The Rural Municipality of Rockwood

STONY MOUNTAIN ANNUAL WATER REPORT

2023

Website: www.rockwood.ca

Prepared March 22, 2024

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PUBLIC WATER SYSTEM ANNUAL REPORT

Water System Contact Information

- 2 0 2 3 –

Name of the Public Water System: **Stony Mountain Water Treatment Plant**

Name of the Legal Owner: **The Rural Municipality of Rockwood**

Contact Person: **Chris Luellman, CAO**

Phone: **(204) 467-2272**

Email: **info@rockwood.ca**

Website: **www.rockwood.ca**

Water System's Emergency Numbers:

(204) 461-3399 Emergency Number
(204) 467-2272 Administration Office
(204) 344-5148 Stony Mountain Shop

Utilities Manager: **Cody Dubbert**

Utilities Operators: **Reid Kolesar**
Nathan Benevides-Harris
Jeffrey Sing

Utilities Operator Part-time: **Deane Smart (Started Employment Oct. 23, 2023)**

Introduction:

The 2023 Annual Report for Stony Mountain summarizes the water utility's ability to produce safe potable water and meet provincial regulations.

1. Description of the Water System

The Stony Mountain Public Water System Licence # (PWS-10-453-02) provides potable drinking water to a population of approximately 1600 residents. Treated water produced from the water treatment plant meets all health and aesthetic objectives as stated in the Guidelines for Canadian Drinking Water Quality. The Operating License has been renewed and is in compliance with provincial regulations. Engineer assessment was completed in 2016 / 2017. Water System Qualified Person Assessment is due 2025.

1.1 Water Supply Source

Stony Mountain Water Treatment Plant receives groundwater from three (3) wells located one (1) mile west of Stony Mountain. The three (3) wells draw groundwater from a confined aquifer. They were drilled in 1991 to a depth of approximately 150'. As water flows through the ground it dissolves metals and minerals and comes in contact with iron, manganese, calcium carbonate (hardness causing mineral). These do not pose any health risk, they are known as aesthetic water quality parameters.

1.2 Water Treatment Process

Water is drawn from the aquifer into the Water Treatment Plant where chlorine is added by a metering pump for disinfection to achieve a free residual before it enters into the distribution system. A corrosion inhibitor is added for corrosion control of metal parts in the distribution systems.

1.3 Distribution Systems

Consists of a network of PVC piping approximately thirty-four (34) miles long, which includes a rural line with seventy-four (74) customers, two (2) duty pumps which are controlled by VFD for constant town pressure, plus a fire pump controlled by a pressure switch for heavy and fire flows. Our system supplies fire protection for the residents of Stony Mountain and industrial park. The distribution system has ninety-one (91) fire hydrants and five (5) flush hydrants for flushing dead ends. Water is supplied to approximately seven hundred (703) users which consist of Domestic, Commercial, Public Schools, Daycares and Community Clubs. All connections are metered.

1.4 Water Quality Standards

- Bacteriological bi-weekly water samples have met water quality Standards, which is summarized in Tables 1 & 2
- The Stony Mountain public water system met the bacteriological water quality standards in 2023.
- Compliance with section 6.11 of the RM of Rockwood Operating License – 2023 Advisory Notification Plan completed.
- A free chlorine residual of at least .10 mg/L has been maintained in the distribution system at all times
- The RM of Rockwood is in compliance with The Drinking Water Safety Act, its supporting regulations, and the terms and conditions of the water systems current operating license.
- The Office of Drinking Water is no longer sending out Annual Audits. Any non-compliance incidents are discussed throughout the year via phone call or email, and the necessary records will be in the monthly reports. Stony Mountain has no non-compliance incidents identified in 2023, and there is no outstanding water system assessment to be completed at this time.

1.5 Utility Rates

Rates have not changed in 2023. A Rate study was submitted to the Public Utilities Board in January of 2024.

1.6 Monitoring Requirements

- A full chemical analysis/analytical report has been completed and attached
- 1 Raw, 1 treated and 2 distributed water sample is collected for bacteriological analysis on a bi-weekly basis.
- The drinking water in all Stony Mountain schools is tested once a month.

1.7 The Environment Act's Water and Wastewater Facility Operators Regulation

1.7.1 Plant Classification is as follows:

- Class I Water Treatment Facility,
- Class II Water Distribution System,
- Class II Wastewater Collection System,
- Class II Wastewater Treatment Facility

1.7.2 Operators Certification is as follows:

- Cody Dubbert – Level II
- Reid Kolesar – Level II
- Nathan Benevides - Harris – Level II
- Jeffrey Sing – Level IV
- Deane Smart – Level I

2. Disinfection System in Use

Disinfection is the selective destruction or inactivation of potential disease causing organisms in water. As per the *Drinking Water Safety Act* the Stony Mountain Public Wat er System must ensure that a disinfectant residual of at least:

- 0.5 mg of free chlorine per litre of water is detectable at the point where water enters the distribution system.
- 0.1 mg of free chlorine per litre of water is detectable at all times at any point in the distribution piping network.

2.1 Disinfection used

is 12% sodium hypochlorite injected by peristaltic chemical metering pumps (Watson Marlow). Also have a second pump on stand-by if needed; controlled by automatic switch over. Parameters for all pumps are set manually by the operator. Priority is rotated weekly. i.e.: pump 1 becomes stand-by and pump 2 becomes duty etc.

2.2 Equipment redundancy and monitoring requirements

As per the *Drinking Water Safety Act* – continuous disinfection is maintained at the plant by keeping in stock all spare parts required for the chemical metering pumps, as well as a spare chemical metering pump.

2.3 Disinfection residual overall performance/results

For 2023, the Stony Mountain Public Water System has met all regulatory requirements regarding monitoring and reporting disinfection residuals leaving the water plant and in the distribution system.

Water sampling is carried out on a biweekly basis for the presence of Total Coliform (TC) which is an indicator that disease causing organisms may also be present. Sampling is also conducted for E-Coli (EC) bacteria.

3. Boil Water Advisory

A boil water advisory was sent out on May 9, 2023, for the Stony Mountain Public Water System. North end of Maple Dr., East end of Memorial Blvd., Legion Bay, and Dean Way, Public Notices (Pages 6 and 7).
Water samples taken after repairs were completed, see ALS testing results and RM of Rockwood COC sample (Page 8-11).

3.1. Boil Water Advisory

Manitoba

Health
Environment and Climate

PUBLIC NOTICE

BOIL WATER ADVISORY

FOR A PORTION OF THE STONY MOUNTAIN PUBLIC WATER SYSTEM (NORTH END OF MAPLE DRIVE, EAST END OF MEMORIAL BLVD., LEGION BAY, AND DEAN WAY)

Issued by the Medical Officer of Health, Manitoba Health and
the Office of Drinking Water, Manitoba Environment and Climate

May 9, 2023

Scheduled maintenance to the water system will lead to the loss of water pressure in a portion of the Stony Mountain distribution system [North end of Maple Drive, East end of Memorial Blvd., Legion Bay, and Dean Way]. Distribution depressurization can compromise the safety of the water supply. A boil water advisory is being issued **starting at 9:00AM on May 9, 2023** to ensure the protection of public health.

RECOMMENDATIONS

Until further notice, all water used for consumption should be brought to a rolling boil for at least one minute before it is used for:

- Drinking and ice making
- Preparing beverages, such as infant formula
- Preparing food, including washing fruits and vegetables
- Brushing teeth

It is **not** necessary to boil tap water used for other household purposes, such as laundry or washing dishes. Adults and older children that are able to avoid swallowing the water can wash, bathe, or shower. Young children should be sponge bathed. If boiling is not practical, an alternate and safe supply of water should be used for consumptive purposes; i.e. bottled water. **Boil Water Advisory Fact Sheet #1 - Boil Water Advisory For Manitoba Water System Users** contains additional information on water use and can be found on the website below.

All commercial, public and permitted facilities (ex: restaurants, health care facilities, day cares, personal care homes and other private facilities that provide food and water services) must follow water use recommendations from the **Boil Water Advisory Fact Sheet #3 – Boil Water Advisory For Commercial/Public Facilities**. A copy of this Fact Sheet is available on the website below.

To avoid burn injuries from hot water, caution should be taken. Please keep young children away from boiling water. Place kettles and pots away from counter and stove edges.

Please share this information with other people who use the tap water, especially those who may not have received this notice directly (ex: renters, tenants, staff, or clients). This notice can also be posted in common areas where people tend to gather.

DURATION

The Boil Water Advisory will remain in effect until the water supplied by this water system no longer presents a risk to public health. You will be notified when the advisory has been rescinded.

If you have any questions or concerns, please contact water system at 204-467-2272 or the Regional Drinking Water Officer at 204-641-3530, or Health Links at 204-788-8200 (toll free at 1-888-315-9257).

To review Fact Sheets on water use, please go to www.manitoba.ca/drinkingwater or http://www.gov.mb.ca/health/publichealth/environmentalhealth/water.html

3.2 Rescinded Advisory Notice

The Rural Municipality of Rockwood

BOX 902, 285 MAIN ST.
STONEWALL, MB R0C 2Z
Tel: 204-467-2272
Fax: 204-467-5329

EMAIL:info@rockwood.ca

WEBSITE: www.rockwood.ca

REEVE
WES TAPLIN

CHIEF ADMINISTRATIVE OFFICER
CHRIS LUELLMAN

COUNCILLORS
TOM HUFFMAN
CURTIS MCCLINTOCK
NEAL WIRGAU
ART GOUDY
TERRY HARTLE
LYLE WILLIS

PORTION OF STONY MOUNTAIN WATER SYSTEM
NORTH END OF MAPLE DRIVE, EAST END OF MEMORIAL BLVD., LEGION BAY, AND DEAN WAY
RESCINDED
BOIL WATER ADVISORY

The Boil Water Advisory for the Portion of the Stony Mountain Water System: **North end of Maple Drive, East end of Memorial Blvd., Legion Bay, and Dean Way has been rescinded.**

The work has been completed, pressure restored, and bacteriological testing results met regulatory standards.

Normal Water use may resume.

If you have questions, please contact the Utility Department at 204-467-2272

Thank you for your patience.

