

REPORTED TO Mid Shuswap Lumby Water Stewards
1631 Mable Lake Rd
Lumby, BC V0E 2G6

TEL (250) 547-2554
FAX -

ATTENTION Jim Critchley

WORK ORDER 3070879

PO NUMBER

RECEIVED / TEMP Jul-15-13 09:05 / 8.0 °C

PROJECT Analytical Testing

REPORTED Jul-22-13

PROJECT INFO

COC NUMBER B11785

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.



Issued By:

Jennifer Shanko, ASCT
Administration Coordinator, Kelowna

Please contact CARO if more information is needed or to provide feedback on our services.

Locations:

#110 4011 Viking Way
Richmond, BC V6V 2K9
Tel: 604-279-1499 Fax: 604-279-1599

#102 3677 Highway 97N
Kelowna, BC V1X 5C3
Tel: 250-765-9646 Fax: 250-765-3893

17225 109 Avenue
Edmonton, AB T5S 1H7
Tel: 780-489-9100 Fax: 780-489-9700

www.caro.ca

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Analysis Description	Method Reference (* = modified from)		Location
	Preparation	Analysis	
Chloride in Water by IC	N/A	APHA 4110 B	Kelowna
Conductivity in Water	N/A	APHA 2510 B	Kelowna
E. coli (Partition Method)	N/A	APHA 9222 G	Kelowna
Fecal Coliforms (MF)	N/A	APHA 9222 D	Kelowna
Hardness as CaCO ₃ (CALC)	N/A	APHA 2340 B	Richmond
Nitrate-N in Water by IC	N/A	APHA 4110 B	Kelowna
Nitrite-N in Water by IC	N/A	APHA 4110 B	Kelowna
pH in Water	N/A	APHA 4500-H+ B	Kelowna
Phosphorus, Total Dissolved Kjeldahl	N/A	EPA 365.4 (1974) *	Kelowna
Phosphorus, Total Kjeldahl	N/A	EPA 365.4 (1974) *	Kelowna
Sulfate in Water by IC	N/A	APHA 4110 B	Kelowna
Total Kjeldahl Nitrogen	N/A	EPA 351.2 (1993) *	Kelowna
Total Recoverable Metals	APHA 3030E *	APHA 3125 B	Richmond
Turbidity	N/A	APHA 2130 B	Kelowna

Note: The numbers in brackets represent the year that the method was published/approved

Method Reference Descriptions:

APHA Standard Methods for the Examination of Water and Wastewater, American Public Health Association
EPA United States Environmental Protection Agency Test Methods

Glossary of Terms:

MRL Method Reporting Limit
< Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
AO Aesthetic objective
MAC Maximum acceptable concentration (health-related guideline)
CFU/100mL Colony Forming Units per 100 mL
mg/L Milligrams per litre
NTU Nephelometric Turbidity Units
pH units pH < 7 = acidic, pH > 7 = basic
uS/cm Microsiemens per centimeter

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Analyte	Result / Recovery	Canadian DW Guideline	MRL / Limit	Units	Prepared	Analyzed	Notes
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Sample ID: Harris Creek (Hwy 6) (3070879-01) [Water] Sampled: Jul-14-13 13:39

Anions

Chloride	2.08	AO ≤ 250	0.10	mg/L	N/A	Jul-15-13	
Nitrogen, Nitrate as N	< 0.010	MAC = 10	0.010	mg/L	N/A	Jul-15-13	
Nitrogen, Nitrite as N	< 0.010	MAC = 1	0.010	mg/L	N/A	Jul-15-13	
Sulfate	17.0	AO ≤ 500	1.0	mg/L	N/A	Jul-15-13	

General Parameters

Conductivity (EC)	202		2	uS/cm	N/A	Jul-15-13	
Nitrogen, Total Kjeldahl	0.29		0.05	mg/L	Jul-15-13	Jul-16-13	
pH	7.92	AO = 6.5 - 8.5	0.01	pH units	N/A	Jul-15-13	
Phosphorus, Total Kjeldahl	0.04		0.01	mg/L	Jul-15-13	Jul-16-13	
Phosphorus, Total Kjeldahl Dissolved	0.04		0.01	mg/L	Jul-15-13	Jul-16-13	
Turbidity	0.9	See Guidelines	0.1	NTU	N/A	Jul-15-13	

Calculated Parameters

Hardness, Total (Total as CaCO3)	89.4		5.0	mg/L	N/A	N/A	
Nitrogen, Nitrate+Nitrite as N	< 0.010		0.010	mg/L	N/A	N/A	
Nitrogen, Total	0.293		0.050	mg/L	N/A	N/A	

