



Environment Canada
Eureka Weather Station
Eureka NU
ATTN: JOHN MACIVER

Date: 01-MAR-16
PO No.:
WO No.: L1736660
Project Ref: EUREKA WEATHER STATION
Sample ID: LAGOON - EULAG0510
Sampled By:
Date Collected: 21-FEB-16
Lab Sample ID: L1736660-1
Matrix: Water

PAGE 1 of 8

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
THM by headspace						
Total THMs	<0.0010		mg/L	0.1		01-MAR-16
VOC plus F1 by GCMS						
Bromodichloromethane	<0.00050		mg/L			26-FEB-16
Bromoform	<0.00050		mg/L			26-FEB-16
Chloroform	<0.00050		mg/L			26-FEB-16
Dibromochloromethane	<0.00050		mg/L			26-FEB-16
Surr: 4-Bromofluorobenzene (SS)	90.4		%			26-FEB-16
Surr: 1,4-Difluorobenzene (SS)	99.8		%			26-FEB-16
Hardness (as CaCO3)	487		mg/L		500	25-FEB-16
Total Dissolved Solids	902		mg/L		500	26-FEB-16
Total Organic Carbon	1.78		mg/L			24-FEB-16
*Turbidity	1.23		NTU			23-FEB-16
Total Metals by ICP-MS						
Aluminum (Al)-Total	0.144		mg/L		0.1	24-FEB-16
Antimony (Sb)-Total	<0.0010		mg/L	0.006		24-FEB-16
Arsenic (As)-Total	<0.0010		mg/L	0.01		24-FEB-16
Barium (Ba)-Total	0.0228		mg/L	1		24-FEB-16
Beryllium (Be)-Total	<0.0010		mg/L			24-FEB-16
Bismuth (Bi)-Total	<0.00050		mg/L			24-FEB-16
Boron (B)-Total	0.097		mg/L	5		24-FEB-16
Cadmium (Cd)-Total	0.00022		mg/L	0.005		24-FEB-16
Calcium (Ca)-Total	113		mg/L			24-FEB-16
Cesium (Cs)-Total	<0.00050		mg/L			24-FEB-16
Chromium (Cr)-Total	<0.0020		mg/L	0.05		24-FEB-16
Cobalt (Co)-Total	<0.00050		mg/L			24-FEB-16
Copper (Cu)-Total	0.0080		mg/L		1.0	24-FEB-16
Iron (Fe)-Total	0.22		mg/L		0.3	24-FEB-16
Lead (Pb)-Total	<0.0010		mg/L	0.01		24-FEB-16
Lithium (Li)-Total	0.0190		mg/L			24-FEB-16
Magnesium (Mg)-Total	49.9		mg/L			24-FEB-16
Manganese (Mn)-Total	0.0157		mg/L		0.05	24-FEB-16
Molybdenum (Mo)-Total	<0.00050		mg/L			24-FEB-16
Nickel (Ni)-Total	0.0028		mg/L			24-FEB-16
Phosphorus (P)-Total	<0.50		mg/L			24-FEB-16
Potassium (K)-Total	7.03		mg/L			24-FEB-16
Rubidium (Rb)-Total	0.00218		mg/L			24-FEB-16
Selenium (Se)-Total	<0.0050		mg/L	0.05		24-FEB-16
Silicon (Si)-Total	0.31		mg/L			24-FEB-16
Silver (Ag)-Total	<0.0010		mg/L			24-FEB-16
Sodium (Na)-Total	127		mg/L		200	24-FEB-16
Strontium (Sr)-Total	0.479		mg/L			24-FEB-16

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Matrix: Water

PAGE 2 of 8

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Total Metals by ICP-MS						
Tellurium (Te)-Total	<0.0010		mg/L			24-FEB-16
Thallium (Tl)-Total	<0.0050		mg/L			24-FEB-16
Thorium (Th)-Total	<0.0010		mg/L			24-FEB-16
Tin (Sn)-Total	<0.00060		mg/L			24-FEB-16
Titanium (Ti)-Total	0.0010		mg/L			24-FEB-16
Tungsten (W)-Total	<0.0020		mg/L			24-FEB-16
Uranium (U)-Total	0.00077		mg/L	0.02		24-FEB-16
Vanadium (V)-Total	<0.0020		mg/L			24-FEB-16
Zinc (Zn)-Total	<0.020		mg/L		5.0	24-FEB-16
Zirconium (Zr)-Total	<0.0010		mg/L			24-FEB-16
Total Coliform and E.coli						
Total Coliforms	0	MBHT	MPN/100mL	0		22-FEB-16
Escherichia Coli	0	MBHT	MPN/100mL	0		22-FEB-16
CDWQG = Health Canada Guideline Limits updated DECEMBER 2015 * CDWQG for Nitrate+Nitrite-N is the limit for nitrate only. If present as Nitrate then the limit is 10mg/L < or N.D. = less than detection limit. * Turbidity guideline based on membrane filtration. For guidelines on conventional treatment and slow sand or diatomaceous earth filtration please see Summary Table of Guidelines for Canadian Drinking Water Quality - A blank entry designates no known limit. - A shaded value in the Results column exceeds CDWQG MAC and/ or Aesthetic Objective.						
Approved by 						
Hua Wo Account Manager						