The Rural Municipality of Rockwood

3.3 ALS Testing Results

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **WP2307629**	Page	: 1 of 3
Client	: **Rural Municipality of Rockwood**	Laboratory	: Winnipeg - Environmental
Contact	: Alan Schick	Account Manager	: Sheriza Rajack-Ahamed
Address	: 222.50 - Stony Mountain - PWS Box 902 Stonewall MB Canada R0C 2Z0	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg MB Canada R2J 3T4
Telephone	: 204 467 2272	Telephone	: +1 204 255 9720
Project	: 222.50	Date Samples Received	: 10-May-2023 15:42
PO	: ----	Date Analysis Commenced	: 10-May-2023
C-O-C number	: ----	Issue Date	: 15-May-2023 13:05
Sampler	: ----		
Site	: 222.50		
Quote number	: MB WTP Contract		
No. of samples received	: 3		
No. of samples analysed	: 3		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
William Lake	Analyst	Administration, Winnipeg, Manitoba
William Lake	Analyst	Microbiology, Winnipeg, Manitoba

alsglobal.com

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).

Unit	*Description*
°C	degrees celsius
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Accreditation

Accreditation	*Description*	*Laboratory*	*Address*
A	CALA ISO/IEC 17025:2017	WP Winnipeg - Environmental	1329 Niakwa Road East, Unit 12, Winnipeg, Manitoba

Applicable accreditations are indicated in the Method/Lab column as superscripts.

Analytical Results

Sub-Matrix: **Drinking Water**
(Matrix: **Water**)

					Client sample ID	**STONY MOUNTAIN 3 - DISTRIBUTION @ Work Area Memorial + Legion Bay 222.50-B3-01**	**STONY MOUNTAIN 3 - DISTRIBUTION @ Downstream of Work Area Memorial + Maple 222.50-B3-01**	**STONY MOUNTAIN 3 - DISTRIBUTION @ Upstream of Work Area Legion Bay 222.50-B3-01**	**----**	**----**
					Client sampling date / time	10-May-2023 15:05	10-May-2023 15:05	10-May-2023 15:05	----	----
Analyte	*CAS Number*	*Method/Lab*		*LOR*	*Unit*	**WP2307629-003**	**WP2307629-004**	**WP2307629-005**	**--------**	**--------**
						Result	Result	Result	----	----
Field Tests										
Chlorine, free, field	7782-50-5	EF001/WP		0.01	mg/L	0.49	0.51	0.46	----	----
Chlorine, total, field	7782-50-5	EF001/WP		0.01	mg/L	0.62	0.60	0.59	----	----
Temperature, as received	----	EF001/WP		0.1	°C	10.5	10.5	10.5	----	----
Microbiological Tests										
Coliforms, total	----	E010/WP	A	1	MPN/100mL	<1	<1	<1	----	----
Coliforms, Escherichia coli [E. coli]	----	E010/WP	A	1	MPN/100mL	<1	<1	<1	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

WHITE PAPER CO. 604 551-3300

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

12 - 1329 Niakwa Rd. E.
Winnipeg, Manitoba R2J 3T4
Tel: (204) 255-9720
Fax: (204) 255-9721
Toll Free: 1 800 607 7555

Chain of Custody / Analytical Request Form
CHEMISTRY INFO: (204) 255 9739
MICRO INFO: (204) 255 9740 OR (204) 255 9737

WORK ORDER NO:

FOR LABORATORY USE ONLY (SHADED AREAS)
Sample Condition Upon Receipt: ☐ ACCEPTABLE ☐ NON ACCEPTABLE
☐ Frozen ☐ Cold ☐ Ambient ☐ Broken ☐ Leakage ☐ Incorrect Sample Container
COMMENT:

LAB NO.: MAY 10 2023
DATE RECEIVED:
TIME RECEIVED: 3:42
BY: SN 10.5°

Date Sampled: May 10/23 Time: 3 : 05 A.M. ☐ P.M. ☑ Date Required:

Location: Stony mtn PWS (Town, Community, City)

Community Code Number: 222.50

Submitter's Name Printed: Alan Schick
Sample Submitted By: alan Schick
Rural Municipality/LGC/UVD: of Rockwood

SAMPLE TYPE

DRINKING WATER
- ☐ Untreated Well
- ☐ Treated Well
- ☑ Treated Municipal
- ☐ Non-Treated Municipal
- ☐ Water-Surface-Raw
- ☐ Water-Surface-Treated

PURPOSE OF TEST
☐ Private ☐ Real Estate ☐ Water Main

NON-DRINKING WATER
- ☐ Sewage/Waste Water
- ☐ Lake/River
- ☐ Swimming Pool
- ☐ Whirl Pool
- ☐ Other

PLEASE PRINT & PRESS FIRMLY

NOTES & CONDITIONS
1. Quote number must be provided to insure proper pricing.
2. Failure to properly complete all portions of this form may delay analysis.
3. ALS's liability limited to cost of analysis.

SERVICE REQUESTED
☑ **REGULAR** ☐ **PRIORITY** (50% SURCHARGE) ☐ **EMERGENCY** (100% SURCHARGE)

LAB NUMBER	SAMPLE IDENTIFICATION
	(1) Work area memorial + legion bay Free - 0.49 Total - 0.62
	(2) Down stream of work area memorial + Maple Free - 0.51 Total - 0.66
	(3) upstream of work area, Legion bay Free - 0.46 Total - 0.59

ALS CUSTOMER #: QUOTE #:

REPORT TO BE SENT TO
NAME: Alan Schick
COMPANY: Rm of Rockwood
ADDRESS: Box 902
CITY/TOWN: Stonewall / PROV.: mb
POSTAL CODE: R0C-2Z0
PHONE: 204-467-2272
BY: MAIL ☐ FAX ☑ 204-467-5329 (FAX NUMBER)
PICKUP ☐ E-MAIL ☑ info@rockwood.ca (EMAIL ADDRESS)
alan.schick@rockwood.ca

CC
NAME: Caitlin Barber
ADDRESS:
CITY/TOWN: / PROV.:
POSTAL CODE:
PHONE:
BY: MAIL ☐ FAX ☐ (FAX NUMBER)
PICKUP ☐ E-MAIL ☑ ODW.bacteria@gov.mb.ca (EMAIL ADDRESS)

Analyses required 1,2+3 - EC, TC

BILLING ADDRESS SAME AS REPORT TO ☐
Environmental Division
Winnipeg
Work Order Reference
WP2307629
/ PROV.:

SAMPLING INSTRUCTIONS ON REVERSE SIDE

Manitoba Technology Centre Ltd.
Part of the **ALS Laboratory Group**
12 - 1329 Niakwa Rd. E., Winnipeg, MB Canada R2J 3T4
Phone: +1 204 255 9720 Fax: +1 204 255 9721 **www.alsglobal.com**
A Campbell Brothers Limited Company

SUBMITTER COPY

Telephone : + 1 204 255 9720

S
'S P.O. NO.

Subtotal $
G.S.T. $
Total $

☐ VISA / MASTERCARD
* OUR POLICY IS NOT TO ACCEPT SAMPLES FROM THE PRIVATE CITIZEN WITHOUT PREPAYMENT

ENTERED IN LIMS BY:

4. Water Quality / Treatment Standards

Table 1: Water Quality / Treatment Standards – Summary

Parameter	Quality Standards	ALS Results	Raw/Treated/ Distribution
Total coliform	Less than one total coliform bacteria detectable per 100 mL in all treated and distributed water	<1	Raw/Treated/ Distribution
E. coli	Less than one E. coli bacteria detectable per 100 mL in all treated and distributed water	<1	Raw/Treated/ Distribution
Chlorine Residual	Chlorine Free residual of at least 0.5 mg/L in water entering the distribution system following a minimum contact time of 20 minutes. Chlorine Free residual of at least 0.01 mg/L at all times at any point in the water distribution system.	0.550 0.010	Treated/ Distribution
Arsenic	Less than or equal to 0.01 mg/L	0.00010	TREATED
Benzene	Less than or equal to 0.005 mg/L	<0.0050	RAW
Ethylbenzene	Less than or equal to 0.14 mg/L	<0.00050	RAW
Fluoride	Less than or equal to 1.5 mg/L	0.243	TREATED
Lead	Less than or equal to 0.005 mg/L	0.000123	TREATED
Nitrate	Less than or equal to 45 mg/L measured as nitrate (10 mg/L measured as nitrogen)	<0.0050	TREATED
Tetrachloroethylene	Less than or equal to 0.01 mg/L	NA	NA
Toluene	Less than or equal to 0.06 mg/L	<0.00050	RAW
Total Xylenes	Less than or equal to 0.09 mg/L	<0.00064	RAW
Uranium	Less than or equal to 0.02 mg/L	0.000550	TREATED

5. Monitoring Schedule

Table 2: Monitoring Schedule 2023 - Summary

Parameter	**Monitoring Requirement**	**ALS Results**	**Parameters**
Bacteriological (total coliform and E.coli)	Biweekly sampling program with each set of samples consisting of one raw, one treated, and a minimum of one distribution sample. Consecutive sample sets to be separated by at least 12 days	<1	Raw/Treated/ Distribution
Free Chlorine (treated water)	One sample per day of water entering the distribution system following at least 20 minutes of contact time	0.760	Treated
Free Chlorine (distribution system)	At the same times and location(s) as bacteriological distribution system sampling	0.550	Distribution
General Chemistry (parameter list provided by Office of Drinking Water)	One raw and one treated water sample once every three years	Table 1	Raw/Treated/ Distribution
Total Metals (distribution system)	One sample taken at the same time(s) as General Chemistry sampling at a mid-point in the distribution	Table 1	Raw/Treated/ Distribution
Other Parameters	As per the instruction of the Drinking Water Officer	NA	

6. Major Expenses in 2023

- Engineering costs - new lift station $40,000
- Lift Station Equipment costs $272,320

7. Major Expenses as of March 2024

- New lift station residential and industrial $135,768

8. Future System Improvement/Expenses for 2024-2026

- On going training for operations staff $10,000
- Feasibility Studies for Force Mains, lift station, reservoir $100,000
- Lift Station – Residential $1,500,000
- Lift Station – Residential / Industrial $1,500,000
- Water/Sewer Force Mains -New developments $3,700,000
- Dead end lines – Loop water line $2,500,000

