

St Malo Provincial Park

Public Water System Annual Report

2024

Prepared by: William Prevost - Operator-in- Charge

St Malo Provincial Park

Annual Water System Operation Report-2024

The St Malo Provincial Park strives to provide high quality drinking water to meet the needs of all the campers in the park and all of the amenities that come with camping. It is our goal to do so in a safe, cost effective manner while remaining in compliance with the regulatory governing the provisions of drinking water.

It is our belief that the public has a right to access information related to the drinking water they consume. This report is also a requirement of our public water systems operation licence. This report has been prepared for the St Malo Provincial Park water system.

Where do we get our water from?

The water source at the park consists of two wells located immediately west of the water treatment facility. Both wells are five inches in diameter and were installed in 2017. The first well has a casing advanced to 390 feet with an open hole extending through strata composed primarily of limestone, shale, and sandstone, to a final depth of approximately 476 feet below grade. The second well has a casing advanced to 393 feet, with an open hole extending through strata consisting primarily of limestone, shale and sandstone, to the final depth of approximately 497 feet below grade.

Why do we treat our water?

We treat our water to ensure that safe and pleasing drinking water is supplied to the St Malo Provincial Park. In addition, provincial regulations have set health based drinking water standards for all public water systems. St Malo Provincial Park is committed to meeting or exceeding the water quality standards set by the province, while providing palatable tap water.

What type of water treatment do we use?

Treatment consists of cartridge filtration, followed by disinfection via three banks of ultraviolet (UV) disinfection units arranged in parallel. Secondary disinfection is provided through chloramination, which is achieved through the addition of sodium hypochlorite, which reacts with the naturally occurring ammonia in the groundwater. The Drinking Water Safety Act and supporting regulations require that water is disinfected before it leaves the water treatment facility and that an

adequate amount of disinfectant is in the distribution system (water piping network) to ensure the water in our distribution is safe for the park patrons.

How much water storage do we have?

Treated water is stored in three above ground storage tanks (8,000L + 8,000L + 4,000L) before being pumped to distribution. The water supply, classified as a Class 1 Water Treatment system that falls under the Manitoba Conservation's Water and Waste Water Facility Operators Regulation under the Environment Act. The reservoir is designed for ultimate contact time and to ensure the water never gets stale.

Is our water tested? What for When?

Water tests are taken on a routine basis to ensure that the water is safe and to monitor how well the treatment facility is performing. We test the water at the water treatment facility and in the distribution system at various locations and times. It is a regulatory requirement that all water test results associated with water safety be submitted to the provincial Office of Drinking Water for review.

Bacterial testing: We test the raw water (untreated well water), the treated water (leaving the water treatment facility) and the water in the distribution system (within the St Malo Park) every two weeks (bi-weekly) for the presence of Total Coliform and E. coli bacteria. If these bacteria are present in the water it is an indication that disease causing organisms may also be present.

Disinfectant testing: We test the level of Monochloramines in the treated water every day to ensure that the water leaving the water treatment facility has enough chlorine to ensure proper disinfection. We also test monochloramines levels in the distribution system every time we take water samples for bacterial testing. In addition, we test our water for Free Ammonia weekly. We monitor the UV lights alarms daily and do regular maintenance of the UV light disinfection system two times per year as prescribed by the manufacturer. Copies of the monitoring results and disinfectant residual tests are included in the appendix of this report.

What are our test results? Can we get copies?

Test results can be requested from the Operator in Charge by calling 204-346-2737 or email William.prevost@gov.mb.ca

A paper copy of this report is available at the Steinbach District office.

What do we have in place to alert staff and the Public of a water emergency?

Our staff test the water everyday to make sure our chlorine levels are at an acceptable level. Water samples are sent in by-weekly to ALS laboratories in Winnipeg for bacterial testing. If a bad result is detected the lab automatically contacts the Operator in Charge and the Drinking Water Officer on call for the province. It is then determined if two resamples are sufficient or if we should go into a boil Water advisory immediately. Signs would be posted at every water source.

Were there any emergencies, regulatory compliance issues or other operational issues to report for 2024?

No

Did we have any boil water advisories in 2024?

No

Were there any major expenses incurred in 2024?

No

Who can we call with questions or concerns regarding our drinking water?

