



CERTIFICATE OF ANALYSIS

You know that the sample you collected after

snowshoeing to site, digging 5 meters, and

racing to get it on a plane so you can submit it

to the lab for time sensitive results needed to

make important and expensive decisions

(whew) is VERY important. We know that too.

REPORTED TO Mid Shuswap Lumby Water Stewards

1631 Mable Lake Rd Lumby, BC V0E 2G6

ATTENTION Russ Collins WORK ORDER 8111572

PO NUMBERMid Shuswap Lumby Water StewardsRECEIVED / TEMP2018-11-20 12:00 / 7°CPROJECTAnalytical TestingREPORTED2018-11-26 13:15

PROJECT INFO COC NUMBER No Number

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO 17025:2005 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks

We've Got Chemistry

It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve

Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

If you have any questions or concerns, please contact me at estclair@caro.ca

Authorized By:

Eilish St.Clair, B.Sc., C.I.T. Client Service Representative Allain

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PROJECT	Mid Shuswap Lumby W Analytical Testing	/ater Stewards			WORK ORDER REPORTED	8111572 2018-11-2	6 13:15
Analyte		Result	Guideline	RL	Units	Analyzed	Qualifier
Harris Creek (Hw	y 6) (8111572-01) Matrix	κ: Water Sample	d: 2018-11-18 10:55				
Anions							
Chloride		3.75	AO ≤ 250	0.10	mg/L	2018-11-21	
Nitrate (as N)		0.051	MAC = 10	0.010	mg/L	2018-11-21	
Nitrite (as N)		< 0.010	MAC = 1	0.010	mg/L	2018-11-21	
Sulfate		25.9	AO ≤ 500	1.0	mg/L	2018-11-21	
Calculated Parame	ters						
Nitrate+Nitrite (as	N)	0.0506	N/A	0.0100	mg/L	N/A	
Nitrogen, Total		0.219	N/A	0.0500	mg/L	N/A	
General Parameter	s						
Ammonia, Total (a	s N)	0.025	None Required	0.020	mg/L	2018-11-21	
Conductivity (EC)		230	N/A	2.0	μS/cm	2018-11-21	
Nitrogen, Total Kje	eldahl	0.168	N/A	0.050	mg/L	2018-11-21	
рН		7.90	7.0-10.5	0.10	pH units	2018-11-21	HT2
Phosphorus, Total	(as P)	0.0221	N/A	0.0020	mg/L	2018-11-22	
Phosphorus, Total	Dissolved	0.0176	N/A	0.0020	mg/L	2018-11-22	
Turbidity		1.07	OG < 1	0.10	NTU	2018-11-21	
Microbiological Pa	rameters						
Coliforms, Total		140	MAC = 0	1	CFU/100 mL	2018-11-21	HT1
	nies	> 200	N/A	200	CFU/100 mL	2018-11-21	HT1
Background Color	1103				CFU/100 mL	2040 44 24	
Background Color E. coli	iies	50	MAC = 0	1		2018-11-21	HT1
E. coli Duteau Creek (Hv	wy 6) (8111572-02) Matr	50				2018-11-21	HI1
E. coli Duteau Creek (Hy		50 ix: Water Sampl	ed: 2018-11-18 10:4	5	ma/l		HI1
E. coli Duteau Creek (Ho Anions Chloride		50 ix: Water Sampl 10.3	ed: 2018-11-18 10:4 AO ≤ 250	0.10	mg/L	2018-11-21	HI1
E. coli Duteau Creek (Ho Anions Chloride Nitrate (as N)		50 ix: Water Sampl 10.3 0.838	ed: 2018-11-18 10:45 AO ≤ 250 MAC = 10	0.10 0.010	mg/L	2018-11-21 2018-11-21	HI1
E. coli Duteau Creek (Hv Anions Chloride Nitrate (as N) Nitrite (as N)		50 ix: Water Sampl 10.3 0.838 < 0.010	AO ≤ 250 MAC = 10 MAC = 1	0.10 0.010 0.010	mg/L mg/L	2018-11-21 2018-11-21 2018-11-21	HI1
E. coli Duteau Creek (Ho Anions Chloride Nitrate (as N)	wy 6) (8111572-02) Matr	50 ix: Water Sampl 10.3 0.838	ed: 2018-11-18 10:45 AO ≤ 250 MAC = 10	0.10 0.010 0.010	mg/L	2018-11-21 2018-11-21	HI1
E. coli Duteau Creek (Ho Anions Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parame	wy 6) (8111572-02) Matr	10.3 0.838 < 0.010 47.9	AO ≤ 250 MAC = 10 MAC = 1 AO ≤ 500	0.10 0.010 0.010 1.0	mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21 2018-11-21	HI1