The following pictures are from the

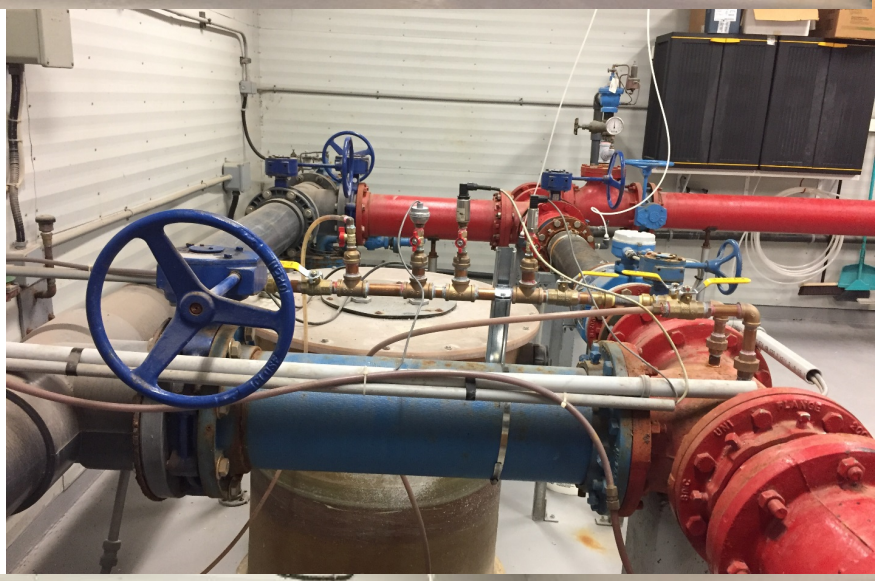
STONY MOUNTAIN WATER TREATMENT PLANT

Presenting

Layout of the Distribution Header,

Disinfection and Monitoring Equipment

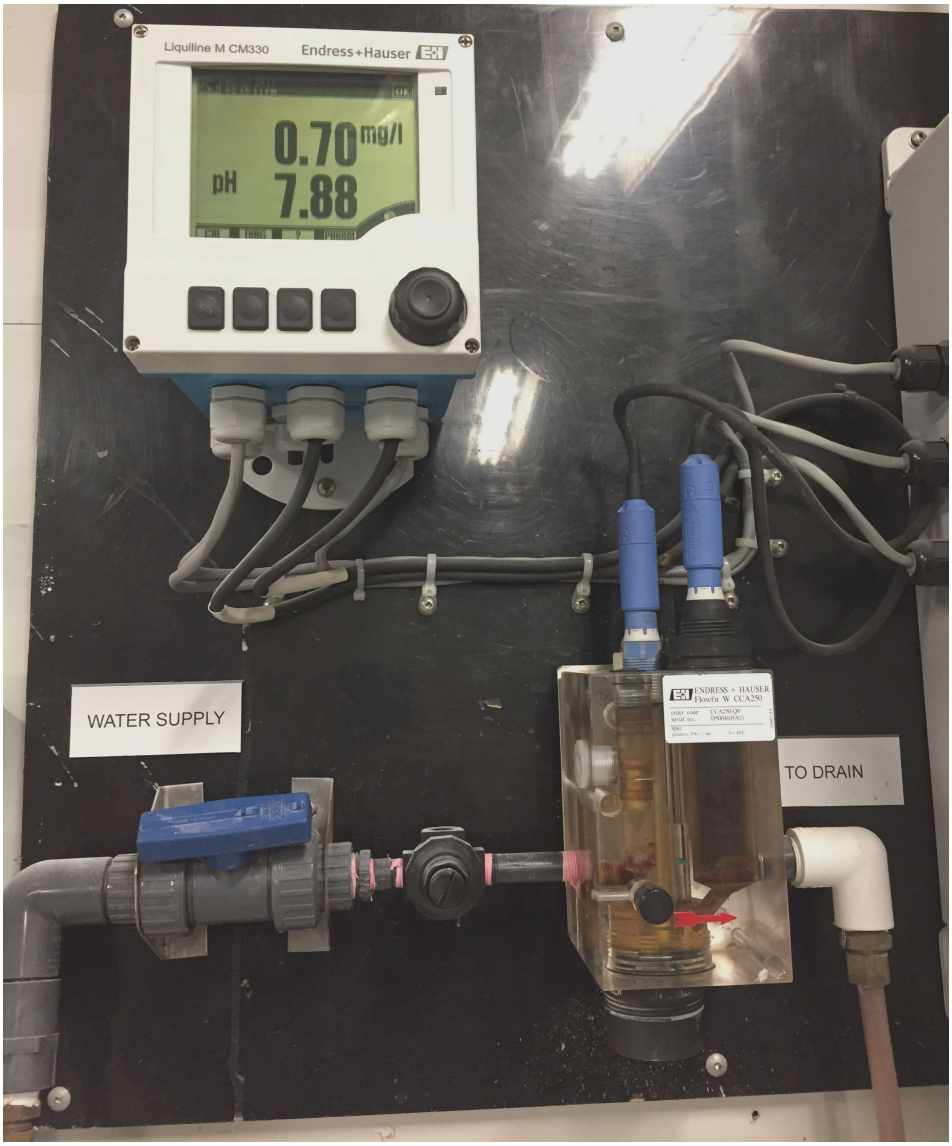
Distribution Header



Data Recorder

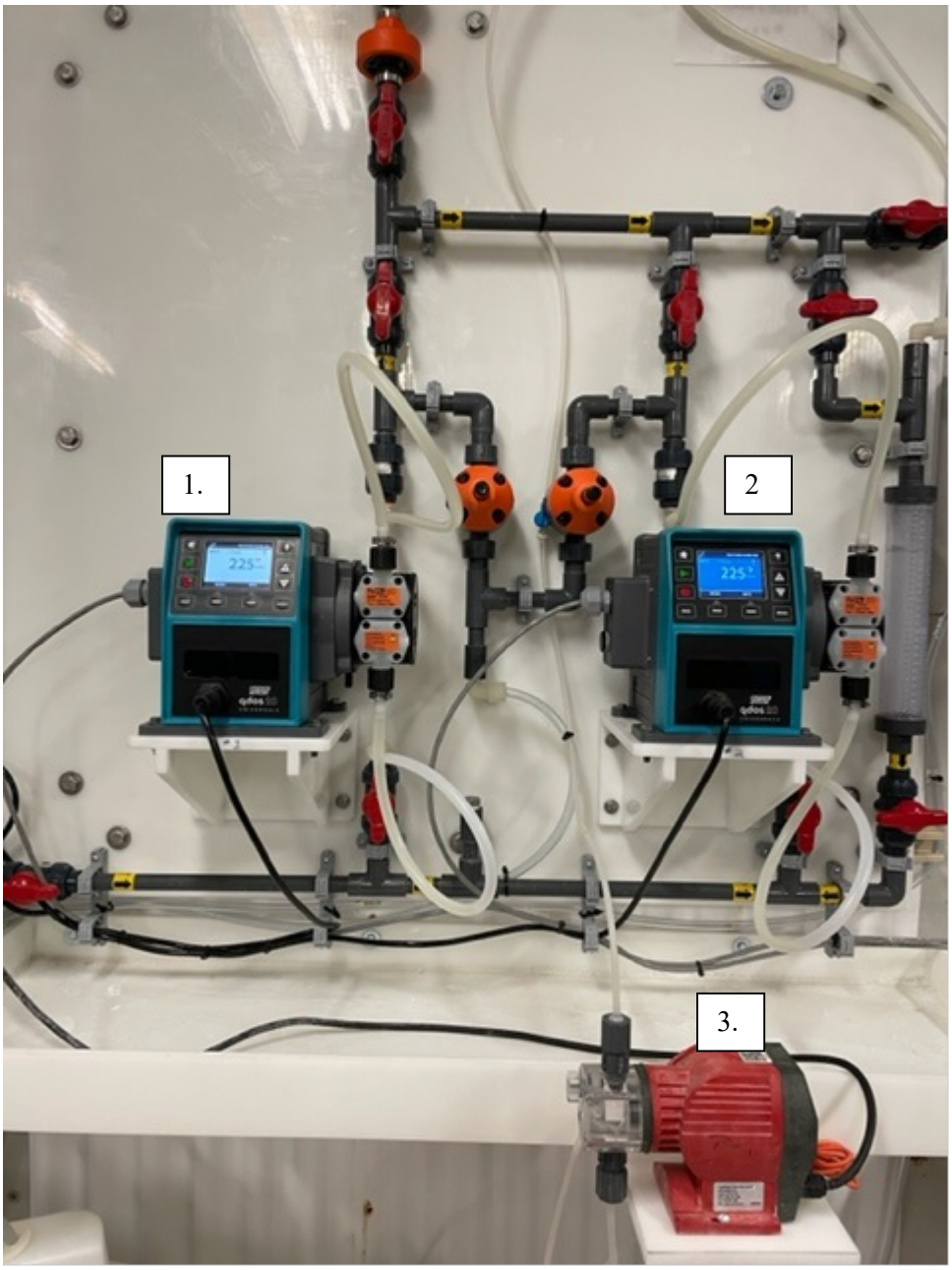
1. DATA RECORDER
2. FLOW METER (READ OUT)

Chlorine Analyzer



CHLORINE
ANALYZER
(Monitoring Chlorine Levels 24 Hours/Day)

Dual Peristaltic Chemical Pumps



1 & 2. PUMPS ALTERNATE ON A WEEKLY BASIS, AS SET BY THE OPERATOR.