You can call the operator in charge at 204-346-2737

If no answer call the park supervisor at 204- 905-0757

**OPERATING LICENCE FOR
A PUBLIC WATER SYSTEM**

LICENCE NUMBER: PWS-09-400-03

**THE DRINKING WATER SAFETY ACT
CHAPTER D101, C.C.S.M.**

WATER SYSTEM CODE: 217.63
OPERATION ID: 26729
EFFECTIVE DATE: JUNE 1, 2024
EXPIRY DATE: MAY 31, 2029

IN ACCORDANCE WITH THE DRINKING WATER SAFETY ACT, THIS OPERATING LICENCE IS ISSUED PURSUANT TO SUBSECTION 8(1) TO:

MANITOBA PARKS AND TRAILS: "THE LICENSEE"

FOR THE OPERATION OF THE **ST. MALO PROVINCIAL PARK PUBLIC WATER SYSTEM**, WHICH INCLUDES SECURE WELL(S), TREATMENT FACILITIES, WATER STORAGE TANKS, AND DISTRIBUTION LINES, SUBJECT TO THE ATTACHED TERMS AND CONDITIONS.

THIS LICENCE DOES NOT AFFECT THE LICENSEE'S OBLIGATIONS WITH RESPECT TO COMPLIANCE WITH ALL APPLICABLE MUNICIPAL, PROVINCIAL, AND FEDERAL LEGISLATION. THIS LICENCE SUPERSEDES ALL PREVIOUS LICENCES FOR THIS PUBLIC WATER SYSTEM.

DATE: November 27, 2024

Sacha Janzen
A/Director, Office of Drinking Water

TERMS AND CONDITIONS

1. GENERAL

- 1.1. The Licensee shall operate the public water system in accordance with all applicable requirements of The Drinking Water Safety Act and its regulations, and the requirements of this licence. In the event that specific terms and conditions of this licence imposed under the authority of subsection 8(3) of the Act exceed the general requirements of the Act and regulations, the specific requirements of this licence shall apply.
- 1.2. The Licensee shall obtain approval from the Office of Drinking Water prior to making any significant alterations to the water source, the water treatment process, the water storage facilities, or the water distribution system.
- 1.3. This licence may be amended by the director where, in the opinion of the director, an amendment is necessary and the amendment will not negatively impact the safety of water obtained from the water system, or effective environmental management.
- 1.4. The Licensee may request an amendment to this licence by submitting an amendment application to the Office of Drinking Water.
- 1.5. This licence may be suspended or cancelled by the director for any of the reasons identified in Section 11 of Manitoba Regulation 40/2007, Drinking Water Safety Regulation or due to a failure to comply with any term or condition of this licence.
- 1.6. The Licensee shall provide written notice to the Office of Drinking Water of any change in ownership of the water system within seven days of the transfer of ownership.
- 1.7. The Licensee shall provide written notice to the Office of Drinking Water of any changes in the operational status of the water system, such as a permanent cessation of service, or changing the length of service from year-round to seasonal or the opposite.
- 1.8. The director of the Office of Drinking Water, medical officer of health or drinking water officer may enter any water system facility as necessary to carry out the provisions of The Drinking Water Safety Act and its regulations.
- 1.9. The Licensee shall post a copy of the first page of this licence at the water treatment facility.
- 1.10. The Licensee shall keep a copy of this licence in its entirety at a location established by the drinking water officer and ensure all operators are familiar with its terms and conditions.
- 1.11. The Licensee shall apply for renewal of this licence at least 60 days prior to its expiry.

2. OPERATION - GENERAL

- 2.1. The Licensee shall operate all water system facilities, control systems, equipment, any reservoirs/cisterns and/or distribution lines as efficiently as possible, inspect them on a regular basis, maintain them in good working order, and ensure that the water system is protected from the risks associated with contamination.
- 2.2. The Licensee shall ensure that all chemicals and components that may come into contact with potable water are certified safe for potable water use through AWWA Standards, ANSI/NSF Standard 60 or 61, Health Canada, or other standards acceptable to the director.
- 2.3. No alternate water source shall be brought into service without the consent of the drinking water officer and the maintenance of adequate cross connection control between the alternate source and the primary source.
- 2.4. Each operating year, the Licensee shall follow the requirements as specified in *Operational Guideline ODW-OG-02 Seasonal Water Systems Start-up Shut-down Procedures*.
- 2.5. The Licensee shall have re-assessments of the water system infrastructure and water supply sources completed by a qualified person, who is not an employee of the water system, in accordance with assessment checklist GW by September 1, 2021, and every five years thereafter. The Licensee may instead have the assessment completed by a qualified professional engineer, who is not an employee of the water system, in accordance with terms of reference for engineering assessments.
- 2.6. The Licensee shall, upon request from the Office of Drinking Water, submit or re-submit a compliance plan, in a form satisfactory to the director, to address any non-compliance issues identified at the time.