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ATTN: JOHN MACIVER

Date: 01-MAR-16
PO No.:
WO No.: L1736660
Project Ref: EUREKA WEATHER STATION
Sample ID: REVERSE OSMOSIS EURO0510
Sampled By:
Date Collected: 21-FEB-16
Lab Sample ID: L1736660-2
Matrix: Water

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Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
THM by headspace						
Total THMs	0.0127		mg/L	0.1		01-MAR-16
VOC plus F1 by GCMS						
Bromodichloromethane	0.00288		mg/L			26-FEB-16
Bromoform	0.00392		mg/L			26-FEB-16
Chloroform	0.00187		mg/L			26-FEB-16
Dibromochloromethane	0.00399		mg/L			26-FEB-16
Surr: 4-Bromofluorobenzene (SS)	90.1		%			26-FEB-16
Surr: 1,4-Difluorobenzene (SS)	99.1		%			26-FEB-16
Hardness (as CaCO ₃)	<0.30		mg/L		500	25-FEB-16
Total Dissolved Solids	38		mg/L		500	26-FEB-16
Total Organic Carbon	<0.50		mg/L			24-FEB-16
*Turbidity	<0.10		NTU			23-FEB-16
Total Metals by ICP-MS						
Aluminum (Al)-Total	<0.020		mg/L		0.1	24-FEB-16
Antimony (Sb)-Total	<0.0010		mg/L	0.006		24-FEB-16
Arsenic (As)-Total	<0.0010		mg/L	0.01		24-FEB-16
Barium (Ba)-Total	<0.00050		mg/L	1		24-FEB-16
Beryllium (Be)-Total	<0.0010		mg/L			24-FEB-16
Bismuth (Bi)-Total	<0.00050		mg/L			24-FEB-16
Boron (B)-Total	0.123		mg/L	5		24-FEB-16
Cadmium (Cd)-Total	<0.00020		mg/L	0.005		24-FEB-16
Calcium (Ca)-Total	<0.20		mg/L			24-FEB-16
Cesium (Cs)-Total	<0.00050		mg/L			24-FEB-16
Chromium (Cr)-Total	<0.0020		mg/L	0.05		24-FEB-16
Cobalt (Co)-Total	<0.00050		mg/L			24-FEB-16
Copper (Cu)-Total	0.0165		mg/L		1.0	24-FEB-16
Iron (Fe)-Total	<0.10		mg/L		0.3	24-FEB-16
Lead (Pb)-Total	<0.0010		mg/L	0.01		24-FEB-16
Lithium (Li)-Total	<0.0020		mg/L			24-FEB-16
Magnesium (Mg)-Total	<0.050		mg/L			24-FEB-16
Manganese (Mn)-Total	<0.0010		mg/L		0.05	24-FEB-16
Molybdenum (Mo)-Total	<0.00050		mg/L			24-FEB-16
Nickel (Ni)-Total	<0.0020		mg/L			24-FEB-16
Phosphorus (P)-Total	<0.50		mg/L			24-FEB-16
Potassium (K)-Total	0.12		mg/L			24-FEB-16
Rubidium (Rb)-Total	<0.00050		mg/L			24-FEB-16
Selenium (Se)-Total	<0.0050		mg/L	0.05		24-FEB-16
Silicon (Si)-Total	<0.30		mg/L			24-FEB-16
Silver (Ag)-Total	<0.0010		mg/L			24-FEB-16
Sodium (Na)-Total	14.5		mg/L		200	24-FEB-16
Strontium (Sr)-Total	<0.00050		mg/L			24-FEB-16

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Sample ID: REVERSE OSMOSIS EURO0510
Sampled By:
Date Collected: 21-FEB-16
Lab Sample ID: L1736660-2
Matrix: Water