3. CLEARHIB CHEMICAL PUMP

1. LIQUID CHLORINE
2. LIQUID CLEARHIB

Chemical Pump Control

CHLORINE PUMP CONTROL PANNEL /
AUTOMATIC SWITCH OVER

Genset

GENSET VIEW 1

GENSET VIEW 2

Water Treatment Building

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **WP2405502**	Page	: 1 of 10
Client	: **Manitoba Conservation & Climate**	Laboratory	: ALS Environmental - Winnipeg
Contact	: Marc Balcaen	Account Manager	: Sheriza Rajack-Ahamed
Address	: 14 Fultz Boulevard Winnipeg MB Canada R3Y 0L6	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 945 5776	Telephone	: +1 204 255 9720
Project	: Stony Mountain - PWS 222.50	Date Samples Received	: 06-Mar-2024 13:45
PO	: ----	Date Analysis Commenced	: 06-Mar-2024
C-O-C number	: ----	Issue Date	: 13-Mar-2024 14:54
Sampler	: ----		
Site	: Stony Mountain - PWS 222.50 Op Id: 8620		
Quote number	: WTP Chemistry		
No. of samples received	: 3		
No. of samples analysed	: 3		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Gerry Vera	Analyst	Organics, Winnipeg, Manitoba
Lee McTavish		Inorganics, Winnipeg, Manitoba
Lee McTavish		Metals, Winnipeg, Manitoba

Summary of Guideline Breaches by Sample

SampleID/Client ID	Matrix	Analyte	Analyte Summary	Guideline	Category	Result	Limit
STONY MOUNTIAN 1 - RAW	Water	Solids, total dissolved [TDS]	Based on taste; TDS above 500 mg/L results in excessive scaling in water pipes, water heaters, boilers and appliances; TDS is composed of calcium, magnesium, sodium, potassium, carbonate, bicarbonate, chloride, sulphate and nitrate.	CDWG	AO	616 mg/L	500 mg/L
STONY MOUNTIAN 2 - TREATED	Water	Solids, total dissolved [TDS]	Based on taste; TDS above 500 mg/L results in excessive scaling in water pipes, water heaters, boilers and appliances; TDS is composed of calcium, magnesium, sodium, potassium, carbonate, bicarbonate, chloride, sulphate and nitrate.	CDWG	AO	625 mg/L	500 mg/L

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.
Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non -infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
%	percent
% T/cm	% transmittance per centimetre
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
AU/cm	absorbance units per centimetre
CU	colour units (1 cu = 1 mg/l pt)
meq/L	milliequivalents per litre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units

>: greater than.
<: less than.
Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Analytical Results Evaluation

Matrix: Drinking Water

			Client sample ID	STONY MOUNTIAN 1 - RAW	STONY MOUNTIAN 2 - TREATED	STONY MOUNTIAN 3 - DISTRIBUTION MID POINT	----	----	----	----
			Sampling date/time	06-Mar-2024 08:00	06-Mar-2024 09:00	06-Mar-2024 09:10	----	----	----	----
			Sub-Matrix	Drinking Water	Drinking Water	Drinking Water	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	WP2405502-001	WP2405502-002	WP2405502-003	--------	--------	--------	--------
Physical Tests										
Absorbance, UV (@ 254nm)	----	E404/WP	AU/cm	0.0200	0.0210	----	----	----	----	----
Alkalinity, bicarbonate (as CaCO3)	----	E290/WP	mg/L	405	410	----	----	----	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/WP	mg/L	<1.0	<1.0	----	----	----	----	----
Alkalinity, hydroxide (as CaCO3)	----	E290/WP	mg/L	<1.0	<1.0	----	----	----	----	----
Alkalinity, total (as CaCO3)	----	E290/WP	mg/L	405	410	----	----	----	----	----
Colour, true	----	E329/WP	CU	<5.0	<5.0	----	----	----	----	----
Conductivity	----	E100/WP	µS/cm	1140	1140	----	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/WP	mg/L	461	464	----	----	----	----	----
Langelier index (@ 4°C)	----	EC105A/WP	-	0.592	0.653	----	----	----	----	----
Langelier index (@ 60°C)	----	EC105A/WP	-	1.35	1.41	----	----	----	----	----
pH	----	E108/WP	pH units	7.86	7.92	----	----	----	----	----
Solids, total dissolved [TDS]	----	E162-L/WP	mg/L	616	625	----	----	----	----	----
Turbidity	----	E121/WP	NTU	0.11	<0.10	----	----	----	----	----
Transmittance, UV (@ 254nm)	----	E404/WP	% T/cm	95.5	95.3	----	----	----	----	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/WP	mg/L	0.0685	0.0072	----	----	----	----	----
Bromide	24959-67-9	E235.Br-L/WP	mg/L	0.084	<0.050	----	----	----	----	----
Chloride	16887-00-6	E235.Cl-L/WP	mg/L	97.5	97.3	----	----	----	----	----
Fluoride	16984-48-8	E235.F/WP	mg/L	0.250	0.247	----	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/WP	mg/L	<0.0050	<0.0050	----	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/WP	mg/L	<0.0010	<0.0010	----	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/WP	mg/L	84.6	83.9	----	----	----	----	----
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/WP	mg/L	1.62	1.89	----	----	----	----	----
Carbon, total organic [TOC]	----	E355-L/WP	mg/L	1.03	1.00	----	----	----	----	----
Ion Balance										

Analytical Results Evaluation

Matrix: **Drinking Water**

			Client sample ID	STONY MOUNTIAN 1 - RAW	STONY MOUNTIAN 2 - TREATED	STONY MOUNTIAN 3 - DISTRIBUTION MID POINT	----	----	----	----
			Sampling date/time	06-Mar-2024 08:00	06-Mar-2024 09:00	06-Mar-2024 09:10	----	----	----	----
			Sub-Matrix	Drinking Water	Drinking Water	Drinking Water	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	WP2405502-001	WP2405502-002	WP2405502-003	--------	--------	--------	--------
Ion Balance										
Anion sum	----	EC101A/WP	meq/L	12.6	12.7	----	----	----	----	----
Cation sum (total)	----	EC101A/WP	meq/L	13.1	13.3	----	----	----	----	----
Ion balance (cations/anions)	----	EC101A/WP	%	104	105	----	----	----	----	----
Ion balance (APHA)	----	EC101A/WP	%	1.94	2.31	----	----	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E420/WP	µg/L	<3.0	<3.0	<3.0	----	----	----	----
Antimony, total	7440-36-0	E420/WP	µg/L	<0.10	<0.10	<0.10	----	----	----	----
Arsenic, total	7440-38-2	E420/WP	µg/L	0.22	0.46	0.21	----	----	----	----
Barium, total	7440-39-3	E420/WP	µg/L	33.6	37.4	33.7	----	----	----	----
Beryllium, total	7440-41-7	E420/WP	µg/L	<0.020	<0.020	<0.020	----	----	----	----
Bismuth, total	7440-69-9	E420/WP	µg/L	<0.050	<0.050	<0.050	----	----	----	----
Boron, total	7440-42-8	E420/WP	µg/L	241	251	239	----	----	----	----
Cadmium, total	7440-43-9	E420/WP	µg/L	<0.0050	0.0062	<0.0050	----	----	----	----
Calcium, total	7440-70-2	E420/WP	µg/L	73600	73200	70000	----	----	----	----
Cesium, total	7440-46-2	E420/WP	µg/L	0.020	0.020	0.022	----	----	----	----
Chromium, total	7440-47-3	E420/WP	µg/L	Not Detected	Not Detected	Not Detected	----	----	----	----
Cobalt, total	7440-48-4	E420/WP	µg/L	0.13	<0.10	<0.10	----	----	----	----
Copper, total	7440-50-8	E420/WP	µg/L	1.00	90.0	161	----	----	----	----
Iron, total	7439-89-6	E420/WP	µg/L	41	<10	<10	----	----	----	----
Lead, total	7439-92-1	E420/WP	µg/L	0.150	1.97	0.295	----	----	----	----
Lithium, total	7439-93-2	E420/WP	µg/L	52.0	53.2	49.9	----	----	----	----
Magnesium, total	7439-95-4	E420/WP	µg/L	67300	68400	64000	----	----	----	----
Manganese, total	7439-96-5	E420/WP	µg/L	4.56	0.39	0.48	----	----	----	----
Molybdenum, total	7439-98-7	E420/WP	µg/L	0.301	0.326	0.293	----	----	----	----
Nickel, total	7440-02-0	E420/WP	µg/L	0.74	1.00	0.66	----	----	----	----
Phosphorus, total	7723-14-0	E420/WP	µg/L	<50	1380	226	----	----	----	----
Potassium, total	7440-09-7	E420/WP	µg/L	10300	10500	11400	----	----	----	----

Analytical Results Evaluation

Matrix: **Drinking Water**

			Client sample ID	STONY MOUNTIAN 1 - RAW	STONY MOUNTIAN 2 - TREATED	STONY MOUNTIAN 3 - DISTRIBUTION MID POINT	----	----	----	----
			Sampling date/time	06-Mar-2024 08:00	06-Mar-2024 09:00	06-Mar-2024 09:10	----	----	----	----
			Sub-Matrix	Drinking Water	Drinking Water	Drinking Water	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	WP2405502-001	WP2405502-002	WP2405502-003	--------	--------	--------	--------
Total Metals										
Rubidium, total	7440-17-7	E420/WP	µg/L	4.89	5.08	6.11	----	----	----	----
Selenium, total	7782-49-2	E420/WP	µg/L	<0.050	<0.050	<0.050	----	----	----	----
Silicon, total	7440-21-3	E420/WP	µg/L	4700	4930	4740	----	----	----	----
Silver, total	7440-22-4	E420/WP	µg/L	<0.010	<0.010	<0.010	----	----	----	----
Sodium, total	7440-23-5	E420/WP	µg/L	83400	86400	91400	----	----	----	----
Strontium, total	7440-24-6	E420/WP	µg/L	461	468	455	----	----	----	----
Sulfur, total	7704-34-9	E420/WP	µg/L	32500	33700	33000	----	----	----	----
Tellurium, total	13494-80-9	E420/WP	µg/L	<0.20	<0.20	<0.20	----	----	----	----
Thallium, total	7440-28-0	E420/WP	µg/L	<0.010	<0.010	Not Detected	----	----	----	----
Thorium, total	7440-29-1	E420/WP	µg/L	Not Detected	Not Detected	Not Detected	----	----	----	----
Tin, total	7440-31-5	E420/WP	µg/L	0.16	0.16	<0.10	----	----	----	----
Titanium, total	7440-32-6	E420/WP	µg/L	<0.30	<0.30	<0.30	----	----	----	----
Tungsten, total	7440-33-7	E420/WP	µg/L	Not Detected	Not Detected	Not Detected	----	----	----	----
Uranium, total	7440-61-1	E420/WP	µg/L	0.492	0.516	0.527	----	----	----	----
Vanadium, total	7440-62-2	E420/WP	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Zinc, total	7440-66-6	E420/WP	µg/L	3.0	317	10.4	----	----	----	----
Zirconium, total	7440-67-7	E420/WP	µg/L	Not Detected	Not Detected	Not Detected	----	----	----	----
Volatile Organic Compounds										
Benzene	71-43-2	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----
Bromodichloromethane	75-27-4	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----
Bromoform	75-25-2	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----
Chloroform	67-66-3	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----
Dibromochloromethane	124-48-1	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----
Dichloromethane	75-09-2	E611D/WP	mg/L	<0.0010	----	----	----	----	----	----
Ethylbenzene	100-41-4	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----
Tetrachloroethylene	127-18-4	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Drinking Water**