E. coli Duteau Creek (Ho Anions Chloride Nitrate (as N) Nitrite (as N) Sulfate	wy 6) (8111572-02) Matr	50 ix: Water Sampl 10.3 0.838 < 0.010	AO ≤ 250 MAC = 10 MAC = 1	0.10 0.010 0.010	mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21	HI1
E. coli Duteau Creek (Ho Anions Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parame Nitrate+Nitrite (as	wy 6) (8111572-02) Matr	10.3 0.838 < 0.010 47.9	ed: 2018-11-18 10:45 AO ≤ 250 MAC = 10 MAC = 1 AO ≤ 500 N/A	0.10 0.010 0.010 1.0	mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21 2018-11-21 N/A	HI1
E. coli Duteau Creek (Ho Anions Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parame Nitrate+Nitrite (as Nitrogen, Total General Parameter	wy 6) (8111572-02) Matr ters N)	10.3 0.838 < 0.010 47.9 0.838	AO ≤ 250 MAC = 10 MAC = 1 AO ≤ 500 N/A N/A	0.10 0.010 0.010 1.0 0.0100 0.0500	mg/L mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21 2018-11-21 N/A N/A	HI1
E. coli Duteau Creek (Ho Anions Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parame Nitrate+Nitrite (as Nitrogen, Total General Parameter Ammonia, Total (a	wy 6) (8111572-02) Matr ters N)	50 ix: Water Sampl 10.3 0.838 < 0.010 47.9 0.838 1.09	AO ≤ 250 MAC = 10 MAC = 1 AO ≤ 500 N/A N/A None Required	0.10 0.010 0.010 1.0 0.0100 0.0500	mg/L mg/L mg/L mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21 2018-11-21 N/A N/A	HI1
E. coli Duteau Creek (Ho Anions Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parame Nitrate+Nitrite (as Nitrogen, Total General Parameter Ammonia, Total (a Conductivity (EC)	wy 6) (8111572-02) Matr ters N)	10.3 0.838 < 0.010 47.9 0.838 1.09	AO ≤ 250 MAC = 10 MAC = 1 AO ≤ 500 N/A N/A None Required N/A	0.10 0.010 0.010 1.0 0.0100 0.0500 0.020 2.0	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21 2018-11-21 N/A N/A 2018-11-21	HI1
E. coli Duteau Creek (Honons Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parame Nitrate+Nitrite (as Nitrogen, Total General Parameter Ammonia, Total (a Conductivity (EC) Nitrogen, Total Kje	wy 6) (8111572-02) Matr ters N)	10.3 0.838 < 0.010 47.9 0.838 1.09 0.034 332 0.248	ed: 2018-11-18 10:45 AO ≤ 250 MAC = 10 MAC = 1 AO ≤ 500 N/A N/A N/A None Required N/A N/A	0.10 0.010 0.010 1.0 0.0100 0.0500 0.020 2.0 0.050	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21 2018-11-21 N/A N/A 2018-11-21 2018-11-21	
E. coli Duteau Creek (Honors Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parame Nitrate+Nitrite (as Nitrogen, Total General Parameter Ammonia, Total (a Conductivity (EC) Nitrogen, Total Kje pH	wy 6) (8111572-02) Matr	10.3 0.838 < 0.010 47.9 0.838 1.09 0.034 332 0.248 8.00	AO ≤ 250 MAC = 10 MAC = 1 AO ≤ 500 N/A N/A None Required N/A N/A N/A N/A N/A N/A	0.10 0.010 0.010 1.0 0.0100 0.0500 0.020 2.0 0.050 0.10	mg/L mg/L mg/L mg/L mg/L mg/L mg/L pS/cm mg/L pH units	2018-11-21 2018-11-21 2018-11-21 2018-11-21 N/A N/A 2018-11-21 2018-11-21 2018-11-21	HT2
E. coli Duteau Creek (Honons Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parame Nitrate+Nitrite (as Nitrogen, Total General Parameter Ammonia, Total (a Conductivity (EC) Nitrogen, Total Kje	wy 6) (8111572-02) Matr ters N) s s N) eldahl (as P)	10.3 0.838 < 0.010 47.9 0.838 1.09 0.034 332 0.248	ed: 2018-11-18 10:45 AO ≤ 250 MAC = 10 MAC = 1 AO ≤ 500 N/A N/A N/A None Required N/A N/A	0.10 0.010 0.010 1.0 0.0100 0.0500 0.020 2.0 0.050	mg/L mg/L mg/L mg/L mg/L mg/L mg/L pS/cm mg/L pH units mg/L	2018-11-21 2018-11-21 2018-11-21 2018-11-21 N/A N/A 2018-11-21 2018-11-21	