3. OPERATION – EMERGENCIES

- 3.1. The Licensee shall ensure that disinfection is undertaken following construction, repair or maintenance activities on the water system, in accordance with applicable AWWA standards, or Manitoba Water Services Board specifications, or any other standards approved by the director. A copy of all associated test results must be kept available for review by the Office of Drinking Water for a minimum of 24 months.
- 3.2. The Licensee shall ensure that all equipment used for disinfection is maintained in effective working order and keep available for immediate use all spare parts and chemical supplies as may be necessary to ensure continuous disinfection, including a spare disinfection unit, if necessary.
- 3.3. The Licensee shall immediately notify the Office of Drinking Water of any condition that may affect the ability of the water system to produce or deliver safe drinking water, including but not limited to treatment upsets or bypass conditions, contamination of the source water or treated water, a disinfection system failure, or a distribution system failure and as per ODW-OG-04 Emergency Reporting. Contact the regional drinking water officer during weekday business hours (8:00 am to 4:00 pm). Outside of weekday business hours and on holidays, call the 24-hour Environmental Emergency Response Line at **1-204-944-4888 or toll free in Manitoba 1-855-944-4888**, and ask to speak with the on-call drinking water officer.

- 3.4. The Licensee shall maintain an emergency contact list including the drinking water officer, public health inspector, and water system equipment suppliers.
- 3.5. If a medical officer of health, the director of the Office of Drinking Water, or a drinking water officer issues a water advisory on the water system, the Licensee shall provide notice of the advisory to all water users in accordance with the advisory notification plan or by a method acceptable to the issuer.

4. WATER QUALITY/TREATMENT STANDARDS

- 4.1. The Licensee shall operate the water system in a manner that achieves the water quality/treatment standards specified in Table 1, as determined through the monitoring requirements specified in Table 2:

Table 1: Water Quality/Treatment Standards

Parameter	Quality Standard
Total coliform	Less than one total coliform bacteria detectable per 100 mL in all treated and distributed water
<i>E. coli</i>	Less than one <i>E. coli</i> bacteria detectable per 100 mL in all treated and distributed water
Ultraviolet Disinfection	95% of water produced per month is disinfected within validated conditions
Monochloramine	A monochloramine residual of at least 0.3 mg/L at all times at any point in the water distribution system
Arsenic	Less than or equal to 0.01 mg/L
Benzene	Less than or equal to 0.005 mg/L
Ethylbenzene	Less than or equal to 0.14 mg/L
Fluoride	Less than or equal to 1.5 mg/L
Lead	Less than or equal to 0.005 mg/L based on a sample(s) collected at a cold water tap or other appropriate location where water may be used for drinking or food preparation
Manganese	Less than or equal to 0.12 mg/L
Nitrate	Less than or equal to 45 mg/L measured as nitrate (10 mg/L measured as nitrogen)
Nitrite	Less than or equal to 3 mg/L measured as nitrite (1 mg/L measured as nitrogen)
Trichloroethylene	Less than or equal to 0.005 mg/L
Tetrachloroethylene	Less than or equal to 0.01 mg/L
Toluene	Less than or equal to 0.06 mg/L
Total Xylenes	Less than or equal to 0.09 mg/L
Uranium	Less than or equal to 0.02 mg/L

- 4.2. If a bacteriological standard is not met, the Licensee shall immediately undertake the applicable corrective actions as listed in "Schedule A" of Manitoba Regulation 41/2007, Drinking Water Quality Standards Regulation.
- 4.3. If a microbial, chemical, radiological, or physical standard is not met, the Licensee shall immediately undertake the applicable corrective actions specified in "Schedule C" of Manitoba Regulation 41/2007, the Drinking Water Quality Standards Regulation.

- 4.4. The Licensee shall maintain in effective working order ultraviolet (UV) light disinfection equipment and controls for primary disinfection that result in greater than or equal to 95% of the water produced per month undergoing UV light disinfection within validated conditions and at a minimum dose of 40 mJ/cm².

5. WATER QUALITY MONITORING

- 5.1. The Licensee shall ensure monitoring is completed as set out in Table 2.