			Client sample ID	STONY MOUNTIAN 1 - RAW	STONY MOUNTIAN 2 - TREATED	STONY MOUNTIAN 3 - DISTRIBUTION MID POINT	----	----	----	----
			Sampling date/time	06-Mar-2024 08:00	06-Mar-2024 09:00	06-Mar-2024 09:10	----	----	----	----
			Sub-Matrix	Drinking Water	Drinking Water	Drinking Water	----	----	----	----
Analyte	*CAS Number*	*Method/Lab*	*Unit*	WP2405502-001	WP2405502-002	WP2405502-003	--------	--------	--------	--------
Volatile Organic Compounds										
Toluene	108-88-3	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----
Trichloroethane, 1,1,1-	71-55-6	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----
Trichloroethane, 1,1,2-	79-00-5	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----
Trichloroethylene	79-01-6	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----
Xylene, m+p-	179601-23-1	E611D/WP	mg/L	<0.00040	----	----	----	----	----	----
Xylene, o-	95-47-6	E611D/WP	mg/L	<0.00030	----	----	----	----	----	----
Xylenes, total	1330-20-7	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----
BTEX, total	----	E611D/WP	mg/L	<0.0010	----	----	----	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611D/WP	%	77.2	----	----	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611D/WP	%	116	----	----	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Summary of Guideline Limits

Analyte	CAS Number	Unit	CDWG AO	CDWG MAC	CDWG OG				
Physical Tests									
Absorbance, UV (@ 254nm)	----	AU/cm	--	--	--				
Alkalinity, bicarbonate (as CaCO3)	----	mg/L	--	--	--				
Alkalinity, carbonate (as CaCO3)	----	mg/L	--	--	--				
Alkalinity, hydroxide (as CaCO3)	----	mg/L	--	--	--				
Alkalinity, total (as CaCO3)	----	mg/L	--	--	--				
Colour, true	----	CU	**15 CU**	--	--				
Conductivity	----	µS/cm	--	--	--				
Hardness (as CaCO3), from total Ca/Mg	----	mg/L	--	--	--				
Langelier index (@ 4°C)	----	-	--	--	--				
Langelier index (@ 60°C)	----	-	--	--	--				
pH	----	pH units	--	--	**7 - 10.5 pH units**				
Solids, total dissolved [TDS]	----	mg/L	**500 mg/L**	--	--				
Transmittance, UV (@ 254nm)	----	% T/cm	--	--	--				
Turbidity	----	NTU	**1 NTU**	--	--				
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	mg/L	--	--	--				
Bromide	24959-67-9	mg/L	--	--	--				
Chloride	16887-00-6	mg/L	**250 mg/L**	--	--				
Fluoride	16984-48-8	mg/L	--	**1.5 mg/L**	--				
Nitrate (as N)	14797-55-8	mg/L	--	**10 mg/L**	--				
Nitrite (as N)	14797-65-0	mg/L	--	**1 mg/L**	--				
Sulfate (as SO4)	14808-79-8	mg/L	**500 mg/L**	--	--				
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	mg/L	--	--	--				
Carbon, total organic [TOC]	----	mg/L	--	--	--				
Ion Balance									
Anion sum	----	meq/L	--	--	--				
Cation sum (total)	----	meq/L	--	--	--				
Ion balance (APHA)	----	%	--	--	--				
Ion balance (cations/anions)	----	%	--	--	--				
Total Metals									
Aluminum, total	7429-90-5	µg/L	--	**2900 µg/L**	**100 µg/L**				
Antimony, total	7440-36-0	µg/L	--	**6 µg/L**	--				
Arsenic, total	7440-38-2	µg/L	--	**10 µg/L**	--				
Barium, total	7440-39-3	µg/L	--	**2000 µg/L**	--				
Beryllium, total	7440-41-7	µg/L	--	--	--				

Analyte	CAS Number	Unit	CDWG AO	CDWG MAC	CDWG OG				
Total Metals - Continued									
Bismuth, total	7440-69-9	µg/L	--	--	--				
Boron, total	7440-42-8	µg/L	--	**5000 µg/L**	--				
Cadmium, total	7440-43-9	µg/L	--	**7 µg/L**	--				
Calcium, total	7440-70-2	µg/L	--	--	--				
Cesium, total	7440-46-2	µg/L	--	--	--				
Chromium, total	7440-47-3	µg/L	--	**50 µg/L**	--				
Cobalt, total	7440-48-4	µg/L	--	--	--				
Copper, total	7440-50-8	µg/L	**1000 µg/L**	**2000 µg/L**	--				
Iron, total	7439-89-6	µg/L	**300 µg/L**	--	--				
Lead, total	7439-92-1	µg/L	--	**5 µg/L**	--				
Lithium, total	7439-93-2	µg/L	--	--	--				
Magnesium, total	7439-95-4	µg/L	--	--	--				
Manganese, total	7439-96-5	µg/L	**20 µg/L**	**120 µg/L**	--				
Molybdenum, total	7439-98-7	µg/L	--	--	--				
Nickel, total	7440-02-0	µg/L	--	--	--				
Phosphorus, total	7723-14-0	µg/L	--	--	--				
Potassium, total	7440-09-7	µg/L	--	--	--				
Rubidium, total	7440-17-7	µg/L	--	--	--				
Selenium, total	7782-49-2	µg/L	--	**50 µg/L**	--				
Silicon, total	7440-21-3	µg/L	--	--	--				
Silver, total	7440-22-4	µg/L	--	--	--				
Sodium, total	7440-23-5	µg/L	**200000 µg/L**	--	--				
Strontium, total	7440-24-6	µg/L	--	**7000 µg/L**	--				
Sulfur, total	7704-34-9	µg/L	--	--	--				
Tellurium, total	13494-80-9	µg/L	--	--	--				
Thallium, total	7440-28-0	µg/L	--	--	--				
Thorium, total	7440-29-1	µg/L	--	--	--				
Tin, total	7440-31-5	µg/L	--	--	--				
Titanium, total	7440-32-6	µg/L	--	--	--				
Tungsten, total	7440-33-7	µg/L	--	--	--				
Uranium, total	7440-61-1	µg/L	--	**20 µg/L**	--				
Vanadium, total	7440-62-2	µg/L	--	--	--				
Zinc, total	7440-66-6	µg/L	**5000 µg/L**	--	--				
Zirconium, total	7440-67-7	µg/L	--	--	--				
Volatile Organic Compounds									
Benzene	71-43-2	mg/L	--	**0.005 mg/L**	--				
Bromodichloromethane	75-27-4	mg/L	--	--	--				
Bromoform	75-25-2	mg/L	--	--	--				
BTEX, total	----	mg/L	--	--	--				

Analyte	CAS Number	Unit	CDWG AO	CDWG MAC	CDWG OG				
Volatile Organic Compounds - Continued									
Chloroform	67-66-3	mg/L	--	--	--				
Dibromochloromethane	124-48-1	mg/L	--	--	--				
Dichloromethane	75-09-2	mg/L	--	**0.05 mg/L**	--				
Ethylbenzene	100-41-4	mg/L	**0.0016 mg/L**	**0.14 mg/L**	--				
Methyl-tert-butyl ether [MTBE]	1634-04-4	mg/L	**0.015 mg/L**	--	--				
Tetrachloroethylene	127-18-4	mg/L	--	**0.01 mg/L**	--				
Toluene	108-88-3	mg/L	**0.024 mg/L**	**0.06 mg/L**	--				
Trichloroethane, 1,1,1-	71-55-6	mg/L	--	--	--				
Trichloroethane, 1,1,2-	79-00-5	mg/L	--	--	--				
Trichloroethylene	79-01-6	mg/L	--	**0.005 mg/L**	--				
Xylene, m+p-	179601-23-1	mg/L	--	--	--				
Xylene, o-	95-47-6	mg/L	--	--	--				
Xylenes, total	1330-20-7	mg/L	**0.02 mg/L**	**0.09 mg/L**	--				
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	%	--	--	--				
Difluorobenzene, 1,4-	540-36-3	%	--	--	--				

Please refer to the General Comments section for an explanation of any qualifiers detected.

Key:

CDWG		Canada Guidelines for Canadian Drinking Water Quality (JAN, 2023)
	AO	Aesthetic Objective
	MAC	Maximum Acceptable Concentrations
	OG	Operational Guidance

ALS Canada Ltd.

right solutions.
right partner.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WP2405502**	Page	: 1 of 13
Client	: **Manitoba Conservation & Climate**	Laboratory	: ALS Environmental - Winnipeg
Contact	: Marc Balcaen	Account Manager	: Sheriza Rajack-Ahamed
Address	: 14 Fultz Boulevard Winnipeg MB Canada R3Y 0L6	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: ----	Telephone	: +1 204 255 9720
Project	: Stony Mountain - PWS 222.50	Date Samples Received	: 06-Mar-2024 13:45
PO	: ----	Issue Date	: 12-Mar-2024 14:54
C-O-C number	: ----		
Sampler	: ----		
Site	: Stony Mountain - PWS 222.50 Op Id: 8620		
Quote number	: WTP Chemistry		
No. of samples received	: 3		
No. of samples analysed	: 3		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- Method Blank value outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Method Blank (MB) Values								
Physical Tests	QC-MRG2-1357214 001	----	Alkalinity, total (as CaCO3)	----	E290	1.0 mg/L	1 mg/L	Blank result exceeds permitted value

