



# Regional District of Central Kootenay

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File No. 5700-ERK-04

July 21, 2020

Dear Sir/Madam:

**RE: Erickson Water Service Water Quality**

This letter is being provided in response to a request for information concerning the water provided to properties located in the Erickson Water Service in the Regional District of Central Kootenay.

Since 1929, the Erickson Water Service has drawn water from Arrow Creek authorized under water licenses issued from the Province of BC. Prior to serving Erickson and the Town of Creston customers, at the Arrow Creek Water Treatment Plant the water is first processed with coarse screening, settling, fine screening, membrane ultrafiltration, UV disinfection, and residual chlorination. The filtration process on its own provides 4-log bacteria and virus removal. In addition, a System Control and Data Acquisition (SCADA) unit allows for remote plant monitoring and operation.

Certified water utility operators take weekly bacteriological samples from 5 separate sites located in the Erickson water service area. If any results show the presence of bacteria they are acted upon immediately in consultation and collaboration with Interior Health. Potability chemistry testing is also undertaken on an annual basis. Attached is the latest test from April 15, 2019. The 2020 test has not yet been completed. THM and HAA testing is performed regularly.

The Erickson Water service operates in compliance with safe drinking water legislation and continues to provide potable water to its customers.

Should you require additional information, please do not hesitate to contact the undersigned.

Kind regards,

A handwritten signature in black ink, appearing to be "J. McDiarmid", written over a light blue horizontal line.

Jason McDiarmid  
Utility Service Manager

JM/jm

cc: Allan Richardson, Utilities Supervisor – Erickson

Attn: Caro Potability Chemistry Testing Certificate of Analysis, April 15, 2019



## CERTIFICATE OF ANALYSIS

**REPORTED TO** Regional District of Central Kootenay - Erickson  
531B 16th Ave. South  
CRESTON, BC V0B 1G5

**ATTENTION** Evan Bjarnason

**PO NUMBER** RDCK- Erickson

**PROJECT** Erickson Water Service

**PROJECT INFO**

**WORK ORDER** 9041688

**RECEIVED / TEMP** 2019-04-17 08:45 / 14°C

**REPORTED** 2019-04-26 16:18

**COC NUMBER** B37910

### 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*



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.

#### *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.

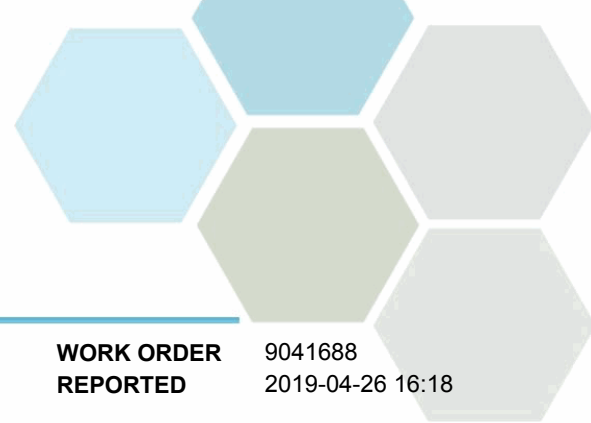
If you have any questions or concerns, please contact me at [estclair@caro.ca](mailto:estclair@caro.ca)

#### Authorized By:

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

1-888-311-8846 | [www.caro.ca](http://www.caro.ca)

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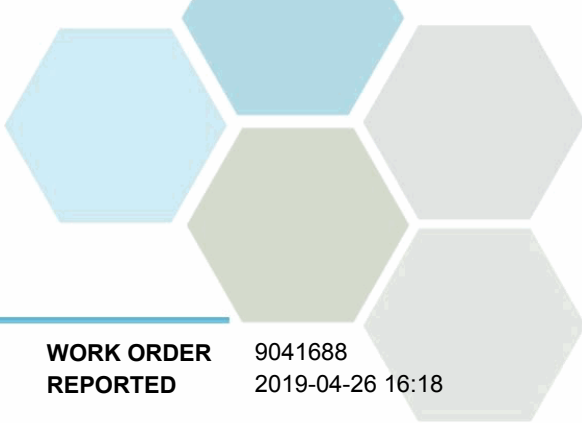