Total Recoverable Metals

Aluminum, total	0.08	AO ≤ 0.1	0.05	mg/L	Jul-16-13	Jul-18-13	
Antimony, total	< 0.001	MAC = 0.006	0.001	mg/L	Jul-16-13	Jul-18-13	
Arsenic, total	< 0.005	MAC = 0.01	0.005	mg/L	Jul-16-13	Jul-18-13	
Barium, total	< 0.05	MAC = 1	0.05	mg/L	Jul-16-13	Jul-18-13	
Beryllium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Bismuth, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Boron, total	< 0.04	MAC = 5	0.04	mg/L	Jul-16-13	Jul-18-13	
Cadmium, total	< 0.0001	MAC = 0.005	0.0001	mg/L	Jul-16-13	Jul-18-13	
Calcium, total	25		2	mg/L	Jul-16-13	Jul-18-13	
Chromium, total	< 0.005	MAC = 0.05	0.005	mg/L	Jul-16-13	Jul-18-13	
Cobalt, total	< 0.0005		0.0005	mg/L	Jul-16-13	Jul-18-13	
Copper, total	< 0.002	AO ≤ 1	0.002	mg/L	Jul-16-13	Jul-18-13	
Iron, total	0.2	AO ≤ 0.3	0.1	mg/L	Jul-16-13	Jul-18-13	
Lead, total	< 0.001	MAC = 0.01	0.001	mg/L	Jul-16-13	Jul-18-13	
Lithium, total	0.004		0.001	mg/L	Jul-16-13	Jul-18-13	
Magnesium, total	6.3		0.1	mg/L	Jul-16-13	Jul-18-13	
Manganese, total	0.036	AO ≤ 0.05	0.002	mg/L	Jul-16-13	Jul-18-13	
Mercury, total	< 0.0002	MAC = 0.001	0.0002	mg/L	Jul-16-13	Jul-18-13	
Molybdenum, total	0.002		0.001	mg/L	Jul-16-13	Jul-18-13	
Nickel, total	0.005		0.002	mg/L	Jul-16-13	Jul-18-13	
Phosphorus, total	0.2		0.2	mg/L	Jul-16-13	Jul-18-13	
Potassium, total	2.4		0.2	mg/L	Jul-16-13	Jul-18-13	
Selenium, total	< 0.005	MAC = 0.01	0.005	mg/L	Jul-16-13	Jul-18-13	
Silicon, total	5		5	mg/L	Jul-16-13	Jul-18-13	
Silver, total	< 0.0005		0.0005	mg/L	Jul-16-13	Jul-18-13	
Sodium, total	5.3	AO ≤ 200	0.2	mg/L	Jul-16-13	Jul-18-13	
Strontium, total	0.15		0.01	mg/L	Jul-16-13	Jul-18-13	
Sulfur, total	< 10		10	mg/L	Jul-16-13	Jul-18-13	

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Analyte	Result / Recovery	Canadian DW Guideline	MRL / Limit	Units	Prepared	Analyzed	Notes
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Sample ID: Harris Creek (Hwy 6) (3070879-01) [Water] Sampled: Jul-14-13 13:39, Continued

Total Recoverable Metals, Continued

Tellurium, total	< 0.002		0.002	mg/L	Jul-16-13	Jul-18-13	
Thallium, total	< 0.0002		0.0002	mg/L	Jul-16-13	Jul-18-13	
Thorium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Tin, total	< 0.002		0.002	mg/L	Jul-16-13	Jul-18-13	
Titanium, total	< 0.05		0.05	mg/L	Jul-16-13	Jul-18-13	
Uranium, total	0.0008	MAC = 0.02	0.0002	mg/L	Jul-16-13	Jul-18-13	
Vanadium, total	< 0.01		0.01	mg/L	Jul-16-13	Jul-18-13	
Zinc, total	< 0.04	AO ≤ 5	0.04	mg/L	Jul-16-13	Jul-18-13	
Zirconium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	

Microbiological Parameters

E. coli	80	MAC < 1	1	CFU/100mL	Jul-15-13	Jul-16-13	
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Analyte	Result / Recovery	Canadian DW Guideline	MRL / Limit	Units	Prepared	Analyzed	Notes
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Sample ID: Duteau Creek (Hwy 6) (3070879-02) [Water] Sampled: Jul-14-13 13:29

Anions

Chloride	4.94	AO ≤ 250	0.10	mg/L	N/A	Jul-15-13	
Nitrogen, Nitrate as N	0.099	MAC = 10	0.010	mg/L	N/A	Jul-15-13	
Nitrogen, Nitrite as N	< 0.010	MAC = 1	0.010	mg/L	N/A	Jul-15-13	
Sulfate	16.3	AO ≤ 500	1.0	mg/L	N/A	Jul-15-13	