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) STONY MOUNTIAN 1 - RAW	E298	06-Mar-2024	11-Mar-2024	28 days	5 days	✓	11-Mar-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) STONY MOUNTIAN 2 - TREATED	E298	06-Mar-2024	11-Mar-2024	28 days	5 days	✓	11-Mar-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE STONY MOUNTIAN 1 - RAW	E235.Br-L	06-Mar-2024	06-Mar-2024	28 days	0 days	✓	06-Mar-2024	28 days	0 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE STONY MOUNTIAN 2 - TREATED	E235.Br-L	06-Mar-2024	06-Mar-2024	28 days	0 days	✓	06-Mar-2024	28 days	0 days	✓
Anions and Nutrients : Chloride in Water by IC (Low Level)										
HDPE STONY MOUNTIAN 1 - RAW	E235.Cl-L	06-Mar-2024	06-Mar-2024	28 days	0 days	✓	06-Mar-2024	28 days	0 days	✓
Anions and Nutrients : Chloride in Water by IC (Low Level)										
HDPE STONY MOUNTIAN 2 - TREATED	E235.Cl-L	06-Mar-2024	06-Mar-2024	28 days	0 days	✓	06-Mar-2024	28 days	0 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE STONY MOUNTIAN 1 - RAW	E235.F	06-Mar-2024	06-Mar-2024	28 days	0 days	✓	06-Mar-2024	28 days	0 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Fluoride in Water by IC										
HDPE STONY MOUNTIAN 2 - TREATED	E235.F	06-Mar-2024	06-Mar-2024	28 days	0 days	✓	06-Mar-2024	28 days	0 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE STONY MOUNTIAN 1 - RAW	E235.NO3-L	06-Mar-2024	06-Mar-2024	3 days	0 days	✓	06-Mar-2024	3 days	0 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE STONY MOUNTIAN 2 - TREATED	E235.NO3-L	06-Mar-2024	06-Mar-2024	3 days	0 days	✓	06-Mar-2024	3 days	0 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE STONY MOUNTIAN 1 - RAW	E235.NO2-L	06-Mar-2024	06-Mar-2024	3 days	0 days	✓	06-Mar-2024	3 days	0 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE STONY MOUNTIAN 2 - TREATED	E235.NO2-L	06-Mar-2024	06-Mar-2024	3 days	0 days	✓	06-Mar-2024	3 days	0 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE STONY MOUNTIAN 1 - RAW	E235.SO4	06-Mar-2024	06-Mar-2024	28 days	0 days	✓	06-Mar-2024	28 days	0 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE STONY MOUNTIAN 2 - TREATED	E235.SO4	06-Mar-2024	06-Mar-2024	28 days	0 days	✓	06-Mar-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) STONY MOUNTIAN 1 - RAW	E358-L	06-Mar-2024	07-Mar-2024	3 days	1 days	✓	07-Mar-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) STONY MOUNTIAN 2 - TREATED	E358-L	06-Mar-2024	07-Mar-2024	3 days	1 days	✓	07-Mar-2024	28 days	0 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) STONY MOUNTIAN 1 - RAW	E355-L	06-Mar-2024	07-Mar-2024	28 days	1 days	✓	07-Mar-2024	28 days	1 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) STONY MOUNTIAN 2 - TREATED	E355-L	06-Mar-2024	07-Mar-2024	28 days	1 days	✓	07-Mar-2024	28 days	1 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE STONY MOUNTIAN 1 - RAW	E290	06-Mar-2024	06-Mar-2024	14 days	1 days	✓	07-Mar-2024	14 days	1 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE STONY MOUNTIAN 2 - TREATED	E290	06-Mar-2024	06-Mar-2024	14 days	1 days	✓	07-Mar-2024	14 days	1 days	✓
Physical Tests : Colour (True) by Spectrometer (5 CU)										
HDPE STONY MOUNTIAN 1 - RAW	E329	06-Mar-2024	06-Mar-2024	3 days	0 days	✓	06-Mar-2024	3 days	0 days	✓
Physical Tests : Colour (True) by Spectrometer (5 CU)										
HDPE STONY MOUNTIAN 2 - TREATED	E329	06-Mar-2024	06-Mar-2024	3 days	0 days	✓	06-Mar-2024	3 days	0 days	✓
Physical Tests : Conductivity in Water										
HDPE STONY MOUNTIAN 1 - RAW	E100	06-Mar-2024	06-Mar-2024	28 days	1 days	✓	07-Mar-2024	28 days	1 days	✓
Physical Tests : Conductivity in Water										
HDPE STONY MOUNTIAN 2 - TREATED	E100	06-Mar-2024	06-Mar-2024	28 days	1 days	✓	07-Mar-2024	28 days	1 days	✓
Physical Tests : pH by Meter										
HDPE STONY MOUNTIAN 2 - TREATED	E108	06-Mar-2024	06-Mar-2024	0.25 hrs	12 hrs	× EHTR-FM	07-Mar-2024	0.25 hrs	24 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter										
HDPE STONY MOUNTIAN 1 - RAW	E108	06-Mar-2024	06-Mar-2024	0.25 hrs	13 hrs	× EHTR-FM	07-Mar-2024	0.25 hrs	25 hrs	× EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE STONY MOUNTIAN 1 - RAW	E162-L	06-Mar-2024	----	----	----		07-Mar-2024	7 days	1 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE STONY MOUNTIAN 2 - TREATED	E162-L	06-Mar-2024	----	----	----		07-Mar-2024	7 days	1 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE STONY MOUNTIAN 1 - RAW	E121	06-Mar-2024	----	----	----		07-Mar-2024	3 days	1 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE STONY MOUNTIAN 2 - TREATED	E121	06-Mar-2024	----	----	----		07-Mar-2024	3 days	1 days	✓
Physical Tests : UV Absorbance and Transmittance by Spectrometry										
HDPE STONY MOUNTIAN 1 - RAW	E404	06-Mar-2024	----	----	----		08-Mar-2024	3 days	2 days	✓
Physical Tests : UV Absorbance and Transmittance by Spectrometry										
HDPE STONY MOUNTIAN 2 - TREATED	E404	06-Mar-2024	----	----	----		08-Mar-2024	3 days	2 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) STONY MOUNTIAN 1 - RAW	E420	06-Mar-2024	11-Mar-2024	180 days	5 days	✓	11-Mar-2024	180 days	5 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) STONY MOUNTIAN 2 - TREATED	E420	06-Mar-2024	11-Mar-2024	180 days	5 days	✓	11-Mar-2024	180 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid)										
STONY MOUNTIAN 3 - DISTRIBUTION MID POINT	E420	06-Mar-2024	11-Mar-2024	180 days	5 days	✓	11-Mar-2024	180 days	5 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass vial (sodium bisulfate)										
STONY MOUNTIAN 1 - RAW	E611D	06-Mar-2024	11-Mar-2024	14 days	5 days	✓	11-Mar-2024	14 days	5 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1357215	1	11	9.0	5.0	✓
Ammonia by Fluorescence	E298	1361216	1	16	6.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1356214	1	3	33.3	5.0	✓
Chloride in Water by IC (Low Level)	E235.Cl-L	1356215	1	7	14.2	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	1356167	1	7	14.2	5.0	✓
Conductivity in Water	E100	1357214	1	12	8.3	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1357082	1	18	5.5	5.0	✓
Fluoride in Water by IC	E235.F	1356213	1	6	16.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1356216	1	7	14.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1356217	1	7	14.2	5.0	✓
pH by Meter	E108	1357216	1	12	8.3	5.0	✓
Sulfate in Water by IC	E235.SO4	1356218	1	7	14.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1357038	1	12	8.3	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1361239	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1357663	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1357500	1	12	8.3	5.0	✓
UV Absorbance and Transmittance by Spectrometry	E404	1359675	1	13	7.6	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1361257	1	8	12.5	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1357215	1	11	9.0	5.0	✓
Ammonia by Fluorescence	E298	1361216	1	16	6.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1356214	1	3	33.3	5.0	✓
Chloride in Water by IC (Low Level)	E235.Cl-L	1356215	1	7	14.2	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	1356167	1	7	14.2	5.0	✓
Conductivity in Water	E100	1357214	1	12	8.3	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1357082	1	18	5.5	5.0	✓
Fluoride in Water by IC	E235.F	1356213	1	6	16.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1356216	1	7	14.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1356217	1	7	14.2	5.0	✓
pH by Meter	E108	1357216	1	12	8.3	5.0	✓
Sulfate in Water by IC	E235.SO4	1356218	1	7	14.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1357038	1	12	8.3	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1361239	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1357663	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1357500	1	12	8.3	5.0	✓
UV Absorbance and Transmittance by Spectrometry	E404	1359675	1	13	7.6	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1361257	1	8	12.5	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1357215	1	11	9.0	5.0	✓
Ammonia by Fluorescence	E298	1361216	1	16	6.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1356214	1	3	33.3	5.0	✓
Chloride in Water by IC (Low Level)	E235.Cl-L	1356215	1	7	14.2	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	1356167	1	7	14.2	5.0	✓
Conductivity in Water	E100	1357214	1	12	8.3	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1357082	1	18	5.5	5.0	✓
Fluoride in Water by IC	E235.F	1356213	1	6	16.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1356216	1	7	14.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1356217	1	7	14.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1356218	1	7	14.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1357038	1	12	8.3	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1361239	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1357663	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1357500	1	12	8.3	5.0	✓
UV Absorbance and Transmittance by Spectrometry	E404	1359675	1	13	7.6	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1361257	1	8	12.5	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1361216	1	16	6.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1356214	1	3	33.3	5.0	✓
Chloride in Water by IC (Low Level)	E235.Cl-L	1356215	1	7	14.2	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1357082	1	18	5.5	5.0	✓
Fluoride in Water by IC	E235.F	1356213	1	6	16.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1356216	1	7	14.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1356217	1	7	14.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1356218	1	7	14.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1361239	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1357663	1	20	5.0	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1361257	1	8	12.5	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Description
Conductivity in Water	E100 ALS Environmental - Winnipeg	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Winnipeg	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Winnipeg	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TDS by Gravimetry (Low Level)	E162-L ALS Environmental - Winnipeg	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Bromide in Water by IC (Low Level)	E235.Br-L ALS Environmental - Winnipeg	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Chloride in Water by IC (Low Level)	E235.Cl-L ALS Environmental - Winnipeg	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Water by IC	E235.F ALS Environmental - Winnipeg	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Winnipeg	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Winnipeg	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Sulfate in Water by IC	E235.SO4 ALS Environmental - Winnipeg	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Description
Alkalinity Species by Titration	E290 ALS Environmental - Winnipeg	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 ALS Environmental - Winnipeg	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Colour (True) by Spectrometer (5 CU)	E329 ALS Environmental - Winnipeg	Water	APHA 2120 C (mod)	Colour (True Colour) is determined by filtering a sample through a 0.45 micron membrane filter followed by analysis of the filtrate using the platinum-cobalt colourimetric method. Colour measurements can be highly pH dependent, and apply to the pH of the sample as received (at time of testing), without pH adjustment.
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Winnipeg	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Winnipeg	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
UV Absorbance and Transmittance by Spectrometry	E404 ALS Environmental - Winnipeg	Water	APHA 5910 B (mod)	UV Absorbance is determined by first filtering a sample through a 0.45 micron filter, followed by UV absorbance measurement in a quartz cell at 254 nm. The analysis is carried out without pH adjustment.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Winnipeg	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
VOCs (Eastern Canada List) by Headspace GC-MS	E611D ALS Environmental - Winnipeg	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Description
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Winnipeg	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Ion Balance using Total Metals	EC101A ALS Environmental - Winnipeg	Water	APHA 1030E	Cation Sum (using total metals), Anion Sum, and Ion Balance are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Minor ions are included where data is present. Ion Balance cannot be calculated accurately for waters with very low electrical conductivity (EC).
Saturation Index using Laboratory pH (Ca-T)	EC105A ALS Environmental - Winnipeg	Water	APHA 2330B	Langelier Index provides an indication of scale formation potential at a given pH and temperature, and is calculated as per APHA 2330B Saturation Index. Positive values indicate oversaturation with respect to CaCO3. Negative values indicate undersaturation of CaCO3. This calculation uses laboratory pH measurements and provides estimates of Langelier Index at temperatures of 4, 15, 20, 25, 66, and 77°C. Ryznar Stability Index is an alternative index used for scale formation and corrosion potential.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Description
Preparation for Ammonia	EP298 ALS Environmental - Winnipeg	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Winnipeg	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Winnipeg	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Winnipeg	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.

