

ANALYTICAL REPORT

Client: Newell Regional Services Corporation
 Box 638
 Brooks, AB T1R 1B6

Attention: Reporting Newell Regional Services Corporation

KaizenLAB JOB #:	190381
DATE RECEIVED:	17-Jan-2018
DATE REPORTED:	31-Jan-2018
PROJECT ID:	NRSC 2018 Winter Analysis
LOCATION:	HDR #1

KaizenLAB Sample #: 190381_001 **Sample ID:** HDR #1
Date Sampled: 16-Jan-2018 **Matrix:** Water

Parameter Description	Units	Result	Detection Limit
Routine Water Potability Analysis (Potability pkg #2)			
pH		8.1	
Electrical Conductivity (EC)	uS/cm	443	1
Anions in Water			
Fluoride	mg/L	0.18	0.10
Chloride	mg/L	15.41	0.50
Nitrite-N	mg/L	<0.005	0.005
Nitrate-N	mg/L	<0.010	0.010
Nitrite-N + Nitrate-N	mg/L	<0.015	0.015
Phosphate	mg/L	<0.10	0.10
Sulphate	mg/L	62.93	0.50
Cations in Water			
Dissolved Calcium	mg/L	41.7	0.1
Dissolved Magnesium	mg/L	20.0	0.1
Dissolved Potassium	mg/L	2.5	0.3
Dissolved Sodium	mg/L	22.9	0.1
Hardness (calculated, as CaCO ₃)	mg/L	186.4	0.1
Dissolved Metals in Water by ICP-MS			
Dissolved Iron	mg/L	<0.0040	0.0040
Dissolved Manganese	mg/L	0.00061	0.00040
Alkalinity parameters of water			
Alkalinity (total, as CaCO ₃)	mg/L	148.3	2.0
Alkalinity (phenolphthalein, as CaCO ₃)	mg/L	<2.0	2.0
Bicarbonate (as HCO ₃)	mg/L	180.8	2.5
Carbonate (as CO ₃)	mg/L	<1.5	1.5
Hydroxide (as OH)	mg/L	<0.5	0.5
Total Dissolved Solids (calculated)	mg/L	256	10
True Colour	TCU	<3	3
Turbidity	NTU	0.11	0.10
Total Residual Chlorine	mg/L	2.08	0.01

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Parameter Description	Units	Result	Detection Limit
Cyanide	mg/L	<0.100	0.100
Haloacetic Acids in water			
Bromoacetic Acid	mg/L	<0.004	0.004
Bromochloroacetic Acid	mg/L	<0.004	0.004
Chloroacetic Acid	mg/L	<0.004	0.004
Dibromoacetic Acid	mg/L	<0.004	0.004
Dichloroacetic Acid	mg/L	0.014	0.004
Trichloroacetic Acid	mg/L	<0.004	0.004
Total Haloacetic Acids	mg/L	<0.016	0.016
MCPA	mg/L	<0.002	0.002
Microcystins (as LR)	mg/L	<0.00015	0.00015
Ammonia-N	mg/L	<0.05	0.05
Oxyhalides Bromate, Chlorite, Chlorate in water			
Oxyhalides in water			
Bromate	mg/L	<0.005	0.005
Chlorite	mg/L	<0.05	0.05
Chlorate	mg/L	<0.05	0.05
Organic Chemicals & Pesticides (Primary) in water			
Base/Neutral and Acid Extractable Organic Compounds in Water			
Atrazine + Metabolites	mg/L	<0.001	0.001
Benzo(a)Pyrene	mg/L	<0.000005	0.000005
2,4-Dichlorophenol	mg/L	<0.002	0.002
2,4,6-Trichlorophenol	mg/L	<0.002	0.002
2,3,4,6-Tetrachlorophenol	mg/L	<0.002	0.002
Pentachlorophenol	mg/L	<0.002	0.002
Chlorpyrifos	mg/L	<0.002	0.002
Cyanazine	mg/L	<0.002	0.002
Diazinon	mg/L	<0.002	0.002
Diclofop-methyl	mg/L	<0.002	0.002
Dimethoate	mg/L	<0.002	0.002
Diuron	mg/L	<0.003	0.003
Malathion	mg/L	<0.002	0.002
Methoxychlor	mg/L	<0.002	0.002
Metolachlor	mg/L	<0.002	0.002
Metribuzin	mg/L	<0.002	0.002
Simazine	mg/L	<0.002	0.002
Terbufos	mg/L	<0.0005	0.0005
Triallate	mg/L	<0.002	0.002
Trifluralin	mg/L	<0.002	0.002
Glyphosate	mg/L	<0.20	0.20
Herbicides in Water			
Bromoxynil	mg/L	<0.002	0.002
2,4-D	mg/L	<0.002	0.002