General Parameters

Conductivity (EC)	206		2	uS/cm	N/A	Jul-15-13	
Nitrogen, Total Kjeldahl	0.66		0.05	mg/L	Jul-15-13	Jul-16-13	
pH	7.92	AO = 6.5 - 8.5	0.01	pH units	N/A	Jul-15-13	
Phosphorus, Total Kjeldahl	0.05		0.01	mg/L	Jul-15-13	Jul-16-13	
Phosphorus, Total Kjeldahl Dissolved	0.04		0.01	mg/L	Jul-15-13	Jul-16-13	
Turbidity	3.0	See Guidelines	0.1	NTU	N/A	Jul-15-13	

Calculated Parameters

Hardness, Total (Total as CaCO3)	93.3		5.0	mg/L	N/A	N/A	
Nitrogen, Nitrate+Nitrite as N	0.099		0.010	mg/L	N/A	N/A	
Nitrogen, Total	0.758		0.050	mg/L	N/A	N/A	

Total Recoverable Metals

Aluminum, total	0.24	AO ≤ 0.1	0.05	mg/L	Jul-16-13	Jul-18-13	
Antimony, total	< 0.001	MAC = 0.006	0.001	mg/L	Jul-16-13	Jul-18-13	
Arsenic, total	< 0.005	MAC = 0.01	0.005	mg/L	Jul-16-13	Jul-18-13	
Barium, total	< 0.05	MAC = 1	0.05	mg/L	Jul-16-13	Jul-18-13	
Beryllium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Bismuth, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Boron, total	< 0.04	MAC = 5	0.04	mg/L	Jul-16-13	Jul-18-13	
Cadmium, total	< 0.0001	MAC = 0.005	0.0001	mg/L	Jul-16-13	Jul-18-13	
Calcium, total	28		2	mg/L	Jul-16-13	Jul-18-13	
Chromium, total	< 0.005	MAC = 0.05	0.005	mg/L	Jul-16-13	Jul-18-13	
Cobalt, total	< 0.0005		0.0005	mg/L	Jul-16-13	Jul-18-13	
Copper, total	< 0.002	AO ≤ 1	0.002	mg/L	Jul-16-13	Jul-18-13	
Iron, total	0.6	AO ≤ 0.3	0.1	mg/L	Jul-16-13	Jul-18-13	
Lead, total	< 0.001	MAC = 0.01	0.001	mg/L	Jul-16-13	Jul-18-13	
Lithium, total	0.002		0.001	mg/L	Jul-16-13	Jul-18-13	
Magnesium, total	5.9		0.1	mg/L	Jul-16-13	Jul-18-13	
Manganese, total	0.066	AO ≤ 0.05	0.002	mg/L	Jul-16-13	Jul-18-13	
Mercury, total	< 0.0002	MAC = 0.001	0.0002	mg/L	Jul-16-13	Jul-18-13	
Molybdenum, total	0.002		0.001	mg/L	Jul-16-13	Jul-18-13	
Nickel, total	0.002		0.002	mg/L	Jul-16-13	Jul-18-13	
Phosphorus, total	0.3		0.2	mg/L	Jul-16-13	Jul-18-13	
Potassium, total	2.4		0.2	mg/L	Jul-16-13	Jul-18-13	
Selenium, total	< 0.005	MAC = 0.01	0.005	mg/L	Jul-16-13	Jul-18-13	
Silicon, total	< 5		5	mg/L	Jul-16-13	Jul-18-13	
Silver, total	< 0.0005		0.0005	mg/L	Jul-16-13	Jul-18-13	
Sodium, total	4.5	AO ≤ 200	0.2	mg/L	Jul-16-13	Jul-18-13	
Strontium, total	0.16		0.01	mg/L	Jul-16-13	Jul-18-13	
Sulfur, total	< 10		10	mg/L	Jul-16-13	Jul-18-13	

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Analyte	Result / Recovery	Canadian DW Guideline	MRL / Limit	Units	Prepared	Analyzed	Notes
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Sample ID: Duteau Creek (Hwy 6) (3070879-02) [Water] Sampled: Jul-14-13 13:29, Continued

Total Recoverable Metals, Continued

Tellurium, total	< 0.002		0.002	mg/L	Jul-16-13	Jul-18-13	
Thallium, total	< 0.0002		0.0002	mg/L	Jul-16-13	Jul-18-13	
Thorium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Tin, total	< 0.002		0.002	mg/L	Jul-16-13	Jul-18-13	
Titanium, total	< 0.05		0.05	mg/L	Jul-16-13	Jul-18-13	
Uranium, total	0.0007	MAC = 0.02	0.0002	mg/L	Jul-16-13	Jul-18-13	
Vanadium, total	< 0.01		0.01	mg/L	Jul-16-13	Jul-18-13	
Zinc, total	< 0.04	AO ≤ 5	0.04	mg/L	Jul-16-13	Jul-18-13	
Zirconium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	