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QUALITY CONTROL REPORT

Work Order	: **WP2405502**	Page	: 1 of 14
Client	: Manitoba Conservation & Climate	Laboratory	: ALS Environmental - Winnipeg
Contact	: Marc Balcaen	Account Manager	: Sheriza Rajack-Ahamed
Address	: 222.50 - Stony Mountain - PWS Box 902 Stonewall MB Canada R0C 2Z0	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	:	Telephone	: +1 204 255 9720
Project	: Stony Mountain - PWS 222.50	Date Samples Received	: 06-Mar-2024 13:45
PO	: ----	Date Analysis Commenced	: 06-Mar-2024
C-O-C number	: ----	Issue Date	: 12-Mar-2024 14:55
Sampler	: ---- ----		
Site	: Stony Mountain - PWS 222.50 Op Id: 8620		
Quote number	: WTP Chemistry		
No. of samples received	: 3		
No. of samples analysed	: 3		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Gerry Vera	Analyst	Winnipeg Organics, Winnipeg, Manitoba
Lee McTavish		Winnipeg Inorganics, Winnipeg, Manitoba
Lee McTavish		Winnipeg Metals, Winnipeg, Manitoba

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1356167)											
WP2405499-003	Anonymous	Colour, true	----	E329	5.0	CU	13.3	13.1	0.2	Diff <2x LOR	----
Physical Tests (QC Lot: 1357038)											
WP2405498-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	181	177	1.96%	20%	----
Physical Tests (QC Lot: 1357214)											
WP2405499-007	Anonymous	Conductivity	----	E100	1.0	µS/cm	334	337	0.894%	10%	----
Physical Tests (QC Lot: 1357215)											
WP2405499-007	Anonymous	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	109	109	0.184%	20%	----
Physical Tests (QC Lot: 1357216)											
WP2405499-007	Anonymous	pH	----	E108	0.10	pH units	8.00	8.00	0.00%	4%	----
Physical Tests (QC Lot: 1357500)											
WP2405408-002	Anonymous	Turbidity	----	E121	0.10	NTU	0.59	0.52	0.07	Diff <2x LOR	----
Physical Tests (QC Lot: 1359675)											
WP2405498-001	Anonymous	Absorbance, UV (@ 254nm)	----	E404	0.0050	AU/cm	0.0800	0.0820	2.47%	20%	----
Anions and Nutrients (QC Lot: 1356213)											
WP2405498-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.096	0.096	0.0004	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1356214)											
WP2405498-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.050	mg/L	0.145	0.145	0.0002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1356215)											
WP2405498-001	Anonymous	Chloride	16887-00-6	E235.Cl-L	0.10	mg/L	48.8	48.9	0.144%	20%	----
Anions and Nutrients (QC Lot: 1356216)											
WP2405498-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	0.0438	0.0435	0.0003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1356217)											
WP2405498-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1356218)											
WP2405498-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	22.2	22.3	0.237%	20%	----
Anions and Nutrients (QC Lot: 1361216)											
WP2405489-003	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0100	mg/L	0.500	0.502	0.469%	20%	----
Organic / Inorganic Carbon (QC Lot: 1357082)											
WP2405345-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	9.02	9.34	3.44%	20%	----
Organic / Inorganic Carbon (QC Lot: 1357663)											

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Organic / Inorganic Carbon (QC Lot: 1357663) - continued											
WP2405370-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	11.1	11.2	0.117%	20%	----
Total Metals (QC Lot: 1361239)											
WP2405499-011	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	728 µg/L	0.773	6.04%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	<0.10 µg/L	<0.00010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.49 µg/L	0.00050	0.000002	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	17.4 µg/L	0.0178	1.87%	20%	----
		Beryllium, total	7440-41-7	E420	0.000020	mg/L	0.025 µg/L	0.000036	0.000011	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.050 µg/L	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	<10 µg/L	<0.010	0	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0050 µg/L	<0.0000050	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	14300 µg/L	14.6	1.85%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.090 µg/L	0.000101	0.000011	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	0.00121	0.00124	0.00003	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.30 µg/L	0.00030	0.000002	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	12.8 µg/L	0.0130	1.27%	20%	----
		Iron, total	7439-89-6	E420	0.010	mg/L	748 µg/L	0.782	4.51%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.280 µg/L	0.000309	0.000029	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	3.8 µg/L	0.0039	0.0001	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	4860 µg/L	5.11	4.98%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	14.9 µg/L	0.0150	0.496%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.180 µg/L	0.000201	0.000021	Diff <2x LOR	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	1.58 µg/L	0.00167	0.00010	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<50 µg/L	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	1340 µg/L	1.37	2.11%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	2.76 µg/L	0.00276	0.0424%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.082 µg/L	0.000098	0.000016	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	3080 µg/L	3.23	4.78%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.010 µg/L	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	2960 µg/L	3.07	3.59%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	37.5 µg/L	0.0395	5.19%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	1030 µg/L	1.10	0.07	Diff <2x LOR	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.20 µg/L	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.010 µg/L	0.000013	0.000003	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	0.23 µg/L	0.00023	0.000002	Diff <2x LOR	----

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report						
					LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 1361239) - continued											
WP2405499-011	Anonymous	Tin, total	7440-31-5	E420	0.00010	mg/L	<0.10 µg/L	0.00012	0.00002	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	29.8 µg/L	0.0309	3.74%	20%	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.10 µg/L	<0.00010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.143 µg/L	0.000148	3.54%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	1.46 µg/L	0.00152	0.00006	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	<3.0 µg/L	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	0.57 µg/L	0.00060	0.00002	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1361257)											
WP2405406-001	Anonymous	Benzene	71-43-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromodichloromethane	75-27-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromoform	75-25-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroform	67-66-3	E611D	0.50	µg/L	0.54	0.51	0.03	Diff <2x LOR	----
		Dibromochloromethane	124-48-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloromethane	75-09-2	E611D	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethylene	127-18-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethylene	79-01-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611D	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1356167)						
Colour, true	----	E329	5	CU	<5.0	----
Physical Tests (QCLot: 1357038)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1357214)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1357215)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	# 1.0	----
Physical Tests (QCLot: 1357500)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1359675)						
Absorbance, UV (@ 254nm)	----	E404	0.005	AU/cm	<0.0050	----
Anions and Nutrients (QCLot: 1356213)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1356214)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1356215)						
Chloride	16887-00-6	E235.Cl-L	0.1	mg/L	<0.10	----
Anions and Nutrients (QCLot: 1356216)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1356217)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1356218)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1361216)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1357082)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1357663)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1361239)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1361239) - continued						
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1361239) - continued						
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Volatile Organic Compounds (QCLot: 1361257)						
Benzene	71-43-2	E611D	0.5	µg/L	<0.50	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	<0.50	----
Bromoform	75-25-2	E611D	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611D	0.5	µg/L	<0.50	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	<0.50	----
Dichloromethane	75-09-2	E611D	1	µg/L	<1.0	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	<0.50	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	<0.50	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	<0.30	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1356167)									
Colour, true	----	E329	5	CU	250 CU	108	85.0	115	----
Physical Tests (QCLot: 1357038)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	91.5	85.0	115	----
Physical Tests (QCLot: 1357214)									
Conductivity	----	E100	1	µS/cm	1412 µS/cm	101	90.0	110	----
Physical Tests (QCLot: 1357215)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	100 mg/L	102	85.0	115	----
Physical Tests (QCLot: 1357216)									
pH	----	E108	----	pH units	7 pH units	101	98.0	102	----
Physical Tests (QCLot: 1357500)									
Turbidity	----	E121	0.1	NTU	200 NTU	100	85.0	115	----
Physical Tests (QCLot: 1359675)									
Absorbance, UV (@ 254nm)	----	E404	0.005	AU/cm	0.582 AU/cm	104	85.0	115	----
Anions and Nutrients (QCLot: 1356213)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1356214)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1356215)									
Chloride	16887-00-6	E235.Cl-L	0.1	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1356216)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1356217)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1356218)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	99.4	90.0	110	----
Anions and Nutrients (QCLot: 1361216)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	96.1	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1357082)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	100	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1357663)									