Table 2: Monitoring Schedule

Parameter	Monitoring Requirement
Bacteriological (total coliform and <i>E. coli</i>)	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
Ultraviolet Disinfection	Daily operation verification of continuous UV unit monitoring
Monochloramine (treated water)	One sample per day of water entering the distribution system
Monochloramine (distribution system)	At the same times and location(s) as bacteriological distribution system sampling
Total Chlorine (treated water)	One sample per week of water entering the distribution system
Total Chlorine (distribution system)	At the same times and location(s) as bacteriological distribution system sampling
Free Ammonia (treated water)	One sample per week of water entering the distribution system
Free Ammonia (distribution system)	At the same times and location(s) as bacteriological distribution system sampling
Nitrite and Nitrate (distribution system)	One sample taken at the same times as the Total Metals sampling at a dead end location in the distribution system
General Chemistry (parameter list provided by Office of Drinking Water)	One raw and one treated water sample once every three years
Total Metals (distribution system)	One sample taken at the same time(s) as general chemistry sampling at a mid-point in the distribution system
Lead	As per the instructions of the drinking water officer
Manganese	Monitoring included in the general chemistry and total metals analysis
Other Parameters	As per the instructions of the drinking water officer

5.2. The Licensee shall ensure that an accredited laboratory, as specified in section 35 of Manitoba Regulation 40/2007 the Drinking Water Safety Regulation, undertake the following analysis required in Table 2:

- a) bacteriological (total coliform and *E. coli*)
- b) nitrate
- c) nitrite
- d) general chemistry
- e) lead
- f) manganese
- g) total metals
- h) any other parameter required by the drinking water officer

and that all samples are collected, handled, and submitted in a manner that is satisfactory to the accredited laboratory.

5.3. The Licensee shall ensure that parameters listed in Table 2 but not specified in clause 5.2 are measured utilizing certified water quality monitoring equipment and methods approved by the latest edition of *Standard Methods for the Examination of Water and Wastewater* published jointly by the American Public Health Association, the American Water Works Association and the Water Environment Federation.

5.4. The Licensee shall ensure that raw water samples are taken on an alternating basis in instances where more than one water supply source is used.

5.5. The Licensee shall ensure that all water quality monitoring equipment is properly maintained and calibrated by a qualified person according to manufacturer recommendations and that records are maintained to that effect.

5.6. The Licensee shall ensure that sampling within the distribution system takes place at varied locations acceptable to the drinking water officer.

6. RECORD-KEEPING AND REPORTING

6.1. The Licensee shall maintain in a secure location all construction drawings for the life of the water system components.

6.2. The Licensee shall retain in chronological order for a minimum of 24 months all information specified in subsection 34(2) of Manitoba Regulation 40/2007, Drinking Water Safety Regulation.

6.3. The Licensee shall ensure the information identified in clause 6.2 is available for inspection by any member of the public during normal business hours at the office of the water supplier or at a location convenient to the users of the system.

6.4. The Licensee shall record disinfectant residual measurements on the monthly disinfection report or other forms satisfactory to the director.

6.5. The Licensee shall record other measurements as specified in *Table 2: Monitoring Schedule* on the monthly report forms or other forms satisfactory to the director.

6.6. The Licensee shall record UV alarms and maintenance procedures performed on the water system and its supporting equipment on the monthly UV report forms or other forms satisfactory to the director.

- 6.7. The Licensee shall record validated UV condition verifications on the monthly report forms or other forms satisfactory to the director.
- 6.8. The Licensee shall keep one copy of all monthly report forms required in this licence, and forward the original copy to the drinking water officer within seven days after the end of each calendar month.
- 6.9. The Licensee shall record all distribution system measurements specified in *Table 2: Monitoring Schedule* on the chain of custody form (laboratory submission form) which accompanies the bacteriological sample bottles to the laboratory.
- 6.10. The Licensee shall ensure that water metering devices at the water treatment plant or storage reservoir are maintained in good working order and that flow meter readings are recorded on a daily basis and such records are made available for inspection by a drinking water officer.
- 6.11. The Licensee shall submit an annual report to the director by March 31st of each year on the operation of the water system in the immediately preceding calendar year. The report shall include the information as set out in subsection 32(2) of Manitoba Regulation 40/2007, Drinking Water Safety Regulation.
- 6.12. The Licensee shall inform the public, in a form satisfactory to the director, when an annual report has been prepared and identify how a free copy can be obtained.
- 6.13. The Licensee shall make a copy of each annual report available to the public at no charge on an internet website within two weeks of the issuance of the report, unless otherwise approved by the director. The annual report shall remain available to the public for at least one year.
- 6.14. The Licensee shall maintain and submit an advisory notification plan to the drinking water officer by May 1st of each year. The plan must include a detailed description of communication tools and methods to be used to notify the public of a drinking water emergency, considering key contacts, fan-outs, critical customers, susceptible or difficult-to-reach sub-groups, and template notices where applicable.