Microbiological Parameters

E. coli	330	MAC < 1	1	CFU/100mL	Jul-15-13	Jul-16-13	
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Analytical Testing

WORK ORDER REPORTED 3070879
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Analyte	Result / Recovery	Canadian DW Guideline	MRL / Limit	Units	Prepared	Analyzed	Notes
Sample ID: Mid Bessette Creek (3070879-03) [Water] Sampled: Jul-14-13 13:09							
Anions							
Chloride	5.57	AO ≤ 250	0.10	mg/L	N/A	Jul-15-13	
Nitrogen, Nitrate as N	0.046	MAC = 10	0.010	mg/L	N/A	Jul-15-13	
Nitrogen, Nitrite as N	< 0.010	MAC = 1	0.010	mg/L	N/A	Jul-15-13	
Sulfate	25.0	AO ≤ 500	1.0	mg/L	N/A	Jul-15-13	
General Parameters							
Conductivity (EC)	301		2	uS/cm	N/A	Jul-15-13	
Nitrogen, Total Kjeldahl	0.54		0.05	mg/L	Jul-15-13	Jul-16-13	
pH	8.18	AO = 6.5 - 8.5	0.01	pH units	N/A	Jul-15-13	
Phosphorus, Total Kjeldahl	0.04		0.01	mg/L	Jul-15-13	Jul-16-13	
Phosphorus, Total Kjeldahl Dissolved	0.03		0.01	mg/L	Jul-15-13	Jul-16-13	
Turbidity	2.0	See Guidelines	0.1	NTU	N/A	Jul-15-13	
Calculated Parameters							
Hardness, Total (Total as CaCO ₃)	138		5.0	mg/L	N/A	N/A	
Nitrogen, Nitrate+Nitrite as N	0.046		0.010	mg/L	N/A	N/A	
Nitrogen, Total	0.582		0.050	mg/L	N/A	N/A	
Total Recoverable Metals							
Aluminum, total	0.11	AO ≤ 0.1	0.05	mg/L	Jul-16-13	Jul-18-13	
Antimony, total	< 0.001	MAC = 0.006	0.001	mg/L	Jul-16-13	Jul-18-13	
Arsenic, total	< 0.005	MAC = 0.01	0.005	mg/L	Jul-16-13	Jul-18-13	
Barium, total	< 0.05	MAC = 1	0.05	mg/L	Jul-16-13	Jul-18-13	
Beryllium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Bismuth, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Boron, total	< 0.04	MAC = 5	0.04	mg/L	Jul-16-13	Jul-18-13	
Cadmium, total	< 0.0001	MAC = 0.005	0.0001	mg/L	Jul-16-13	Jul-18-13	
Calcium, total	42		2	mg/L	Jul-16-13	Jul-18-13	
Chromium, total	< 0.005	MAC = 0.05	0.005	mg/L	Jul-16-13	Jul-18-13	
Cobalt, total	< 0.0005		0.0005	mg/L	Jul-16-13	Jul-18-13	
Copper, total	< 0.002	AO ≤ 1	0.002	mg/L	Jul-16-13	Jul-18-13	
Iron, total	0.3	AO ≤ 0.3	0.1	mg/L	Jul-16-13	Jul-18-13	
Lead, total	< 0.001	MAC = 0.01	0.001	mg/L	Jul-16-13	Jul-18-13	
Lithium, total	0.004		0.001	mg/L	Jul-16-13	Jul-18-13	
Magnesium, total	7.8		0.1	mg/L	Jul-16-13	Jul-18-13	
Manganese, total	0.034	AO ≤ 0.05	0.002	mg/L	Jul-16-13	Jul-18-13	
Mercury, total	< 0.0002	MAC = 0.001	0.0002	mg/L	Jul-16-13	Jul-18-13	
Molybdenum, total	0.002		0.001	mg/L	Jul-16-13	Jul-18-13	
Nickel, total	0.002		0.002	mg/L	Jul-16-13	Jul-18-13	
Phosphorus, total	0.3		0.2	mg/L	Jul-16-13	Jul-18-13	
Potassium, total	2.5		0.2	mg/L	Jul-16-13	Jul-18-13	
Selenium, total	< 0.005	MAC = 0.01	0.005	mg/L	Jul-16-13	Jul-18-13	
Silicon, total	< 5		5	mg/L	Jul-16-13	Jul-18-13	
Silver, total	< 0.0005		0.0005	mg/L	Jul-16-13	Jul-18-13	
Sodium, total	6.3	AO ≤ 200	0.2	mg/L	Jul-16-13	Jul-18-13	
Strontium, total	0.27		0.01	mg/L	Jul-16-13	Jul-18-13	
Sulfur, total	< 10		10	mg/L	Jul-16-13	Jul-18-13	