REPORTED TO PROJECT	Mid Shuswap Lumby Wate Analytical Testing	er Stewards			WORK ORDER REPORTED	8111572 2018-11-2	26 13:15
Analyte		Result	Guideline	RL	Units	Analyzed	Qualifie
Duteau Creek (Hv	wy 6) (8111572-02) Matrix:	Water Samp	ed: 2018-11-18 10:4	5, Continue	d		
Microbiological Pa	rameters						
Coliforms, Total		80	MAC = 0	1	CFU/100 mL	2018-11-21	HT1
Background Color	nies	> 200	N/A	200	CFU/100 mL	2018-11-21	HT1
E. coli		7	MAC = 0	1	CFU/100 mL	2018-11-21	HT1
Mid Bessette Cre	ek (8111572-03) Matrix: W	ater Sampled	l: 2018-11-18 10:20				
Anions							
Chloride		7.06	AO ≤ 250		mg/L	2018-11-21	
Nitrate (as N)		0.288	MAC = 10	0.010		2018-11-21	
Nitrite (as N)		< 0.010	MAC = 1	0.010		2018-11-21	
Sulfate		39.5	AO ≤ 500	1.0	mg/L	2018-11-21	
Calculated Parame	eters						
Nitrate+Nitrite (as	N)	0.288	N/A	0.0100	mg/L	N/A	
Nitrogen, Total		0.463	N/A	0.0500	mg/L	N/A	
General Parameter	s						
Ammonia, Total (a	is N)	0.056	None Required	0.020	mg/L	2018-11-21	
Conductivity (EC)		306	N/A	2.0	μS/cm	2018-11-21	
Nitrogen, Total Kje	eldahl	0.175	N/A	0.050	mg/L	2018-11-21	
рН		8.05	7.0-10.5	0.10	pH units	2018-11-21	HT2
Phosphorus, Total	(as P)	0.0211	N/A	0.0020	mg/L	2018-11-22	
Phosphorus, Total	Dissolved	0.0135	N/A	0.0020	mg/L	2018-11-22	
Turbidity		1.24	OG < 1	0.10	NTU	2018-11-21	
Microbiological Pa	rameters						
Coliforms, Total		260	MAC = 0	1	CFU/100 mL	2018-11-21	HT1
Background Color	nies	> 200	N/A	200	CFU/100 mL	2018-11-21	HT1
E. coli		60	MAC = 0	1	CFU/100 mL	2018-11-21	HT1
Lower Bessette (Creek (8111572-04) Matrix:	Water Samp	led: 2018-11-18 10:0	15			
Anions							
Chloride		7.24	AO ≤ 250	0.10	mg/L	2018-11-21	
Nitrate (as N)		0.289	MAC = 10	0.010		2018-11-21	
Nitrite (as N)		< 0.010	MAC = 1	0.010	mg/L	2018-11-21	
Sulfate		43.0	AO ≤ 500	1.0	mg/L	2018-11-21	
Calculated Parame	ters						
Nitrate+Nitrite (as	N)	0.289	N/A	0.0100	mg/L	N/A	
- · · ·				0.05		11/4	

Nitrogen, Total

N/A

N/A

0.0500 mg/L

0.492



REPORTED TO	Mid Shuswap Lumby Water Stewards	WORK ORDER	8111572
PROJECT	Analytical Testing	REPORTED	2018-11-26 13:15

