

Report Transmission Cover Page

Bill To: Sunshine Coast Regional District 1975 Field Road Sechelt, BC, Canada V0N 3A1	Project ID: Egmont & Ruby Lake - WTE01	Lot ID: 1592733
Attn: Accounts Payable	Project Name: Surface Water	Control Number:
Sampled By: Gordon Burkell	Project Location: LSD:	Date Received: Aug 17, 2022
Company: SCRD	P.O.: 3004082	Date Reported: Aug 23, 2022
	Proj. Acct. code:	Report Number: 2778327

Contact	Company	Address
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<u>Delivery</u>	<u>Format</u>	<u>Deliverables</u>
Email - Single Deliverable	PDF	Invoice
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Email - Multiple Deliverables By Lot	PDF	COC / Test Report
Email - Multiple Deliverables By Lot	Sunshine Coast	Test Report
Email - Single Deliverable	PDF	COA
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<u>Delivery</u>	<u>Format</u>	<u>Deliverables</u>
Email - Merge Deliverables	PDF	COC / Test Report
Email - Single Deliverable	PDF	COA
Email - Single Deliverable	Sunshine Coast	Test Report

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Analytical Report

Bill To: Sunshine Coast Regional District	Project ID: Egmont & Ruby Lake - WTE01	Lot ID: 1592733
1975 Field Road	Project Name: Surface Water	Control Number:
Sechelt, BC, Canada	Project Location:	Date Received: Aug 17, 2022
V0N 3A1	LSD:	Date Reported: Aug 23, 2022
Attn: Accounts Payable	P.O.: 3004082	Report Number: 2778327
Sampled By: Gordon Burkell	Proj. Acct. code:	
Company: SCRD		

		Reference Number	1592733-1	1592733-2	1592733-3	
		Sample Date	Aug 15, 2022	Aug 15, 2022	Aug 15, 2022	
		Sample Time	15:16	16:27	15:46	
		Sample Location				
		Sample Description	RL-Raw Ruby Lake / 13.3 °C	RL-03 Jervis Inlet / 13.3 °C	EG-RAW Waugh Lake / 13.3 °C	
		Matrix	Water	Water	Water	
Analyte	Units	Results	Results	Results	Nominal Detection Limit	
Inorganic Nonmetallic Parameters						
Phosphorus	Total - Low Level	mg/L	<0.005	<0.005	<0.005	0.005
Metals Total						
Calcium	Total	mg/L	3.5	4.9	3.7	0.01
Magnesium	Total	mg/L	0.40	0.57	0.57	0.02
Potassium	Total	mg/L	0.08	0.09	0.17	0.04
Silicon	Total	mg/L	2.2	1.3	1.1	0.005
Sulfur	Total	mg/L	0.48	0.79	0.75	0.02
Sodium	Total	mg/L	5.3	5.5	2.5	0.1
Titanium	Total	mg/L	<0.002	<0.002	<0.002	0.002
Mercury	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Physical and Aggregate Properties						
Colour	True	Colour units	<5	<5	<5	5
Solids	Total Dissolved	mg/L	<5	48	150	5
Turbidity		NTU	0.17	0.32	0.35	0.1
Routine Water						
pH - Holding Time			Exceeded	Exceeded	Exceeded	
pH	at 25 °C		6.52	6.86	6.73	0.01
Bicarbonate		mg/L	12	17	14	5
Carbonate		mg/L	<6	<6	<6	6
Hydroxide		mg/L	<5	<5	<5	5
P-Alkalinity	as CaCO ₃	mg/L	<5	<5	<5	5
T-Alkalinity	as CaCO ₃	mg/L	10	14	12	5
Bromide	Dissolved	mg/L	0.04	<0.02	<0.02	0.02
Chloride	Dissolved	mg/L	5.59	5.81	2.39	0.05
Fluoride	Dissolved	mg/L	0.03	0.03	0.03	0.01
Nitrate - N	Dissolved	mg/L	0.02	<0.01	<0.01	0.01
Nitrite - N	Dissolved	mg/L	<0.01	<0.01	<0.01	0.01
Sulfate (SO ₄)	Dissolved	mg/L	1.3	2.3	2.3	0.1
Hardness	Total	mg CaCO ₃ /L	10.3	15	11.7	1
Mono-Aromatic Hydrocarbons - Water						
Benzene		mg/L	<0.0005	<0.0005	<0.0005	0.0005
Ethylbenzene		mg/L	<0.0005	<0.0005	<0.0005	0.0005
Methyl t-Butyl Ether		mg/L	<0.0005	<0.0005	<0.0005	0.0005
Styrene		mg/L	<0.0005	<0.0005	<0.0005	0.0005
Toluene		mg/L	<0.0005	<0.0005	<0.0005	0.0005
Total Xylenes (m,p,o)		mg/L	<0.0005	<0.0005	<0.0005	0.0005
4-Bromofluorobenzene	Surrogate	%	108	97.9	103	80-120
Dibromofluoromethane	Surrogate	%	97.7	98.9	96.7	80-120