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Analyte	Result / Recovery	Canadian DW Guideline	MRL / Limit	Units	Prepared	Analyzed	Notes
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Sample ID: Mid Bessette Creek (3070879-03) [Water] Sampled: Jul-14-13 13:09, Continued

Total Recoverable Metals, Continued

Tellurium, total	< 0.002		0.002	mg/L	Jul-16-13	Jul-18-13	
Thallium, total	< 0.0002		0.0002	mg/L	Jul-16-13	Jul-18-13	
Thorium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Tin, total	< 0.002		0.002	mg/L	Jul-16-13	Jul-18-13	
Titanium, total	< 0.05		0.05	mg/L	Jul-16-13	Jul-18-13	
Uranium, total	0.0012	MAC = 0.02	0.0002	mg/L	Jul-16-13	Jul-18-13	
Vanadium, total	< 0.01		0.01	mg/L	Jul-16-13	Jul-18-13	
Zinc, total	< 0.04	AO ≤ 5	0.04	mg/L	Jul-16-13	Jul-18-13	
Zirconium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	

Microbiological Parameters

E. coli	68	MAC < 1	1	CFU/100mL	Jul-15-13	Jul-16-13	
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Analytical Testing

WORK ORDER REPORTED 3070879
Jul-22-13

Analyte	Result / Recovery	Canadian DW Guideline	MRL / Limit	Units	Prepared	Analyzed	Notes
Sample ID: Lower Bessette Creek (3070879-04) [Water] Sampled: Jul-14-13 11:25							
Anions							
Chloride	5.57	AO ≤ 250	0.10	mg/L	N/A	Jul-15-13	
Nitrogen, Nitrate as N	< 0.010	MAC = 10	0.010	mg/L	N/A	Jul-15-13	
Nitrogen, Nitrite as N	< 0.010	MAC = 1	0.010	mg/L	N/A	Jul-15-13	
Sulfate	29.1	AO ≤ 500	1.0	mg/L	N/A	Jul-15-13	
General Parameters							
Conductivity (EC)	316		2	uS/cm	N/A	Jul-15-13	
Nitrogen, Total Kjeldahl	0.46		0.05	mg/L	Jul-15-13	Jul-16-13	
pH	8.37	AO = 6.5 - 8.5	0.01	pH units	N/A	Jul-15-13	
Phosphorus, Total Kjeldahl	0.04		0.01	mg/L	Jul-15-13	Jul-16-13	
Phosphorus, Total Kjeldahl Dissolved	0.03		0.01	mg/L	Jul-15-13	Jul-16-13	
Turbidity	1.8	See Guidelines	0.1	NTU	N/A	Jul-15-13	
Calculated Parameters							
Hardness, Total (Total as CaCO ₃)	143		5.0	mg/L	N/A	N/A	
Nitrogen, Nitrate+Nitrite as N	< 0.010		0.010	mg/L	N/A	N/A	
Nitrogen, Total	0.462		0.050	mg/L	N/A	N/A	
Total Recoverable Metals							
Aluminum, total	0.10	AO ≤ 0.1	0.05	mg/L	Jul-16-13	Jul-18-13	
Antimony, total	< 0.001	MAC = 0.006	0.001	mg/L	Jul-16-13	Jul-18-13	
Arsenic, total	< 0.005	MAC = 0.01	0.005	mg/L	Jul-16-13	Jul-18-13	
Barium, total	< 0.05	MAC = 1	0.05	mg/L	Jul-16-13	Jul-18-13	
Beryllium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Bismuth, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Boron, total	< 0.04	MAC = 5	0.04	mg/L	Jul-16-13	Jul-18-13	
Cadmium, total	< 0.0001	MAC = 0.005	0.0001	mg/L	Jul-16-13	Jul-18-13	
Calcium, total	44		2	mg/L	Jul-16-13	Jul-18-13	
Chromium, total	< 0.005	MAC = 0.05	0.005	mg/L	Jul-16-13	Jul-18-13	
Cobalt, total	< 0.0005		0.0005	mg/L	Jul-16-13	Jul-18-13	
Copper, total	< 0.002	AO ≤ 1	0.002	mg/L	Jul-16-13	Jul-18-13	
Iron, total	0.2	AO ≤ 0.3	0.1	mg/L	Jul-16-13	Jul-18-13	
Lead, total	< 0.001	MAC = 0.01	0.001	mg/L	Jul-16-13	Jul-18-13	
Lithium, total	0.004		0.001	mg/L	Jul-16-13	Jul-18-13	
Magnesium, total	7.9		0.1	mg/L	Jul-16-13	Jul-18-13	
Manganese, total	0.022	AO ≤ 0.05	0.002	mg/L	Jul-16-13	Jul-18-13	
Mercury, total	< 0.0002	MAC = 0.001	0.0002	mg/L	Jul-16-13	Jul-18-13	
Molybdenum, total	0.002		0.001	mg/L	Jul-16-13	Jul-18-13	
Nickel, total	0.002		0.002	mg/L	Jul-16-13	Jul-18-13	
Phosphorus, total	0.2		0.2	mg/L	Jul-16-13	Jul-18-13	
Potassium, total	2.5		0.2	mg/L	Jul-16-13	Jul-18-13	
Selenium, total	< 0.005	MAC = 0.01	0.005	mg/L	Jul-16-13	Jul-18-13	
Silicon, total	< 5		5	mg/L	Jul-16-13	Jul-18-13	
Silver, total	< 0.0005		0.0005	mg/L	Jul-16-13	Jul-18-13	
Sodium, total	6.2	AO ≤ 200	0.2	mg/L	Jul-16-13	Jul-18-13	
Strontium, total	0.28		0.01	mg/L	Jul-16-13	Jul-18-13	
Sulfur, total	< 10		10	mg/L	Jul-16-13	Jul-18-13	