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifi
Lower Bessette Creek (8111572-04)	Matrix: Water Samp	led: 2018-11-18 10:0	5, Continue	d		
General Parameters, Continued						
Ammonia, Total (as N)	0.048	None Required	0.020	mg/L	2018-11-21	
Conductivity (EC)	321	N/A	2.0	μS/cm	2018-11-21	
Nitrogen, Total Kjeldahl	0.203	N/A	0.050	mg/L	2018-11-21	
рН	8.08	7.0-10.5	0.10	pH units	2018-11-21	HT2
Phosphorus, Total (as P)	0.0197	N/A	0.0020	mg/L	2018-11-22	
Phosphorus, Total Dissolved	0.0149	N/A	0.0020	mg/L	2018-11-22	
Turbidity	1.52	OG < 1	0.10	NTU	2018-11-21	
Microbiological Parameters						
Coliforms, Total	160	MAC = 0	1	CFU/100 mL	2018-11-21	HT1
Background Colonies	> 200	N/A	200	CFU/100 mL	2018-11-21	HT1
E. coli	91	MAC = 0	1	CFU/100 mL	2018-11-21	HT1
Anions						
Anions						
Chloride	0.91	AO ≤ 250		mg/L	2018-11-21	
Chloride Nitrate (as N)	0.049	MAC = 10	0.010	mg/L	2018-11-21	
Chloride Nitrate (as N) Nitrite (as N)	0.049 < 0.010	MAC = 10 MAC = 1	0.010 0.010	mg/L mg/L	2018-11-21 2018-11-21	
Chloride Nitrate (as N)	0.049	MAC = 10	0.010 0.010	mg/L	2018-11-21	
Chloride Nitrate (as N) Nitrite (as N)	0.049 < 0.010	MAC = 10 MAC = 1	0.010 0.010	mg/L mg/L	2018-11-21 2018-11-21	
Chloride Nitrate (as N) Nitrite (as N) Sulfate	0.049 < 0.010	MAC = 10 MAC = 1	0.010 0.010	mg/L mg/L mg/L	2018-11-21 2018-11-21	
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters	0.049 < 0.010 9.5	MAC = 10 MAC = 1 AO ≤ 500	0.010 0.010 1.0	mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21	
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters Nitrate+Nitrite (as N) Nitrogen, Total	0.049 < 0.010 9.5	MAC = 10 MAC = 1 AO ≤ 500	0.010 0.010 1.0 0.0100	mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21 N/A	
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters Nitrate+Nitrite (as N) Nitrogen, Total	0.049 < 0.010 9.5	MAC = 10 MAC = 1 AO ≤ 500	0.010 0.010 1.0 0.0100	mg/L mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21 N/A	
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters Nitrate+Nitrite (as N) Nitrogen, Total General Parameters	0.049 < 0.010 9.5 0.0487 < 0.0500	MAC = 10 MAC = 1 AO ≤ 500 N/A N/A	0.010 0.010 1.0 0.0100 0.0500	mg/L mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21 N/A N/A	
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters Nitrate+Nitrite (as N) Nitrogen, Total General Parameters Ammonia, Total (as N)	0.049 < 0.010 9.5 0.0487 < 0.0500	MAC = 10 MAC = 1 AO ≤ 500 N/A N/A None Required	0.010 0.010 1.0 0.0100 0.0500	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21 N/A N/A	
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters Nitrate+Nitrite (as N) Nitrogen, Total General Parameters Ammonia, Total (as N) Conductivity (EC)	0.049 < 0.010 9.5 0.0487 < 0.0500 0.031 126	MAC = 10 MAC = 1 AO ≤ 500 N/A N/A None Required N/A	0.010 0.010 1.0 0.0100 0.0500 0.020 2.0 0.050	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21 N/A N/A 2018-11-21	HT2
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters Nitrate+Nitrite (as N) Nitrogen, Total General Parameters Ammonia, Total (as N) Conductivity (EC) Nitrogen, Total Kjeldahl	0.049 < 0.010 9.5 0.0487 < 0.0500 0.031 126 < 0.050	MAC = 10 MAC = 1 AO ≤ 500 N/A N/A None Required N/A N/A	0.010 0.010 1.0 0.0100 0.0500 0.020 2.0 0.050	mg/L mg/L mg/L mg/L mg/L mg/L pH units	2018-11-21 2018-11-21 2018-11-21 N/A N/A 2018-11-21 2018-11-21	HT2