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Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Total Metals by ICP-MS						
Tellurium (Te)-Total	<0.0010		mg/L			24-FEB-16
Thallium (Tl)-Total	<0.0050		mg/L			24-FEB-16
Thorium (Th)-Total	<0.0010		mg/L			24-FEB-16
Tin (Sn)-Total	<0.00060		mg/L			24-FEB-16
Titanium (Ti)-Total	<0.0010		mg/L			24-FEB-16
Tungsten (W)-Total	<0.0020		mg/L			24-FEB-16
Uranium (U)-Total	<0.00050		mg/L	0.02		24-FEB-16
Vanadium (V)-Total	<0.0020		mg/L			24-FEB-16
Zinc (Zn)-Total	0.078		mg/L		5.0	24-FEB-16
Zirconium (Zr)-Total	<0.0010		mg/L			24-FEB-16
Total Coliform and E.coli						
Total Coliforms	0	MBHT	MPN/100mL	0		22-FEB-16
Escherichia Coli	0	MBHT	MPN/100mL	0		22-FEB-16
CDWQG = Health Canada Guideline Limits updated DECEMBER 2015 * CDWQG for Nitrate+Nitrite-N is the limit for nitrate only. If present as Nitrate then the limit is 10mg/L < or N.D. = less than detection limit. * Turbidity guideline based on membrane filtration. For guidelines on conventional treatment and slow sand or diatomaceous earth filtration please see Summary Table of Guidelines for Canadian Drinking Water Quality - A blank entry designates no known limit. - A shaded value in the Results column exceeds CDWQG MAC and/ or Aesthetic Objective.						
Approved by  Hua Wo Account Manager						

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Date: 01-MAR-16
PO No.:
WO No.: L1736660
Project Ref: EUREKA WEATHER STATION
Sample ID: TAP EUTAP0510
Sampled By:
Date Collected: 21-FEB-16
Lab Sample ID: L1736660-3
Matrix: Water

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Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
THM by headspace						
Total THMs	0.420		mg/L	0.1		01-MAR-16
VOC plus F1 by GCMS						
Bromodichloromethane	0.0222		mg/L			26-FEB-16
Bromoform	0.267		mg/L			26-FEB-16
Chloroform	0.00510		mg/L			26-FEB-16
Dibromochloromethane	0.125		mg/L			26-FEB-16
Surr: 4-Bromofluorobenzene (SS)	87.5		%			26-FEB-16
Surr: 1,4-Difluorobenzene (SS)	98.3		%			26-FEB-16
Hardness (as CaCO3)	23.2		mg/L		500	25-FEB-16
Total Dissolved Solids	1530		mg/L		500	26-FEB-16
Total Organic Carbon	2.92		mg/L			24-FEB-16
*Turbidity	0.10		NTU			23-FEB-16
Total Metals by ICP-MS						
Aluminum (Al)-Total	<0.020		mg/L		0.1	24-FEB-16
Antimony (Sb)-Total	<0.0010		mg/L	0.006		24-FEB-16
Arsenic (As)-Total	<0.0010		mg/L	0.01		24-FEB-16
Barium (Ba)-Total	0.00089		mg/L	1		24-FEB-16
Beryllium (Be)-Total	<0.0010		mg/L			24-FEB-16
Bismuth (Bi)-Total	<0.00050		mg/L			24-FEB-16
Boron (B)-Total	0.161		mg/L	5		24-FEB-16
Cadmium (Cd)-Total	<0.00020		mg/L	0.005		24-FEB-16
Calcium (Ca)-Total	5.85		mg/L			24-FEB-16
Cesium (Cs)-Total	<0.00050		mg/L			24-FEB-16
Chromium (Cr)-Total	<0.0020		mg/L	0.05		24-FEB-16
Cobalt (Co)-Total	<0.00050		mg/L			24-FEB-16
Copper (Cu)-Total	0.235		mg/L		1.0	24-FEB-16
Iron (Fe)-Total	<0.10		mg/L		0.3	24-FEB-16
Lead (Pb)-Total	<0.0010		mg/L	0.01		24-FEB-16
Lithium (Li)-Total	<0.0020		mg/L			24-FEB-16
Magnesium (Mg)-Total	2.08		mg/L			24-FEB-16
Manganese (Mn)-Total	<0.0010		mg/L		0.05	24-FEB-16
Molybdenum (Mo)-Total	0.00055		mg/L			24-FEB-16
Nickel (Ni)-Total	<0.0020		mg/L			24-FEB-16
Phosphorus (P)-Total	<0.50		mg/L			24-FEB-16
Potassium (K)-Total	4.73		mg/L			24-FEB-16
Rubidium (Rb)-Total	0.00122		mg/L			24-FEB-16
Selenium (Se)-Total	<0.0050		mg/L	0.05		24-FEB-16
Silicon (Si)-Total	0.72		mg/L			24-FEB-16
Silver (Ag)-Total	<0.0010		mg/L			24-FEB-16
Sodium (Na)-Total	557		mg/L		200	24-FEB-16
Strontium (Sr)-Total	0.0217		mg/L			24-FEB-16