REPORTED TO PROJECT Mid Shuswap Lumby Water Stewards
Analytical Testing

WORK ORDER REPORTED 3070879
Jul-22-13

Analyte	Result / Recovery	Canadian DW Guideline	MRL / Limit	Units	Prepared	Analyzed	Notes
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Sample ID: Lower Bessette Creek (3070879-04) [Water] Sampled: Jul-14-13 11:25, Continued

Total Recoverable Metals, Continued

Tellurium, total	< 0.002		0.002	mg/L	Jul-16-13	Jul-18-13	
Thallium, total	< 0.0002		0.0002	mg/L	Jul-16-13	Jul-18-13	
Thorium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Tin, total	< 0.002		0.002	mg/L	Jul-16-13	Jul-18-13	
Titanium, total	< 0.05		0.05	mg/L	Jul-16-13	Jul-18-13	
Uranium, total	0.0014	MAC = 0.02	0.0002	mg/L	Jul-16-13	Jul-18-13	
Vanadium, total	< 0.01		0.01	mg/L	Jul-16-13	Jul-18-13	
Zinc, total	< 0.04	AO ≤ 5	0.04	mg/L	Jul-16-13	Jul-18-13	
Zirconium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	

Microbiological Parameters

E. coli	51	MAC < 1	1	CFU/100mL	Jul-15-13	Jul-16-13	
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REPORTED TO PROJECT Mid Shuswap Lumby Water Stewards
Analytical Testing

WORK ORDER REPORTED 3070879
Jul-22-13

Analyte	Result / Recovery	Canadian DW Guideline	MRL / Limit	Units	Prepared	Analyzed	Notes
Sample ID: Shuswap (Wilsey Dam) (3070879-05) [Water] Sampled: Jul-14-13 11:00							
Anions							
Chloride	0.32	AO ≤ 250	0.10	mg/L	N/A	Jul-15-13	
Nitrogen, Nitrate as N	< 0.010	MAC = 10	0.010	mg/L	N/A	Jul-15-13	
Nitrogen, Nitrite as N	< 0.010	MAC = 1	0.010	mg/L	N/A	Jul-15-13	
Sulfate	4.7	AO ≤ 500	1.0	mg/L	N/A	Jul-15-13	
General Parameters							
Conductivity (EC)	97		2	uS/cm	N/A	Jul-15-13	
Nitrogen, Total Kjeldahl	0.21		0.05	mg/L	Jul-15-13	Jul-16-13	
pH	7.89	AO = 6.5 - 8.5	0.01	pH units	N/A	Jul-15-13	
Phosphorus, Total Kjeldahl	0.02		0.01	mg/L	Jul-15-13	Jul-16-13	
Phosphorus, Total Kjeldahl Dissolved	0.02		0.01	mg/L	Jul-15-13	Jul-16-13	
Turbidity	2.0	See Guidelines	0.1	NTU	N/A	Jul-15-13	
Calculated Parameters							
Hardness, Total (Total as CaCO ₃)	41.5		5.0	mg/L	N/A	N/A	
Nitrogen, Nitrate+Nitrite as N	< 0.010		0.010	mg/L	N/A	N/A	
Nitrogen, Total	0.207		0.050	mg/L	N/A	N/A	
Total Recoverable Metals							
Aluminum, total	0.10	AO ≤ 0.1	0.05	mg/L	Jul-16-13	Jul-18-13	
Antimony, total	< 0.001	MAC = 0.006	0.001	mg/L	Jul-16-13	Jul-18-13	
Arsenic, total	< 0.005	MAC = 0.01	0.005	mg/L	Jul-16-13	Jul-18-13	
Barium, total	< 0.05	MAC = 1	0.05	mg/L	Jul-16-13	Jul-18-13	
Beryllium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Bismuth, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Boron, total	< 0.04	MAC = 5	0.04	mg/L	Jul-16-13	Jul-18-13	
Cadmium, total	< 0.0001	MAC = 0.005	0.0001	mg/L	Jul-16-13	Jul-18-13	
Calcium, total	14		2	mg/L	Jul-16-13	Jul-18-13	
Chromium, total	< 0.005	MAC = 0.05	0.005	mg/L	Jul-16-13	Jul-18-13	
Cobalt, total	< 0.0005		0.0005	mg/L	Jul-16-13	Jul-18-13	
Copper, total	< 0.002	AO ≤ 1	0.002	mg/L	Jul-16-13	Jul-18-13	
Iron, total	0.1	AO ≤ 0.3	0.1	mg/L	Jul-16-13	Jul-18-13	
Lead, total	< 0.001	MAC = 0.01	0.001	mg/L	Jul-16-13	Jul-18-13	
Lithium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Magnesium, total	1.7		0.1	mg/L	Jul-16-13	Jul-18-13	
Manganese, total	0.006	AO ≤ 0.05	0.002	mg/L	Jul-16-13	Jul-18-13	
Mercury, total	< 0.0002	MAC = 0.001	0.0002	mg/L	Jul-16-13	Jul-18-13	
Molybdenum, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Nickel, total	< 0.002		0.002	mg/L	Jul-16-13	Jul-18-13	
Phosphorus, total	< 0.2		0.2	mg/L	Jul-16-13	Jul-18-13	
Potassium, total	0.5		0.2	mg/L	Jul-16-13	Jul-18-13	
Selenium, total	< 0.005	MAC = 0.01	0.005	mg/L	Jul-16-13	Jul-18-13	
Silicon, total	< 5		5	mg/L	Jul-16-13	Jul-18-13	
Silver, total	< 0.0005		0.0005	mg/L	Jul-16-13	Jul-18-13	
Sodium, total	0.7	AO ≤ 200	0.2	mg/L	Jul-16-13	Jul-18-13	
Strontium, total	0.07		0.01	mg/L	Jul-16-13	Jul-18-13	
Sulfur, total	< 10		10	mg/L	Jul-16-13	Jul-18-13	

