP,CALAP
Benzo(b)fluoranthene	DoD-ELAP,WADOE,CALAP
Benzo(b)fluoranthene	DoD-ELAP,WADOE,NELAP
Benzo(b)fluoranthene	DoD-ELAP,NELAP,CALAP
Benzo(k)fluoranthene	DoD-ELAP,NELAP,CALAP

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Benzo(k)fluoranthene	DoD-ELAP,WADOE,CALAP
Benzo(k)fluoranthene	DoD-ELAP,WADOE,NELAP,CALAP
Benzo(k)fluoranthene	DoD-ELAP,WADOE,NELAP
Benzo(a)pyrene	DoD-ELAP,WADOE,NELAP
Benzo(a)pyrene	DoD-ELAP,WADOE,CALAP
Benzo(a)pyrene	DoD-ELAP,NELAP,CALAP
Benzo(a)pyrene	DoD-ELAP,WADOE,NELAP,CALAP
Indeno(1,2,3-cd)pyrene	DoD-ELAP,WADOE,NELAP,CALAP
Indeno(1,2,3-cd)pyrene	DoD-ELAP,NELAP,CALAP
Indeno(1,2,3-cd)pyrene	DoD-ELAP,WADOE,CALAP
Indeno(1,2,3-cd)pyrene	DoD-ELAP,WADOE,NELAP
Dibenzo(a,h)anthracene	DoD-ELAP,WADOE,NELAP,CALAP
Dibenzo(a,h)anthracene	DoD-ELAP,WADOE,NELAP
Dibenzo(a,h)anthracene	DoD-ELAP,NELAP,CALAP
Dibenzo(a,h)anthracene	DoD-ELAP,WADOE,CALAP
Benzo(g,h,i)perylene	DoD-ELAP,WADOE,NELAP
Benzo(g,h,i)perylene	DoD-ELAP,NELAP,CALAP
Benzo(g,h,i)perylene	DoD-ELAP,WADOE,NELAP,CALAP
Benzo(g,h,i)perylene	DoD-ELAP,WADOE,CALAP
N-Nitrosodimethylamine	DoD-ELAP,NELAP,CALAP
N-Nitrosodimethylamine	DoD-ELAP,WADOE,NELAP
N-Nitrosodimethylamine	DoD-ELAP,WADOE,CALAP
N-Nitrosodimethylamine	DoD-ELAP,WADOE,NELAP,CALAP
Aniline	DoD-ELAP,NELAP,CALAP
Aniline	DoD-ELAP,WADOE,CALAP
Aniline	DoD-ELAP,WADOE,NELAP,CALAP
Aniline	DoD-ELAP,WADOE,NELAP
1-Methylnaphthalene	DoD-ELAP,WADOE,NELAP
1-Methylnaphthalene	DoD-ELAP,WADOE,CALAP
1-Methylnaphthalene	DoD-ELAP,NELAP,CALAP
1-Methylnaphthalene	DoD-ELAP,WADOE,NELAP,CALAP
Benzofluoranthenes, Total	DoD-ELAP,WADOE,NELAP,CALAP
Benzofluoranthenes, Total	DoD-ELAP,NELAP,CALAP
Benzofluoranthenes, Total	DoD-ELAP,WADOE,NELAP
Benzofluoranthenes, Total	DoD-ELAP,WADOE,CALAP
Pyridine	DoD-ELAP,WADOE,NELAP
Pyridine	DoD-ELAP,WADOE,CALAP
Pyridine	DoD-ELAP,NELAP,CALAP
Pyridine	DoD-ELAP,WADOE,NELAP,CALAP

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Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	02/28/2022

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Notes and Definitions

*	Flagged value is not within established control limits.
D	The reported value is from a dilution
D1	Surrogate was not detected due to sample extract dilution
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
J	Estimated concentration value detected below the reporting limit.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
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.