

REPORTED TO Cherry Ridge Management
37 Hollingsworth Rd
Cherryville, BC V0E 2G2

TEL 1-250-547-9091
FAX -

ATTENTION Melanie Staker

WORK ORDER 6081114

PO NUMBER

RECEIVED / TEMP 2016-08-15 09:00 / 11°C

PROJECT Creek Monitoring

REPORTED 2016-08-22

PROJECT INFO

COC NUMBER 40837.5581

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.



Authorized By:

Ed Hoppe, B.Sc., P.Chem.
Division Manager, Kelowna

***If you have any questions or concerns, please contact your Account Manager:
Sara Gulenchyn, B.Sc, P.Chem. (sgulenchyn@caro.ca)***

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	Technique	Location
Ammonia, Total in Water	APHA 4500-NH3 G*	Automated Colorimetry (Phenate)	Kelowna
Anions by IC in Water	APHA 4110 B	Ion Chromatography with Chemical Suppression of Eluent Conductivity	Kelowna
Conductivity in Water	APHA 2510 B	Conductivity Meter	Kelowna
E. coli (MF-NA+MUG) in Water	APHA 9222 G	Membrane Filtration / Nutrient Agar with MUG	Kelowna
Nitrogen, Total Kjeldahl in Water	APHA 4500-Norg D*	Block Digestion and Flow Injection Analysis	Kelowna
pH in Water	APHA 4500-H+ B	Electrometry	Kelowna
Phosphorus, Total by Colorimetry in Water	APHA 4500-P B.5* / APHA 4500-P F	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	Kelowna
Phosphorus, Total Dissolved by Colorimetry in Water	APHA 4500-P B.5* / APHA 4500-P F	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	Kelowna
Turbidity in Water	APHA 2130 B	Nephelometry	Kelowna

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

Method Reference Descriptions:

APHA Standard Methods for the Examination of Water and Wastewater, 22nd Edition, American Public Health Association/American Water Works Association/Water Environment Federation

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 based)
 OG Operational guideline (treated water)
 CFU/100 mL Colony Forming Units per 100 millilitres
 mg/L Milligrams per litre
 NTU Nephelometric Turbidity Units
 pH units pH < 7 = acidic, pH > 7 = basic
 µS/cm Microsiemens per centimetre

Standards / Guidelines Referenced in this Report:

Guidelines for Canadian Drinking Water Quality (Oct 2014)

Website: http://www.hc-sc.gc.ca/ewh-semt/alt_formats/pdf/pubs/water-eau/sum_guide-res_recom/sum_guide-res_recom-eng.pdf

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

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Analyte	Result / Recovery	Standard / Guideline	MRL / Limits	Units	Prepared	Analyzed	Notes
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Sample ID: Ferry Creek (6081114-01) [Water] Sampled: 2016-08-14 10:48

FILT,
PRES

Anions

Chloride	0.59	AO ≤ 250	0.10	mg/L	N/A	2016-08-17	
Nitrate (as N)	< 0.010	MAC = 10	0.010	mg/L	N/A	2016-08-17	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	N/A	2016-08-17	
Sulfate	21.6	AO ≤ 500	1.0	mg/L	N/A	2016-08-17	

General Parameters

Ammonia, Total (as N)	0.032	N/A	0.020	mg/L	N/A	2016-08-17	
Conductivity (EC)	282	N/A	2	µS/cm	N/A	2016-08-16	
Nitrogen, Total Kjeldahl	0.09	N/A	0.05	mg/L	2016-08-18	2016-08-19	
pH	8.22	6.5-8.5	0.01	pH units	N/A	2016-08-16	HT2
Phosphorus, Total (as P)	0.009	N/A	0.002	mg/L	2016-08-16	2016-08-17	
Phosphorus, Total Dissolved	0.007	N/A	0.002	mg/L	2016-08-16	2016-08-17	
Turbidity	0.29	OG < 0.1	0.10	NTU	N/A	2016-08-16	

Calculated Parameters

Nitrate+Nitrite (as N)	< 0.010	N/A	0.010	mg/L	N/A	N/A	
Nitrogen, Total	0.093	N/A	0.050	mg/L	N/A	N/A	