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters Nitrate+Nitrite (as N) Nitrogen, Total General Parameters Ammonia, Total (as N) Conductivity (EC) Nitrogen, Total Kjeldahl pH	0.049 < 0.010 9.5 0.0487 < 0.0500 0.031 126 < 0.050 7.83	MAC = 10 MAC = 1 AO ≤ 500 N/A N/A N/A None Required N/A N/A 7.0-10.5	0.010 0.010 1.0 0.0100 0.0500 0.020 2.0 0.050 0.10	mg/L mg/L mg/L mg/L mg/L mg/L mg/L pS/cm mg/L pH units mg/L	2018-11-21 2018-11-21 2018-11-21 N/A N/A 2018-11-21 2018-11-21 2018-11-21	HT2
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters Nitrate+Nitrite (as N) Nitrogen, Total General Parameters Ammonia, Total (as N) Conductivity (EC) Nitrogen, Total Kjeldahl pH Phosphorus, Total (as P)	0.049 < 0.010 9.5 0.0487 < 0.0500 0.031 126 < 0.050 7.83 0.0100	MAC = 10 MAC = 1 AO ≤ 500 N/A N/A None Required N/A N/A 7.0-10.5 N/A	0.010 0.010 1.0 0.0100 0.0500 0.020 2.0 0.050 0.10 0.0020 0.0020	mg/L mg/L mg/L mg/L mg/L mg/L mg/L pS/cm mg/L pH units mg/L	2018-11-21 2018-11-21 2018-11-21 N/A N/A 2018-11-21 2018-11-21 2018-11-21 2018-11-21	HT2
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters Nitrate+Nitrite (as N) Nitrogen, Total General Parameters Ammonia, Total (as N) Conductivity (EC) Nitrogen, Total Kjeldahl pH Phosphorus, Total (as P) Phosphorus, Total Dissolved	0.049 < 0.010 9.5 0.0487 < 0.0500 0.031 126 < 0.050 7.83 0.0100 < 0.0020	MAC = 10 MAC = 1 AO ≤ 500 N/A N/A N/A None Required N/A N/A 7.0-10.5 N/A N/A	0.010 0.010 1.0 0.0100 0.0500 0.020 2.0 0.050 0.10 0.0020 0.0020	mg/L mg/L mg/L mg/L mg/L mg/L mg/L pS/cm mg/L pH units mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21 N/A N/A 2018-11-21 2018-11-21 2018-11-21 2018-11-22 2018-11-22	HT2
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters Nitrate+Nitrite (as N) Nitrogen, Total General Parameters Ammonia, Total (as N) Conductivity (EC) Nitrogen, Total Kjeldahl pH Phosphorus, Total (as P) Phosphorus, Total Dissolved Turbidity	0.049 < 0.010 9.5 0.0487 < 0.0500 0.031 126 < 0.050 7.83 0.0100 < 0.0020	MAC = 10 MAC = 1 AO ≤ 500 N/A N/A N/A None Required N/A N/A 7.0-10.5 N/A N/A	0.010 0.010 1.0 0.0100 0.0500 0.020 2.0 0.050 0.10 0.0020 0.0020	mg/L mg/L mg/L mg/L mg/L mg/L mg/L pS/cm mg/L pH units mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21 N/A N/A 2018-11-21 2018-11-21 2018-11-21 2018-11-22 2018-11-22	HT2
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters Nitrate+Nitrite (as N) Nitrogen, Total General Parameters Ammonia, Total (as N) Conductivity (EC) Nitrogen, Total Kjeldahl pH Phosphorus, Total (as P) Phosphorus, Total Dissolved Turbidity Microbiological Parameters	0.049 < 0.010 9.5 0.0487 < 0.0500 0.031 126 < 0.050 7.83 0.0100 < 0.0020 2.67	MAC = 10 MAC = 1 AO ≤ 500 N/A N/A N/A None Required N/A N/A 7.0-10.5 N/A N/A OG < 1	0.010 0.010 1.0 0.0100 0.0500 0.020 2.0 0.050 0.10 0.0020 0.1020	mg/L mg/L mg/L mg/L mg/L mg/L mg/L µS/cm mg/L pH units mg/L mg/L NTU	2018-11-21 2018-11-21 2018-11-21 N/A N/A 2018-11-21 2018-11-21 2018-11-21 2018-11-22 2018-11-22 2018-11-22	