REPORTED TO PROJECT Mid Shuswap Lumby Water Stewards
Analytical Testing

WORK ORDER REPORTED 3070879
Jul-22-13

Analyte	Result / Recovery	Canadian DW Guideline	MRL / Limit	Units	Prepared	Analyzed	Notes
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Sample ID: Shuswap (Wilsey Dam) (3070879-05) [Water] Sampled: Jul-14-13 11:00, Continued

Total Recoverable Metals, Continued

Tellurium, total	< 0.002		0.002	mg/L	Jul-16-13	Jul-18-13	
Thallium, total	< 0.0002		0.0002	mg/L	Jul-16-13	Jul-18-13	
Thorium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Tin, total	< 0.002		0.002	mg/L	Jul-16-13	Jul-18-13	
Titanium, total	< 0.05		0.05	mg/L	Jul-16-13	Jul-18-13	
Uranium, total	0.0003	MAC = 0.02	0.0002	mg/L	Jul-16-13	Jul-18-13	
Vanadium, total	< 0.01		0.01	mg/L	Jul-16-13	Jul-18-13	
Zinc, total	< 0.04	AO ≤ 5	0.04	mg/L	Jul-16-13	Jul-18-13	
Zirconium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	

Microbiological Parameters

E. coli	3	MAC < 1	1	CFU/100mL	Jul-15-13	Jul-16-13	
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REPORTED TO PROJECT Mid Shuswap Lumby Water Stewards
Analytical Testing

WORK ORDER REPORTED 3070879
Jul-22-13

Analyte	Result / Recovery	Canadian DW Guideline	MRL / Limit	Units	Prepared	Analyzed	Notes
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Sample ID: Shuswap (Odd Fellows) (3070879-06) [Water] Sampled: Jul-14-13 09:55

Anions

Chloride	0.51	AO ≤ 250	0.10	mg/L	N/A	Jul-15-13	
Nitrogen, Nitrate as N	< 0.010	MAC = 10	0.010	mg/L	N/A	Jul-15-13	
Nitrogen, Nitrite as N	< 0.010	MAC = 1	0.010	mg/L	N/A	Jul-15-13	
Sulfate	6.1	AO ≤ 500	1.0	mg/L	N/A	Jul-15-13	

General Parameters

Conductivity (EC)	113		2	uS/cm	N/A	Jul-15-13	
Nitrogen, Total Kjeldahl	0.32		0.05	mg/L	Jul-15-13	Jul-16-13	
pH	7.86	AO = 6.5 - 8.5	0.01	pH units	N/A	Jul-15-13	
Phosphorus, Total Kjeldahl	0.02		0.01	mg/L	Jul-15-13	Jul-16-13	
Phosphorus, Total Kjeldahl Dissolved	0.02		0.01	mg/L	Jul-15-13	Jul-16-13	
Turbidity	2.7	See Guidelines	0.1	NTU	N/A	Jul-15-13	