Microbiological Parameters

E. coli	2	MAC = None Detected	1	CFU/100 mL	N/A	2016-08-16	
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Sample ID: North Fork Cherry Creek (6081114-02) [Water] Sampled: 2016-08-14 11:44

FILT,
PRES

Anions

Chloride	0.12	AO ≤ 250	0.10	mg/L	N/A	2016-08-17	
Nitrate (as N)	0.012	MAC = 10	0.010	mg/L	N/A	2016-08-17	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	N/A	2016-08-17	
Sulfate	12.2	AO ≤ 500	1.0	mg/L	N/A	2016-08-17	

General Parameters

Ammonia, Total (as N)	0.033	N/A	0.020	mg/L	N/A	2016-08-17	
Conductivity (EC)	182	N/A	2	µS/cm	N/A	2016-08-16	
Nitrogen, Total Kjeldahl	0.18	N/A	0.05	mg/L	2016-08-18	2016-08-19	
pH	8.03	6.5-8.5	0.01	pH units	N/A	2016-08-16	HT2
Phosphorus, Total (as P)	0.005	N/A	0.002	mg/L	2016-08-16	2016-08-17	
Phosphorus, Total Dissolved	0.004	N/A	0.002	mg/L	2016-08-16	2016-08-17	
Turbidity	0.82	OG < 0.1	0.10	NTU	N/A	2016-08-16	

Calculated Parameters

Nitrate+Nitrite (as N)	0.012	N/A	0.010	mg/L	N/A	N/A	
Nitrogen, Total	0.189	N/A	0.050	mg/L	N/A	N/A	

Microbiological Parameters

E. coli	2	MAC = None Detected	1	CFU/100 mL	N/A	2016-08-16	
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Analyte	Result / Recovery	Standard / Guideline	MRL / Limits	Units	Prepared	Analyzed	Notes
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Sample ID: South Fork Cherry Creek (6081114-03) [Water] Sampled: 2016-08-14 11:10

FILT,
PRES

Anions

Chloride	1.01	AO ≤ 250	0.10	mg/L	N/A	2016-08-17	
Nitrate (as N)	0.053	MAC = 10	0.010	mg/L	N/A	2016-08-17	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	N/A	2016-08-17	
Sulfate	14.7	AO ≤ 500	1.0	mg/L	N/A	2016-08-17	

General Parameters

Ammonia, Total (as N)	0.026	N/A	0.020	mg/L	N/A	2016-08-17	
Conductivity (EC)	226	N/A	2	µS/cm	N/A	2016-08-16	
Nitrogen, Total Kjeldahl	< 0.05	N/A	0.05	mg/L	2016-08-18	2016-08-19	
pH	8.13	6.5-8.5	0.01	pH units	N/A	2016-08-16	HT2
Phosphorus, Total (as P)	0.008	N/A	0.002	mg/L	2016-08-18	2016-08-22	
Phosphorus, Total Dissolved	0.007	N/A	0.002	mg/L	2016-08-18	2016-08-22	
Turbidity	0.39	OG < 0.1	0.10	NTU	N/A	2016-08-16	

Calculated Parameters

Nitrate+Nitrite (as N)	0.053	N/A	0.010	mg/L	N/A	N/A	
Nitrogen, Total	0.053	N/A	0.050	mg/L	N/A	N/A	

Microbiological Parameters

E. coli	1	MAC = None Detected	1	CFU/100 mL	N/A	2016-08-16	
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Sample ID: Shuswap River Picnic Site (6081114-04) [Water] Sampled: 2016-08-14 10:23

FILT,
PRES

Anions

Chloride	0.29	AO ≤ 250	0.10	mg/L	N/A	2016-08-17	
Nitrate (as N)	< 0.010	MAC = 10	0.010	mg/L	N/A	2016-08-17	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	N/A	2016-08-17	
Sulfate	5.2	AO ≤ 500	1.0	mg/L	N/A	2016-08-17	

General Parameters

Ammonia, Total (as N)	0.023	N/A	0.020	mg/L	N/A	2016-08-17	
Conductivity (EC)	95	N/A	2	µS/cm	N/A	2016-08-16	
Nitrogen, Total Kjeldahl	0.10	N/A	0.05	mg/L	2016-08-18	2016-08-19	
pH	7.84	6.5-8.5	0.01	pH units	N/A	2016-08-16	HT2
Phosphorus, Total (as P)	0.008	N/A	0.002	mg/L	2016-08-18	2016-08-22	
Phosphorus, Total Dissolved	0.007	N/A	0.002	mg/L	2016-08-18	2016-08-22	
Turbidity	0.44	OG < 0.1	0.10	NTU	N/A	2016-08-16	