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Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Total Metals by ICP-MS						
Tellurium (Te)-Total	<0.0010		mg/L			24-FEB-16
Thallium (Tl)-Total	<0.0050		mg/L			24-FEB-16
Thorium (Th)-Total	<0.0010		mg/L			24-FEB-16
Tin (Sn)-Total	<0.00060		mg/L			24-FEB-16
Titanium (Ti)-Total	<0.0010		mg/L			24-FEB-16
Tungsten (W)-Total	<0.0020		mg/L			24-FEB-16
Uranium (U)-Total	0.00132		mg/L	0.02		24-FEB-16
Vanadium (V)-Total	<0.0020		mg/L			24-FEB-16
Zinc (Zn)-Total	0.057		mg/L		5.0	24-FEB-16
Zirconium (Zr)-Total	<0.0010		mg/L			24-FEB-16
Total Coliform and E.coli						
Total Coliforms	0	MBHT	MPN/100mL	0		22-FEB-16
Escherichia Coli	0	MBHT	MPN/100mL	0		22-FEB-16
CDWQG = Health Canada Guideline Limits updated DECEMBER 2015 * CDWQG for Nitrate+Nitrite-N is the limit for nitrate only. If present as Nitrate then the limit is 10mg/L < or N.D. = less than detection limit. * Turbidity guideline based on membrane filtration. For guidelines on conventional treatment and slow sand or diatomaceous earth filtration please see Summary Table of Guidelines for Canadian Drinking Water Quality - A blank entry designates no known limit. - A shaded value in the Results column exceeds CDWQG MAC and/ or Aesthetic Objective.						
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Guidelines & Objectives

Sample Parameter Qualifier key listed:

Qualifier	Description
MBHT	The APHA 30 hour hold time was exceeded for microbiological testing. Samples processed within 48 hours from time of sampling may

be valid in some cases (refer to Health Canada guidance).

Health Canada MAC Health Related Criteria Limits

Nitrate/Nitrite-N*	Criteria limit is 10 mg/L (1.0 mg/L if present as all Nitrite-N). High concentrations may contribute to blue baby syndrome in infants.
Lead*	A cumulative body poison, uncommon in naturally occurring hard waters.
Fluoride*	Present in fluoridated water supplies at 0.8 mg/L to reduce dental caries. Elevated levels causes fluorosis (mottling of teeth).
Total Coliforms*	Criteria is 0 CFU/100mL. Adverse health effects.
E. Coli*	Criteria is 0 CFU/100 mL. Certain E. Coli bacteria can be life threatening.

*Health Canada Canadian Drinking Water Quality Guidelines (MAC limit)

Aesthetic Objective Concentration Levels

Alkalinity	Acid neutralizing capacity. Usually a measure of carbonate and bicarbonates and calculated and reported as calcium carbonate.
Balance	Quality control parameter ratioing cations to anions
Bicarbonate	See Alkalinity. Report as the anion HCO ₃ -1
Carbonate	See Alkalinity. Reported at the anion CO ₃ -2
Calcium	See Hardness. Common major cation of water chemistry.
Chloride	Common major anion of water chemistry.
Conductance	Physical test measuring water salinity (dissolved ions or solids)
Hardness	Classical measure or capacity of water to precipitate soap (chiefly calcium and magnesium ions). Causes scaling tendency in water if carbonates/bicarbonates are present (if >200 mg/L). For drinking water purposes waters with results <200 mg/L are considered acceptable, results >200 mg/L are considered poor but can be tolerated. Results >500 mg/L are unacceptable.
Hydroxide	See alkalinity
Magnesium	See hardness. Common major cation of water chemistry. Elevated levels (>125 mg/L) may exert a cathartic or diuretic action.
pH	Measure of water acidity/alkalinity. Normal range is 7.0-8.5.
Potassium	Common major cation of water chemistry.
Sodium	Common major cation of water chemistry. Measure of salinity (saltiness).The aesthetic objective (not related to health) for sodium in drinking water is 200 mg/L. However, where sodium concentration of the drinking water exceeds 20 mg/L, it is recommended that any person on a sodium restricted diet consult with his/her physician or Medical Officer of Health concerning the use of that water.
Sulphate	Common major anion of water chemistry. Elevated levels may exert a cathartic or diuretic action.
Total Dissolved Solids	A measure of water salinity.
Iron	Causes staining to laundry and porcelain and astringent taste. Oxidizes to red-brown precipitate on exposure to air.
Manganese	Elevated levels may cause staining of laundry and porcelain.
Heterotrophic	
Plate Count	Criteria is 500 cfu/mL Measure of heterotrophic bacteria present.

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

[illegible]