Shuswap River (Wilsey Dam) (8111572-06) | Matrix: Water | Sampled: 2018-11-18 09:45

Α	n	10	D	n	S

 Chloride
 0.44
 AO ≤ 250
 0.10 mg/L
 2018-11-21



REPORTED TO	Mid Shuswap Lumby Water Stewards	WORK ORDER	8111572
PROJECT	Analytical Testing	REPORTED	2018-11-26 13:15

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifie
Shuswap River (Wilsey Dam) (81115	72-06) Matrix: Water	Sampled: 2018-11-	18 09:45, Co	ontinued		
Anions, Continued						
Nitrate (as N)	0.043	MAC = 10	0.010	mg/L	2018-11-21	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2018-11-21	
Sulfate	6.5	AO ≤ 500	1.0	mg/L	2018-11-21	
Calculated Parameters						
Nitrate+Nitrite (as N)	0.0427	N/A	0.0100	mg/L	N/A	
Nitrogen, Total	< 0.0500	N/A	0.0500		N/A	
General Parameters						
Ammonia, Total (as N)	< 0.020	None Required	0.020	mg/L	2018-11-21	
Conductivity (EC)	102	N/A		μS/cm	2018-11-21	
Nitrogen, Total Kjeldahl	< 0.050	N/A	0.050	·	2018-11-21	
pH	7.76	7.0-10.5		pH units	2018-11-21	HT2
Phosphorus, Total (as P)	< 0.0020	N/A	0.0020		2018-11-22	
Phosphorus, Total Dissolved	< 0.0020	N/A	0.0020		2018-11-22	
Turbidity	0.57	OG < 1		NTU	2018-11-21	
Microbiological Parameters						
Coliforms, Total	22	MAC = 0	1	CFU/100 mL	2018-11-21	HT1
Background Colonies	> 200	N/A	200	CFU/100 mL	2018-11-21	HT1
E. coli	< 1	MAC = 0	1	CFU/100 mL	2018-11-21	HT1
/ance Creek (Mabel Lake Road) (811	1572-07) Matrix: Wat	ter Sampled: 2018-1	11-18 10:30			
Anions						
Anions Chloride	2.92	AO ≤ 250	0.10	mg/L	2018-11-21	
	2.92 0.071	AO ≤ 250 MAC = 10	0.10 0.010		2018-11-21 2018-11-21	
Chloride				mg/L		
Chloride Nitrate (as N)	0.071	MAC = 10	0.010 0.010	mg/L	2018-11-21	
Chloride Nitrate (as N) Nitrite (as N) Sulfate	0.071 < 0.010	MAC = 10 MAC = 1	0.010 0.010	mg/L mg/L	2018-11-21 2018-11-21	
Chloride Nitrate (as N) Nitrite (as N) Sulfate	0.071 < 0.010	MAC = 10 MAC = 1	0.010 0.010	mg/L mg/L mg/L	2018-11-21 2018-11-21	
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters	0.071 < 0.010 38.2	MAC = 10 MAC = 1 AO ≤ 500	0.010 0.010 1.0	mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21	
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters Nitrate+Nitrite (as N) Nitrogen, Total	0.071 < 0.010 38.2 0.0708	MAC = 10 MAC = 1 AO ≤ 500	0.010 0.010 1.0 0.0100	mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21 N/A	
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters Nitrate+Nitrite (as N) Nitrogen, Total	0.071 < 0.010 38.2 0.0708	MAC = 10 MAC = 1 AO ≤ 500	0.010 0.010 1.0 0.0100	mg/L mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21 N/A	
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters Nitrate+Nitrite (as N) Nitrogen, Total General Parameters	0.071 < 0.010 38.2 0.0708 0.0708	MAC = 10 MAC = 1 AO ≤ 500 N/A N/A	0.010 0.010 1.0 0.0100 0.0500	mg/L mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21 N/A N/A	
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters Nitrate+Nitrite (as N) Nitrogen, Total General Parameters Ammonia, Total (as N)	0.071 < 0.010 38.2 0.0708 0.0708	MAC = 10 MAC = 1 AO ≤ 500 N/A N/A None Required	0.010 0.010 1.0 0.0100 0.0500	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21 N/A N/A	
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters Nitrate+Nitrite (as N) Nitrogen, Total General Parameters Ammonia, Total (as N) Conductivity (EC)	0.071 < 0.010 38.2 0.0708 0.0708 < 0.020 384	MAC = 10 MAC = 1 AO ≤ 500 N/A N/A None Required N/A	0.010 0.010 1.0 0.0100 0.0500 0.020 2.0 0.050	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	2018-11-21 2018-11-21 2018-11-21 N/A N/A 2018-11-21	HT2
Chloride Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters Nitrate+Nitrite (as N) Nitrogen, Total General Parameters Ammonia, Total (as N) Conductivity (EC) Nitrogen, Total Kjeldahl	0.071 < 0.010 38.2 0.0708 0.0708 < 0.020 384 < 0.050	MAC = 10 MAC = 1 AO ≤ 500 N/A N/A N/A None Required N/A N/A	0.010 0.010 1.0 0.0100 0.0500 0.020 2.0 0.050	mg/L mg/L mg/L mg/L mg/L mg/L pS/cm mg/L pH units	2018-11-21 2018-11-21 2018-11-21 N/A N/A 2018-11-21 2018-11-21	HT2
Nitrate (as N) Nitrite (as N) Sulfate Calculated Parameters Nitrate+Nitrite (as N) Nitrogen, Total General Parameters Ammonia, Total (as N) Conductivity (EC) Nitrogen, Total Kjeldahl pH	0.071 < 0.010 38.2 0.0708 0.0708 < 0.020 384 < 0.050 8.26	MAC = 10 MAC = 1 AO ≤ 500 N/A N/A None Required N/A N/A 7.0-10.5	0.010 0.010 1.0 0.0100 0.0500 0.020 2.0 0.050 0.10	mg/L mg/L mg/L mg/L mg/L mg/L mg/L pS/cm mg/L pH units mg/L	2018-11-21 2018-11-21 2018-11-21 N/A N/A 2018-11-21 2018-11-21 2018-11-21	HT2