Calculated Parameters

Hardness, Total (Total as CaCO3)	53.6		5.0	mg/L	N/A	N/A	
Nitrogen, Nitrate+Nitrite as N	< 0.010		0.010	mg/L	N/A	N/A	
Nitrogen, Total	0.324		0.050	mg/L	N/A	N/A	

Total Recoverable Metals

Aluminum, total	0.17	AO ≤ 0.1	0.05	mg/L	Jul-16-13	Jul-18-13	
Antimony, total	< 0.001	MAC = 0.006	0.001	mg/L	Jul-16-13	Jul-18-13	
Arsenic, total	< 0.005	MAC = 0.01	0.005	mg/L	Jul-16-13	Jul-18-13	
Barium, total	< 0.05	MAC = 1	0.05	mg/L	Jul-16-13	Jul-18-13	
Beryllium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Bismuth, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Boron, total	< 0.04	MAC = 5	0.04	mg/L	Jul-16-13	Jul-18-13	
Cadmium, total	< 0.0001	MAC = 0.005	0.0001	mg/L	Jul-16-13	Jul-18-13	
Calcium, total	18		2	mg/L	Jul-16-13	Jul-18-13	
Chromium, total	< 0.005	MAC = 0.05	0.005	mg/L	Jul-16-13	Jul-18-13	
Cobalt, total	< 0.0005		0.0005	mg/L	Jul-16-13	Jul-18-13	
Copper, total	< 0.002	AO ≤ 1	0.002	mg/L	Jul-16-13	Jul-18-13	
Iron, total	0.3	AO ≤ 0.3	0.1	mg/L	Jul-16-13	Jul-18-13	
Lead, total	< 0.001	MAC = 0.01	0.001	mg/L	Jul-16-13	Jul-18-13	
Lithium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Magnesium, total	2.2		0.1	mg/L	Jul-16-13	Jul-18-13	
Manganese, total	0.013	AO ≤ 0.05	0.002	mg/L	Jul-16-13	Jul-18-13	
Mercury, total	< 0.0002	MAC = 0.001	0.0002	mg/L	Jul-16-13	Jul-18-13	
Molybdenum, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Nickel, total	< 0.002		0.002	mg/L	Jul-16-13	Jul-18-13	
Phosphorus, total	< 0.2		0.2	mg/L	Jul-16-13	Jul-18-13	
Potassium, total	0.8		0.2	mg/L	Jul-16-13	Jul-18-13	
Selenium, total	< 0.005	MAC = 0.01	0.005	mg/L	Jul-16-13	Jul-18-13	
Silicon, total	< 5		5	mg/L	Jul-16-13	Jul-18-13	
Silver, total	< 0.0005		0.0005	mg/L	Jul-16-13	Jul-18-13	
Sodium, total	1.1	AO ≤ 200	0.2	mg/L	Jul-16-13	Jul-18-13	
Strontium, total	0.08		0.01	mg/L	Jul-16-13	Jul-18-13	
Sulfur, total	< 10		10	mg/L	Jul-16-13	Jul-18-13	

REPORTED TO PROJECT Mid Shuswap Lumby Water Stewards
Analytical Testing

WORK ORDER REPORTED 3070879
Jul-22-13

Analyte	Result / Recovery	Canadian DW Guideline	MRL / Limit	Units	Prepared	Analyzed	Notes
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Sample ID: Shuswap (Odd Fellows) (3070879-06) [Water] Sampled: Jul-14-13 09:55, Continued

Total Recoverable Metals, Continued

Tellurium, total	< 0.002		0.002	mg/L	Jul-16-13	Jul-18-13	
Thallium, total	< 0.0002		0.0002	mg/L	Jul-16-13	Jul-18-13	
Thorium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	
Tin, total	< 0.002		0.002	mg/L	Jul-16-13	Jul-18-13	
Titanium, total	< 0.05		0.05	mg/L	Jul-16-13	Jul-18-13	
Uranium, total	0.0004	MAC = 0.02	0.0002	mg/L	Jul-16-13	Jul-18-13	
Vanadium, total	< 0.01		0.01	mg/L	Jul-16-13	Jul-18-13	
Zinc, total	< 0.04	AO ≤ 5	0.04	mg/L	Jul-16-13	Jul-18-13	
Zirconium, total	< 0.001		0.001	mg/L	Jul-16-13	Jul-18-13	

Microbiological Parameters

E. coli	16	MAC < 1	1	CFU/100mL	Jul-15-13	Jul-16-13	
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