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report: Spike Concentration	Recovery (%) LCS	Recovery Limits (%) Low	Recovery Limits (%) High	Qualifier
Organic / Inorganic Carbon (QCLot: 1357663) - continued									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	97.9	80.0	120	----
Total Metals (QCLot: 1361239)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	104	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	105	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	101	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	110	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	99.0	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	98.9	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	101	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	100	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	103	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	108	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	98.0	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	99.1	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	99.8	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	104	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	106	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	102	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	112	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	101	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	105	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	101	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	99.0	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	97.9	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	104	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	101	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	101	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	100	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	96.7	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	95.9	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	102	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1361239) - continued									
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	99.7	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	99.6	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	92.7	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	102	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	98.6	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Volatile Organic Compounds (QCLot: 1361257)									
Benzene	71-43-2	E611D	0.5	µg/L	100 µg/L	111	70.0	130	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	100 µg/L	110	70.0	130	----
Bromoform	75-25-2	E611D	0.5	µg/L	100 µg/L	93.9	70.0	130	----
Chloroform	67-66-3	E611D	0.5	µg/L	100 µg/L	112	70.0	130	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	100 µg/L	93.3	70.0	130	----
Dichloromethane	75-09-2	E611D	1	µg/L	100 µg/L	120	70.0	130	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	100 µg/L	99.0	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	100 µg/L	109	70.0	130	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	100 µg/L	112	70.0	130	----
Toluene	108-88-3	E611D	0.5	µg/L	100 µg/L	98.0	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	100 µg/L	102	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	100 µg/L	105	70.0	130	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	100 µg/L	109	70.0	130	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	200 µg/L	118	70.0	130	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	100 µg/L	99.8	70.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1356213)										
WP2405498-001	Anonymous	Fluoride	16984-48-8	E235.F	1.00 mg/L	1 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1356214)										
WP2405498-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.559 mg/L	0.5 mg/L	112	75.0	125	----
Anions and Nutrients (QCLot: 1356215)										
WP2405498-001	Anonymous	Chloride	16887-00-6	E235.Cl-L	99.2 mg/L	100 mg/L	99.2	75.0	125	----
Anions and Nutrients (QCLot: 1356216)										
WP2405498-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.48 mg/L	2.5 mg/L	99.4	75.0	125	----
Anions and Nutrients (QCLot: 1356217)										
WP2405498-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.510 mg/L	0.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1356218)										
WP2405498-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	97.5 mg/L	100 mg/L	97.5	75.0	125	----
Anions and Nutrients (QCLot: 1361216)										
WP2405489-003	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	0.1 mg/L	ND	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1357082)										
WP2405345-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	ND mg/L	5 mg/L	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1357663)										
WP2405370-002	Anonymous	Carbon, total organic [TOC]	----	E355-L	ND mg/L	5 mg/L	ND	70.0	130	----
Total Metals (QCLot: 1361239)										
WP2405499-011	Anonymous	Aluminum, total	7429-90-5	E420	ND mg/L	0.2 mg/L	ND	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0218 mg/L	0.02 mg/L	109	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0205 mg/L	0.02 mg/L	102	70.0	130	----
		Barium, total	7440-39-3	E420	0.0214 mg/L	0.02 mg/L	107	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0402 mg/L	0.04 mg/L	100	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00961 mg/L	0.01 mg/L	96.1	70.0	130	----
		Boron, total	7440-42-8	E420	0.106 mg/L	0.1 mg/L	106	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00411 mg/L	0.004 mg/L	103	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	4 mg/L	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0105 mg/L	0.01 mg/L	105	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0407 mg/L	0.04 mg/L	102	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1361239) - continued										
WP2405499-011	Anonymous	Cobalt, total	7440-48-4	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Copper, total	7440-50-8	E420	0.0196 mg/L	0.02 mg/L	97.8	70.0	130	----
		Iron, total	7439-89-6	E420	2.06 mg/L	2 mg/L	103	70.0	130	----
		Lead, total	7439-92-1	E420	0.0186 mg/L	0.02 mg/L	93.3	70.0	130	----
		Lithium, total	7439-93-2	E420	0.101 mg/L	0.1 mg/L	101	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	1 mg/L	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0200 mg/L	0.02 mg/L	100	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0214 mg/L	0.02 mg/L	107	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0408 mg/L	0.04 mg/L	102	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.4 mg/L	10 mg/L	104	70.0	130	----
		Potassium, total	7440-09-7	E420	3.98 mg/L	4 mg/L	99.4	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0197 mg/L	0.02 mg/L	98.7	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0430 mg/L	0.04 mg/L	107	70.0	130	----
		Silicon, total	7440-21-3	E420	9.71 mg/L	10 mg/L	97.1	70.0	130	----
		Silver, total	7440-22-4	E420	0.00405 mg/L	0.004 mg/L	101	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	2 mg/L	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	21.1 mg/L	20 mg/L	106	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0448 mg/L	0.04 mg/L	112	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00370 mg/L	0.004 mg/L	92.5	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0196 mg/L	0.02 mg/L	98.1	70.0	130	----
		Tin, total	7440-31-5	E420	0.0218 mg/L	0.02 mg/L	109	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0419 mg/L	0.04 mg/L	105	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0203 mg/L	0.02 mg/L	102	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00383 mg/L	0.004 mg/L	95.7	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.102 mg/L	0.1 mg/L	102	70.0	130	----
		Zinc, total	7440-66-6	E420	0.401 mg/L	0.4 mg/L	100	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0421 mg/L	0.04 mg/L	105	70.0	130	----
Volatile Organic Compounds (QCLot: 1361257)										
WP2405406-001	Anonymous	Benzene	71-43-2	E611D	108 µg/L	100 µg/L	108	60.0	140	----
		Bromodichloromethane	75-27-4	E611D	103 µg/L	100 µg/L	103	60.0	140	----
		Bromoform	75-25-2	E611D	80.5 µg/L	100 µg/L	80.5	60.0	140	----
		Chloroform	67-66-3	E611D	107 µg/L	100 µg/L	107	60.0	140	----
		Dibromochloromethane	124-48-1	E611D	88.0 µg/L	100 µg/L	88.0	60.0	140	----
		Dichloromethane	75-09-2	E611D	116 µg/L	100 µg/L	116	60.0	140	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1361257) - continued										
WP2405406-001	Anonymous	Ethylbenzene	100-41-4	E611D	93.9 µg/L	100 µg/L	93.9	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	105 µg/L	100 µg/L	105	60.0	140	----
		Tetrachloroethylene	127-18-4	E611D	106 µg/L	100 µg/L	106	60.0	140	----
		Toluene	108-88-3	E611D	97.0 µg/L	100 µg/L	97.0	60.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	98.6 µg/L	100 µg/L	98.6	60.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	101 µg/L	100 µg/L	101	60.0	140	----
		Trichloroethylene	79-01-6	E611D	104 µg/L	100 µg/L	104	60.0	140	----
		Xylene, m+p-	179601-23-1	E611D	222 µg/L	200 µg/L	111	60.0	140	----
		Xylene, o-	95-47-6	E611D	95.9 µg/L	100 µg/L	95.9	60.0	140	----

Manitoba

Office of Drinking Water
14 Fultz Boulevard, Winnipeg, Manitoba,
Canada R3Y 0L6

Chain of Custody (COC)
Manitoba Drinking Water Systems

Regular Service (defaul	☒ Regular Service (is 5-7 Days):
Unless otherwise reque	☐ **1 Day, rush / priority**
	☐ **2 Day, rush / priority**
	☐ **3 Day, rush / priority**

Report to Operator (email PDF):		**Report to Owner (email PDF):**		**Email PDF copy to:**	
Contact:	Cody Dubbert	Contact:	Chris Luellman	DWO:	Caitlin Barber
Address:	Box 902, Stonewall, MB R0C2Z0	Address:	Box 902, Stonewall, MB R0C2Z0	DWO Address:	Box 6000 75-7th Ave, Gimli, MB R0C1B0
Phone:	(204) 467-2272	Phone:	(204) 467-2272	DWO Phone:	(204) 641-3530
Email:	info@rockwood.ca;util.manager@rockwood.ca	Email:	info@rockwood.ca; cao@rockwood.ca	DWO Email:	Caitlin.Barber@gov.mb.ca
				Additional Email:	Joern.Muenster@gov.mb.ca; Marc.Balcaen@gov.mb.ca;

If an update in Owner or Operator contact information is required, please contact your Drinking Water Officer

Client / Project Information:	**Lab:**	**Account:**	Agency Code: 382	Report Type: EMS (Lab-MWS)	Project: DWQ-C

Operation Name:	STONY MOUNTAIN - PWS	Expected Sample Time:	**January-2024**
Operation Code:	222.50		
Operation ID:	8620		
Sampled by:	Reid Kolesar		

Please record Free & Total Chlorine residuals for Distribution By-product Sampling

DO NOT COPY or RE-USE this form. Sample Number are unique to the Office of Drinking Water and provided by Drinking Water Officer.

Sample Number	Station Number	Sample Identification	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Sample Date dd-mmm-yyyy	Sample Time hh:mm	Sample Matrix	Sample Type	MB-CH-PWS-V2013	MB-MET-T-CCMS	MB-VOC-PWS-V2013	# of Containers
2401CB5001	MB05OJD191	Stony Mountain 1 - Raw			06/03/2024	08:50	6	1	X		X	6
2401CB5002	MB05OJD192	Stony Mountain 2 - Treated	0.78	1.19	06/03/2024	08:00	10	1	X			4
2401CB5003	MB05OJD193	Stony Mountain 3 - Distribution mid point	0.73	1.05	06/03/2024				X			1

Environmental Division Winnipeg
Work Order Reference
WP2405502
Telephone : +1 204 255 9720

Failure to complete all portions of this form may delay analysis. Sample Matrix: 6-Raw Wate Water
Please fill in this form LEGIBLY. Sample Type: 1-Grab Sam
By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified by the Laboratory.
For ALL other testing, please use Laboratory specific forms.

Relinquished By:	Reid Kolesar	Date & Time	06/03/2024 13:40	Validated By (lab use only):	
				Sample Condition (lab use only)	
Received By: (lab use only)	MAR 06 2024	Date & Time: (lab use only)	13:45	Temperature 13.3	Samples Received in Good Condition? (Y)/ N

Sample Intake						
Client: ODW						
Cheque Enclosed with CoC		Yes		No		
Priority/Emergency Required (circle one)		Yes		No		
Time Sensitive Hold Time (circle one)		Yes		No		
Matrix (circle one)		Water	Soil/solid	Air	Biota	Other
# of Bottles received:						
Green/White	2 - 500ml	Yellow/Black				
Purple/White	2 - 125ml	Light blue/White				
Warm red/White	2 - 125ml	Orange/Black				
Dark Green/White		Dark Blue/White	2 - 40ml			
Grey/black	2 - 125ml	Black/white				
Other:						
Additional Comments: N/A						

Login Check	Check yes if you have verified the following: Yes	N/A
Received date/time	✓	
Project/PO/LSD	✓	
Quote/Office match CoC	✓	
Sample IDs/Description	✓	
Sample Date/time	✓	
Sales Items as per CoC	✓	
Express Due Dates		✓
Client due date matches ALS Due date	✓	
Client recipient emails	✓	
Guidelines/thresholds added	✓	
Billing/payment recorded	✓	✓
Field data entered	✓	✓
Sub-contracting Forms Printed		✓
SUBCO/Chromatograph added to client contacts for required analysis		✓
Are sub-samples required?		✓
Has a SIF been submitted for this WO?		✓
Has the SIF been resolved?		✓