Office of Drinking Water
ATTN: RAELENE SAWATZKY-DYCK
Unit B - 284 Reimer Ave
Steinbach MB R5G 0R5

Date Received: 17-MAY-23
Report Date: 31-MAY-23 13:48 (MT)
Version: FINAL

Client Phone: 204-408-8807

Certificate of Analysis

Lab Work Order #: L2750698

Project P.O. #:

Contract#: 5648 (MICROCHEM)

Job Reference:

ST. MALO PROVINCIAL PARK - PWS - 217.63

C of C Numbers:

Legal Site Desc:

26729

Craig Riddell, B.Sc.Ag
Account Manager

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ANALYTICAL REPORT

Physical Tests (WATER)

		ALS ID		L2750698-1	L2750698-2
		Sampled Date		16-MAY-23	16-MAY-23
		Sampled Time		09:45	09:52
		Sample ID		ST. MALO PROVINCIAL PARK 1 - RAW #1 WELL	ST. MALO PROVINCIAL PARK 1 - RAW #2 WELL
Analyte	Unit	Guide Limit #1	Guide Limit #2		
Colour, True	CU	15	-	<5.0	<5.0
Conductivity	umhos/cm	-	-	1240	1240
Hardness (as CaCO ₃)	mg/L	-	-	256 ^{HTC}	248 ^{HTC}
Langelier Index (4 C)	No Unit	-	-	1.0	0.98
Langelier Index (60 C)	No Unit	-	-	1.8	1.7
pH	pH units	7.00-10.5	-	8.53	8.50
Total Dissolved Solids	mg/L	500	-	705	673
Transmittance, UV (254 nm)	%T/cm	-	-	89.5	89.7
Turbidity	NTU	-	-	8.04	13.6

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2021)

#1: GCDWQ - Aesthetic Objective/Other Value (Jan.2020)

#2: GCDWQ - Maximum Acceptable Concentrations (MACs-Jan.2020)

Anions and Nutrients (WATER)

		ALS ID		L2750698-1	L2750698-2
		Sampled Date		16-MAY-23	16-MAY-23
		Sampled Time		09:45	09:52
		Sample ID		ST. MALO PROVINCIAL PARK 1 - RAW #1 WELL	ST. MALO PROVINCIAL PARK 1 - RAW #2 WELL
Analyte	Unit	Guide Limit #1	Guide Limit #2		
Alkalinity, Total (as CaCO ₃)	mg/L	-	-	318	317
Ammonia, Total (as N)	mg/L	-	-	1.22	1.18
Bicarbonate (HCO ₃)	mg/L	-	-	361	362
Bromide (Br)	mg/L	-	-	0.220	0.225
Carbonate (CO ₃)	mg/L	-	-	13.4	12.4
Chloride (Cl)	mg/L	250	-	130	130
Fluoride (F)	mg/L	-	1.5	1.05	1.04
Hydroxide (OH)	mg/L	-	-	<0.34	<0.34
Iodide (I)	mg/L	-	-	<0.20	<0.20
Nitrate (as N)	mg/L	-	10	<0.010	<0.010
Nitrite (as N)	mg/L	-	1	<0.0020 ^{DLM}	<0.0020 ^{DLM}
Total Kjeldahl Nitrogen	mg/L	-	-	1.22	1.25
Total Nitrogen	mg/L	-	-	1.22	1.25
Sulfate (SO ₄)	mg/L	500	-	144	143
Anion Sum	me/L	-	-	13.1	13.0
Cation Sum	me/L	-	-	14.4	14.1
Cation - Anion Balance	%	-	-	4.6	3.7

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2021)

#1: GCDWQ - Aesthetic Objective/Other Value (Jan.2020)

#2: GCDWQ - Maximum Acceptable Concentrations (MACs-Jan.2020)

 Detection Limit for result exceeds Guide Limit. Assessment against Guide Limit cannot be made.