Calculated Parameters

Nitrate+Nitrite (as N)	< 0.010	N/A	0.010	mg/L	N/A	N/A	
Nitrogen, Total	0.096	N/A	0.050	mg/L	N/A	N/A	

Microbiological Parameters

E. coli	4	MAC = None Detected	1	CFU/100 mL	N/A	2016-08-16	
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Analyte	Result / Recovery	Standard / Guideline	MRL / Limits	Units	Prepared	Analyzed	Notes
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Sample ID: Cherry Creek at Hall (6081114-05) [Water] Sampled: 2016-08-14 12:10

FILT,
PRES

Anions

Chloride	1.44	AO ≤ 250	0.10	mg/L	N/A	2016-08-17	
Nitrate (as N)	< 0.010	MAC = 10	0.010	mg/L	N/A	2016-08-17	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	N/A	2016-08-17	
Sulfate	14.4	AO ≤ 500	1.0	mg/L	N/A	2016-08-17	

General Parameters

Ammonia, Total (as N)	0.026	N/A	0.020	mg/L	N/A	2016-08-17	
Conductivity (EC)	238	N/A	2	µS/cm	N/A	2016-08-16	
Nitrogen, Total Kjeldahl	0.09	N/A	0.05	mg/L	2016-08-18	2016-08-19	
pH	8.24	6.5-8.5	0.01	pH units	N/A	2016-08-16	HT2
Phosphorus, Total (as P)	0.018	N/A	0.002	mg/L	2016-08-18	2016-08-22	
Phosphorus, Total Dissolved	0.007	N/A	0.002	mg/L	2016-08-18	2016-08-22	
Turbidity	0.25	OG < 0.1	0.10	NTU	N/A	2016-08-16	

Calculated Parameters

Nitrate+Nitrite (as N)	< 0.010	N/A	0.010	mg/L	N/A	N/A	
Nitrogen, Total	0.093	N/A	0.050	mg/L	N/A	N/A	

Microbiological Parameters

E. coli	18	MAC = None Detected	1	CFU/100 mL	N/A	2016-08-16	
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Sample ID: Sugar Lake Above Bridge (6081114-06) [Water] Sampled: 2016-08-14 14:29

FILT,
PRES

Anions

Chloride	< 0.10	AO ≤ 250	0.10	mg/L	N/A	2016-08-17	
Nitrate (as N)	< 0.010	MAC = 10	0.010	mg/L	N/A	2016-08-17	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	N/A	2016-08-17	
Sulfate	3.0	AO ≤ 500	1.0	mg/L	N/A	2016-08-17	

General Parameters

Ammonia, Total (as N)	0.030	N/A	0.020	mg/L	N/A	2016-08-17	
Conductivity (EC)	56	N/A	2	µS/cm	N/A	2016-08-16	
Nitrogen, Total Kjeldahl	0.21	N/A	0.05	mg/L	2016-08-18	2016-08-19	
pH	7.67	6.5-8.5	0.01	pH units	N/A	2016-08-16	HT2
Phosphorus, Total (as P)	0.028	N/A	0.002	mg/L	2016-08-18	2016-08-22	
Phosphorus, Total Dissolved	0.007	N/A	0.002	mg/L	2016-08-18	2016-08-22	
Turbidity	0.38	OG < 0.1	0.10	NTU	N/A	2016-08-16	

Calculated Parameters

Nitrate+Nitrite (as N)	< 0.010	N/A	0.010	mg/L	N/A	N/A	
Nitrogen, Total	0.208	N/A	0.050	mg/L	N/A	N/A	

Microbiological Parameters

E. coli	1	MAC = None Detected	1	CFU/100 mL	N/A	2016-08-16	
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Sample / Analysis Qualifiers:

FILT Sample has been filtered for Dissolved Nutrients in the laboratory.
HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
PRES Sample has been preserved for Dissolved Nutrients in the laboratory and the holding time has been extended.