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		Sample Description	RL-Raw Ruby Lake / 13.3 °C	RL-03 Jervis Inlet / 13.3 °C	EG-RAW Waugh Lake / 13.3 °C	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Mono-Aromatic Hydrocarbons - Water - Continued						
Toluene-d8	Surrogate	%	105	105	105	80-120
Trace Metals Total						
Aluminum	Total	mg/L	0.020	0.006	0.006	0.001
Antimony	Total	mg/L	0.00005	0.00005	0.00005	0.00002
Arsenic	Total	mg/L	0.0002	0.0004	0.0004	0.0001
Barium	Total	mg/L	0.0026	0.0027	0.0018	0.0001
Beryllium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Bismuth	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Boron	Total	mg/L	0.004	0.010	0.009	0.002
Cadmium	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Chromium	Total	mg/L	0.00010	0.00008	<0.00005	0.00005
Cobalt	Total	mg/L	<0.00002	<0.00002	<0.00002	0.00002
Copper	Total	mg/L	0.013	0.0032	0.0014	0.0002
Iron	Total	mg/L	0.021	0.083	0.008	0.002
Lead	Total	mg/L	0.00019	0.00008	0.00023	0.00001
Lithium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Manganese	Total	mg/L	<0.001	0.001	<0.001	0.001
Molybdenum	Total	mg/L	0.00047	0.00051	0.00051	0.00002
Nickel	Total	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Selenium	Total	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Silver	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Strontium	Total	mg/L	0.011	0.013	0.011	0.0001
Thallium	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Thorium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Titanium	Total	mg/L	0.0002	0.0001	0.0002	0.0001
Uranium	Total	mg/L	0.00001	0.00001	0.00001	0.00001
Vanadium	Total	mg/L	0.00017	0.00013	0.00010	0.00005
Zinc	Total	mg/L	0.0076	0.0074	0.0067	0.0005
Zirconium	Total	mg/L	0.0002	<0.0001	<0.0001	0.0001

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V0N 3A1	LSD:	Date Reported: Aug 23, 2022
Attn: Accounts Payable	P.O.: 3004082	Report Number: 2778327
Sampled By: Gordon Burkell	Proj. Acct. code:	
Company: SCRD		

Reference Number 1592733-4
Sample Date Aug 15, 2022
Sample Time 14:18
Sample Location
Sample Description EG-02 Egmont Hall /
13.3 °C

Matrix Water

Analyte	Units	Results	Results	Nominal Detection Limit
Inorganic Nonmetallic Parameters				
Phosphorus	Total - Low Level	mg/L	<0.005	0.005
Metals Total				
Calcium	Total	mg/L	3.1	0.01
Magnesium	Total	mg/L	0.42	0.02
Potassium	Total	mg/L	0.07	0.04
Silicon	Total	mg/L	2.2	0.005
Sulfur	Total	mg/L	0.47	0.02
Sodium	Total	mg/L	1.5	0.1
Titanium	Total	mg/L	<0.002	0.002
Mercury	Total	mg/L	<0.00001	0.00001
Physical and Aggregate Properties				
Colour	True	Colour units	5	5
Solids	Total Dissolved	mg/L	<5	5
Turbidity		NTU	0.45	0.1
Routine Water				
pH - Holding Time			Exceeded	
pH	at 25 °C		6.41	0.01
Bicarbonate		mg/L	<5	5
Carbonate		mg/L	10	6
Hydroxide		mg/L	<5	5
P-Alkalinity	as CaCO ₃	mg/L	<5	5
T-Alkalinity	as CaCO ₃	mg/L	8	5
Bromide	Dissolved	mg/L	<0.02	0.02
Chloride	Dissolved	mg/L	0.88	0.05
Fluoride	Dissolved	mg/L	0.03	0.01
Nitrate - N	Dissolved	mg/L	0.01	0.01
Nitrite - N	Dissolved	mg/L	<0.01	0.01
Sulfate (SO ₄)	Dissolved	mg/L	1.3	0.1
Hardness	Total	mg CaCO ₃ /L	9.5	1
Mono-Aromatic Hydrocarbons - Water				
Benzene		mg/L	<0.0005	0.0005
Ethylbenzene		mg/L	<0.0005	0.0005
Methyl t-Butyl Ether		mg/L	<0.0005	0.0005
Styrene		mg/L	<0.0005	0.0005
Toluene		mg/L	<0.0005	0.0005
Total Xylenes (m,p,o)		mg/L	<0.0005	0.0005
4-Bromofluorobenzene	Surrogate	%	103	80-120
Dibromofluoromethane	Surrogate	%	97.4	80-120