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Dicamba	mg/L	<0.002	0.002
Picloram	mg/L	<0.002	0.002
Nitritotriacetic Acid (NTA)	mg/L	<0.4	0.4
Volatile Organic Compounds in Water			
Benzene	mg/L	<0.001	0.001
Ethylbenzene	mg/L	<0.001	0.001
Tetrachloroethene	mg/L	<0.001	0.001
Toluene	mg/L	<0.002	0.002
Trichloroethene	mg/L	<0.002	0.002
Vinyl Chloride	mg/L	<0.001	0.001
m,p-Xylenes	mg/L	<0.002	0.002
o-Xylenes	mg/L	<0.001	0.001
Total Xylenes	mg/L	<0.003	0.003
Carbon Tetrachloride	mg/L	<0.0005	0.0005
Chlorobenzene	mg/L	<0.001	0.001
1,2-Dichlorobenzene	mg/L	<0.0005	0.0005
1,4-Dichlorobenzene	mg/L	<0.0005	0.0005
1,2-Dichloroethane	mg/L	<0.002	0.002
Dichloromethane	mg/L	<0.002	0.002
Sulphide	mg/L	<0.010	0.010
Total Organic Carbon	mg/L	2.19	0.50
Total Metals for Drinking Water			
Total Mercury	mg/L	<0.00010	0.00010
Total Metals in Water by ICP-MS			
Total Aluminum	mg/L	0.0515	0.0050
Total Antimony	mg/L	<0.00060	0.00060
Total Arsenic	mg/L	0.001021	0.000080
Total Barium	mg/L	0.0836	0.0050
Total Boron	mg/L	0.032	0.030
Total Cadmium	mg/L	<0.000040	0.000040
Total Chromium	mg/L	<0.00080	0.00080
Total Copper	mg/L	0.00095	0.00080
Total Iron	mg/L	<0.010	0.010
Total Lead	mg/L	<0.00030	0.00030
Total Manganese	mg/L	0.0010	0.0010
Total Selenium	mg/L	<0.00060	0.00060
Total Silver	mg/L	<0.000070	0.000070
Total Uranium	mg/L	0.000731	0.000050
Total Zinc	mg/L	<0.020	0.020

Test Methodologies

Alkalinity in Water: Modified from SM 2320B
Ammonia in Water: Modified from SM 4500-NH₃ F
Anions in Water: Modified from SM 4110B
Base/Neutral and Acid Extractable Organic Compounds in Water: Modified from EPA 8270D and EPA 3510C
Cations in Water: Modified from SM 3030B and SM 3120B
Cyanide in Water: Modified from SM 4500-CN C and E
Dissolved Metals in Water: Modified from SM 3030B and SM 3125B
Electrical Conductivity in Water: Modified from SM 2510B
Glyphosate in Water: Modified from New methods for determination of glyphosate and (aminomethyl)phosphonic acid in water and soil. Journal of Chromatography A
Haloacetic Acids in Water: Modified from EPA 522.3
Herbicides in Water: Modified from EPA 8151A and EPA 3510C
Microcystin in Water: Modified from Microcystin Tube Kit Instructional Booklet, Abraxis LLC
Nitrilotriacetic Acid in Water: Modified from Journal of Chromatography A., 690 (1995) 109-118
Oxyhalides in Water: Modified from SM 4110B
pH of Water: Modified from SM 4500-H⁺ B
Sulphide in Water: Modified from SM 4500-S E
Total / Dissolved Organic Carbon in Water: Modified from SM 5310B
Total Dissolved Solids (calculated): Modified from SM 1030E
Total Mercury in Water: Modified from EPA 245.7 and EPA 1631
Total Metals in Water: Modified from EPA 200.2 and SM 3125B
Total Residual Chlorine in Water: Modified from SM 4500-Cl
True Colour in Water: Modified from SM 2120C
Turbidity in Water: Modified from SM 2130B
Volatile Organic Compounds in Water: Modified from EPA 8260B

Final Review by:



Dominic Bui

Client Service Representative / Project Coordinator

Note: The results in this report relate only to the items tested. Information is available for any items in 5.10.2 of ISO/IEC 17025 that cannot be put on a test report.