## TEST RESULTS

**REPORTED TO PROJECT** Regional District of Central Kootenay - Erickson  
Erickson Water Service

**WORK ORDER REPORTED** 9041688  
2019-04-26 16:18

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
<b>40th St Tap (9041688-01)   Matrix: Water   Sampled: 2019-04-15 10:20</b>					
<b>Anions</b>					
Chloride	1.52	AO ≤ 250	0.10 mg/L	2019-04-18	
Fluoride	< 0.10	MAC = 1.5	0.10 mg/L	2019-04-18	
Nitrate (as N)	< 0.010	MAC = 10	0.010 mg/L	2019-04-18	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2019-04-18	
Sulfate	2.7	AO ≤ 500	1.0 mg/L	2019-04-18	
<b>Calculated Parameters</b>					
Hardness, Total (as CaCO3)	25.6	None Required	0.500 mg/L	N/A	
Langelier Index	-1.5	N/A	-5.0	2019-04-26	
Solids, Total Dissolved	33.5	AO ≤ 500	1.00 mg/L	N/A	
<b>General Parameters</b>					
Alkalinity, Total (as CaCO3)	28.5	N/A	1.0 mg/L	2019-04-18	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0 mg/L	2019-04-18	
Alkalinity, Bicarbonate (as CaCO3)	28.5	N/A	1.0 mg/L	2019-04-18	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0 mg/L	2019-04-18	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2019-04-18	
Colour, True	< 5.0	AO ≤ 15	5.0 CU	2019-04-18	
Conductivity (EC)	65.0	N/A	2.0 µS/cm	2019-04-18	
Cyanide, Total	0.0022	MAC = 0.2	0.0020 mg/L	2019-04-18	
pH	7.61	7.0-10.5	0.10 pH units	2019-04-18	HT2
Temperature, at pH	22.7	N/A	°C	2019-04-18	HT2
Turbidity	< 0.10	OG < 1	0.10 NTU	2019-04-18	
<b>Total Metals</b>					
Aluminum, total	0.0088	OG < 0.1	0.0050 mg/L	2019-04-25	
Antimony, total	< 0.00020	MAC = 0.006	0.00020 mg/L	2019-04-25	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050 mg/L	2019-04-25	
Barium, total	0.0132	MAC = 1	0.0050 mg/L	2019-04-25	
Boron, total	0.0143	MAC = 5	0.0050 mg/L	2019-04-25	
Cadmium, total	< 0.000010	MAC = 0.005	0.000010 mg/L	2019-04-25	
Calcium, total	7.04	None Required	0.20 mg/L	2019-04-25	
Chromium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2019-04-25	
Cobalt, total	< 0.00010	N/A	0.00010 mg/L	2019-04-25	
Copper, total	0.00179	AO ≤ 1	0.00040 mg/L	2019-04-25	
Iron, total	< 0.010	AO ≤ 0.3	0.010 mg/L	2019-04-25	
Lead, total	< 0.00020	MAC = 0.005	0.00020 mg/L	2019-04-25	
Magnesium, total	1.94	None Required	0.010 mg/L	2019-04-25	
Manganese, total	0.00028	AO ≤ 0.05	0.00020 mg/L	2019-04-25	
Mercury, total	< 0.000010	MAC = 0.001	0.000010 mg/L	2019-04-23	
Molybdenum, total	0.00012	N/A	0.00010 mg/L	2019-04-25	
Nickel, total	< 0.00040	N/A	0.00040 mg/L	2019-04-25	
Potassium, total	0.36	N/A	0.10 mg/L	2019-04-25	



## TEST RESULTS

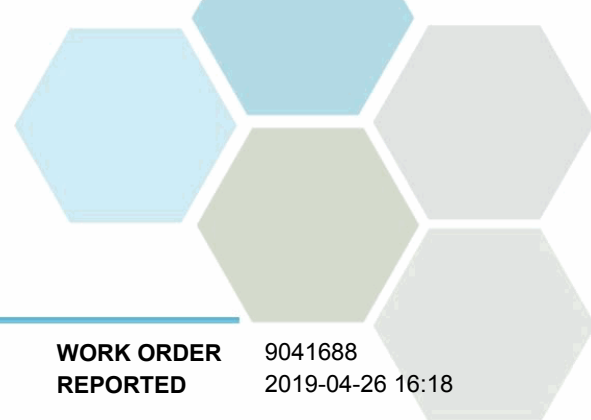
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Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
<b>40th St Tap (9041688-01)   Matrix: Water   Sampled: 2019-04-15 10:20, Continued</b>						
<i>Total Metals, Continued</i>						
Selenium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2019-04-25	
Sodium, total	<b>2.57</b>	AO ≤ 200	0.10	mg/L	2019-04-25	
Strontium, total	<b>0.0246</b>	N/A	0.0010	mg/L	2019-04-25	
Uranium, total	<b>0.000049</b>	MAC = 0.02	0.000020	mg/L	2019-04-25	
Zinc, total	<b>0.0132</b>	AO ≤ 5	0.0040	mg/L	2019-04-25	

**Sample Qualifiers:**

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



## APPENDIX 1: SUPPORTING INFORMATION

**REPORTED TO PROJECT** Regional District of Central Kootenay - Erickson  
Erickson Water Service

**WORK ORDER REPORTED** 9041688  
2019-04-26 16:18

Analysis Description	Method Ref.	Technique	Location
Alkalinity in Water	SM 2320 B* (2011)	Titration with H2SO4	Kelowna
Anions in Water	SM 4110 B (2011)	Ion Chromatography	Kelowna
Colour, True in Water	SM 2120 C (2011)	Spectrophotometry (456 nm)	Kelowna
Conductivity in Water	SM 2510 B (2011)	Conductivity Meter	Kelowna
Cyanide, SAD in Water	ASTM D7511-12	Flow Injection with In-Line UV Digestion and Amperometry	Kelowna
Hardness in Water	SM 2340 B* (2011)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	N/A
Langelier Index in Water	SM 2330 B (2010)	Calculation	N/A
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	Richmond
pH in Water	SM 4500-H+ B (2011)	Electrometry	Kelowna
Solids, Total Dissolved in Water	SM 1030 E (2011)	Calculation: $100 \times \frac{[\text{Cations}] - [\text{Anions}]}{[\text{Cations}] + [\text{Anions}]}$	N/A
Total Metals in Water	EPA 200.2* / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	Richmond
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
°C	Degrees Celcius
AO	Aesthetic Objective
CU	Colour Units (referenced against a platinum cobalt standard)
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
µS/cm	Microsiemens per centimetre
ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association

### 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

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: [estclair@caro.ca](mailto:estclair@caro.ca)