Analytical Report

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Company: SCRD		

Reference Number 1592733-4
Sample Date Aug 15, 2022
Sample Time 14:18
Sample Location
Sample Description EG-02 Egmont Hall /
13.3 °C

Matrix Water

Analyte	Units	Results	Results	Nominal Detection Limit
Mono-Aromatic Hydrocarbons - Water - Continued				
Toluene-d8	Surrogate	%	105	80-120
Trace Metals Total				
Aluminum	Total	mg/L	0.021	0.001
Antimony	Total	mg/L	<0.00002	0.00002
Arsenic	Total	mg/L	0.0002	0.0001
Barium	Total	mg/L	0.0024	0.0001
Beryllium	Total	mg/L	<0.00005	0.00005
Bismuth	Total	mg/L	<0.0001	0.0001
Boron	Total	mg/L	0.004	0.002
Cadmium	Total	mg/L	<0.00001	0.00001
Chromium	Total	mg/L	0.00007	0.00005
Cobalt	Total	mg/L	<0.00002	0.00002
Copper	Total	mg/L	0.0048	0.0002
Iron	Total	mg/L	0.007	0.002
Lead	Total	mg/L	0.00014	0.00001
Lithium	Total	mg/L	<0.0005	0.0005
Manganese	Total	mg/L	0.002	0.001
Molybdenum	Total	mg/L	0.00045	0.00002
Nickel	Total	mg/L	<0.0002	0.0002
Selenium	Total	mg/L	<0.0002	0.0002
Silver	Total	mg/L	<0.00001	0.00001
Strontium	Total	mg/L	0.011	0.0001
Thallium	Total	mg/L	<0.00001	0.00001
Thorium	Total	mg/L	<0.00005	0.00005
Tin	Total	mg/L	<0.0001	0.0001
Titanium	Total	mg/L	<0.0001	0.0001
Uranium	Total	mg/L	0.00001	0.00001
Vanadium	Total	mg/L	0.00013	0.00005
Zinc	Total	mg/L	0.0038	0.0005
Zirconium	Total	mg/L	<0.0001	0.0001

Approved by:



Max Hewitt
Operations Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).

Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

Methodology and Notes

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Method of Analysis

Method Name	Reference	Method	Date Analysis Started	Location
Alk, pH, EC, Turb in water (BC)	APHA	* Alkalinity - Titration Method, 2320 B	Aug 18, 2022	Element Vancouver
Alk, pH, EC, Turb in water (BC)	APHA	* pH - Electrometric Method, 4500-H+ B	Aug 18, 2022	Element Vancouver
Anions by IEC in water (VAN)	APHA	* Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	Aug 17, 2022	Element Vancouver
Anions by IEC in water (VAN)	APHA	* Single-Column Ion Chromatography with Electronic Suppression, 4110 C	Aug 17, 2022	Element Vancouver
BTEX-VPH - Water (MS) (VAN)	BCELM	* Volatile Hydrocarbons in Water by GC/FID, VH Water	Aug 18, 2022	Element Vancouver
Mercury Low Level (Total) in water (VAN)	EPA	* Mercury in Water by Cold Vapor Atomic Fluorescence Spectrometry, 245.7	Aug 22, 2022	Element Vancouver
Metals SemiTrace (Total) in Water (VAN)	US EPA	* Metals & Trace Elements by ICP-AES, 6010C	Aug 18, 2022	Element Vancouver
Phosphorus - Total in Water	APHA	* Automated Ascorbic Acid Reduction Method, 4500-P F	Aug 22, 2022	Element Edmonton - Roper Road
Solids Dissolved (Total, Fixed and Volatile) - VAN	APHA	* Total Dissolved Solids Dried at 180 C, 2540 C	Aug 22, 2022	Element Vancouver
Trace Metals (Total) in Water (VAN)	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	Aug 18, 2022	Element Vancouver
True Color in water (VAN)	APHA	* Spectrophotometric - Single Wavelength Method, 2120 C	Aug 17, 2022	Element Vancouver
Turbidity - Water (VAN)	APHA	* Turbidity - Nephelometric Method, 2130 B	Aug 18, 2022	Element Vancouver

* Reference Method Modified

References

APHA	Standard Methods for the Examination of Water and Wastewater
BCELM	B.C. Environmental Laboratory Manual
EPA	Environmental Protection Agency Test Methods - US
US EPA	US Environmental Protection Agency Test Methods

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