REPORTED TO Mid Shuswap Lumby Water Stewards

PROJECT Analytical Testing

WORK ORDER 8111572

REPORTED 2018-11-26 13:15

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
Vance Creek (Mabel Lake Road) (8	3111572-07) Matrix: Wate	er Sampled: 2018-1	1-18 10:30, Continued		
Microbiological Parameters, Continue	ed				
Coliforms, Total	≥ 11	MAC = 0	1 CFU/100 mL	2018-11-21	HT1
Background Colonies	> 200	N/A	200 CFU/100 mL	2018-11-21	HT1
F coli	< 1	MAC = 0	1 CFU/100 ml	2018-11-21	HT1

Sample Qualifiers:

HT1 The sample was prepared and/or analyzed past the recommended holding time.

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO Mid Shuswap Lumby Water Stewards

PROJECT Analytical Testing

WORK ORDER REPORTED 8111572

PRTED 2018-11-26 13:15

Analysis Description	Method Ref.	Technique	Location
Ammonia, Total in Water	SM 4500-NH3 G* (2011)	Automated Colorimetry (Phenate)	Kelowna
Anions in Water	SM 4110 B (2011)	Ion Chromatography	Kelowna
Coliforms, Total in Water	SM 9222 B (2006)	Membrane Filtration / m-Endo Agar	Kelowna
Conductivity in Water	SM 2510 B (2011)	Conductivity Meter	Kelowna
E. coli in Water	SM 9222 G (2006)	Membrane Filtration / Nutrient Agar with MUG	Kelowna
Nitrogen, Total Kjeldahl in Water	SM 4500-Norg D* (2011)	Block Digestion and Flow Injection Analysis	Kelowna
pH in Water	SM 4500-H+ B (2011)	Electrometry	Kelowna
Phosphorus, Total Dissolved in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2011)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2011)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	Kelowna
Turbidity in Water	SM 2130 B (2011)	Nephelometry	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL Reporting Limit (default)

Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors

> Greater than the specified Result

>= Greater than or equal to the specified Result

AO Aesthetic Objective

CFU/100 mL Colony Forming Units per 100 millilitres

MAC Maximum Acceptable Concentration (health based)

mg/L Milligrams per litre

NTU Nephelometric Turbidity Units
OG Operational Guideline (treated water)
pH units pH < 7 = acidic, ph > 7 = basic μ S/cm Microsiemens per centimetre

SM Standard Methods for the Examination of Water and Wastewater, American Public Health Association

Guidelines Referenced in this Report:

Guidelines for Canadian Drinking Water Quality (Health Canada, Feb 2017)

Note: In some cases, the values displayed on the report represent the lowest guideline and are to be verified by the end user

General Comments:

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. 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. The quality control (QC) data is available upon request