 Analytical result for this parameter exceeds Guide Limit listed on this report.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Organic / Inorganic Carbon (WATER)

		ALS ID		L2750698-1	L2750698-2
		Sampled Date		16-MAY-23	16-MAY-23
		Sampled Time		09:45	09:52
		Sample ID		ST. MALO PROVINCIAL PARK 1 - RAW #1 WELL	ST. MALO PROVINCIAL PARK 1 - RAW #2 WELL
Analyte	Unit	Guide Limit #1	Guide Limit #2		
Dissolved Organic Carbon	mg/L	-	-	3.18	2.99
Total Inorganic Carbon	mg/L	-	-	67.6	66.7
Total Organic Carbon	mg/L	-	-	3.77	3.46

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2021)

#1: GCDWQ - Aesthetic Objective/Other Value (Jan.2020)

#2: GCDWQ - Maximum Acceptable Concentrations (MACs-Jan.2020)

Detection Limit for result exceeds Guide Limit. Assessment against Guide Limit cannot be made.

Analytical result for this parameter exceeds Guide Limit listed on this report.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Total Metals (WATER)

		ALS ID		L2750698-1	L2750698-2	L2750698-3
		Sampled Date		16-MAY-23	16-MAY-23	16-MAY-23
		Sampled Time		09:45	09:52	10:17
		Sample ID		ST. MALO	ST. MALO	ST. MALO
				PROVINCIAL	PROVINCIAL	PROVINCIAL
Analyte	Unit	Guide Limit #1	Guide Limit #2	PARK 1 - RAW #1 WELL	PARK 1 - RAW #2 WELL	PARK 3 - DISTRIBUTION
Aluminum (Al)-Total	mg/L	0.1	2.9	0.0199	0.0063	0.0057
Antimony (Sb)-Total	mg/L	-	0.006	<0.00010	<0.00010	<0.00010
Arsenic (As)-Total	mg/L	-	0.01	0.00080	0.00081	0.00094
Barium (Ba)-Total	mg/L	-	2	0.00646	0.00624	0.00597
Beryllium (Be)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	mg/L	-	-	<0.000050	<0.000050	<0.000050
Boron (B)-Total	mg/L	-	5	0.802	0.774	0.720
Cadmium (Cd)-Total	mg/L	-	0.005	0.0000167	0.0000135	<0.0000050
Calcium (Ca)-Total	mg/L	-	-	58.3	54.6	52.8
Cesium (Cs)-Total	mg/L	-	-	0.000038	0.000036	0.000035
Chromium (Cr)-Total	mg/L	-	0.05	0.00010	<0.00010	<0.00010
Cobalt (Co)-Total	mg/L	-	-	0.00015	0.00012	0.00014
Copper (Cu)-Total	mg/L	1	2	0.0144	0.0330	0.00600
Iron (Fe)-Total	mg/L	0.3	-	1.21	1.16	1.38
Lead (Pb)-Total	mg/L	-	0.005	0.000598	0.00124	0.000199
Lithium (Li)-Total	mg/L	-	-	0.0636	0.0599	0.0570
Magnesium (Mg)-Total	mg/L	-	-	26.7	27.1	25.6
Manganese (Mn)-Total	mg/L	0.02	0.12	0.00498	0.00481	0.00461
Molybdenum (Mo)-Total	mg/L	-	-	0.00400	0.00380	0.00370
Nickel (Ni)-Total	mg/L	-	-	0.00056	<0.00050	<0.00050
Phosphorus (P)-Total	mg/L	-	-	<0.050	<0.050	<0.030
Potassium (K)-Total	mg/L	-	-	12.9	12.5	12.6
Rubidium (Rb)-Total	mg/L	-	-	0.0120	0.0117	0.0116
Selenium (Se)-Total	mg/L	-	0.05	<0.000050	<0.000050	<0.000050
Silicon (Si)-Total	mg/L	-	-	4.28	4.16	4.06
Silver (Ag)-Total	mg/L	-	-	<0.000010	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	200	-	203	200	196
Strontium (Sr)-Total	mg/L	-	7	1.16	1.09	1.05
Sulfur (S)-Total	mg/L	-	-			52.1
Tellurium (Te)-Total	mg/L	-	-	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	-	-	<0.000010	<0.000010	<0.000010
Thorium (Th)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	-	-	<0.00010	0.00029	<0.00010

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2021)

#1: GCDWQ - Aesthetic Objective/Other Value (Jan.2020)

#2: GCDWQ - Maximum Acceptable Concentrations (MACs-Jan.2020)

 Detection Limit for result exceeds Guide Limit. Assessment against Guide Limit cannot be made.

 Analytical result for this parameter exceeds Guide Limit listed on this report.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Total Metals (WATER)

		ALS ID		L2750698-1	L2750698-2	L2750698-3
		Sampled Date		16-MAY-23	16-MAY-23	16-MAY-23
		Sampled Time		09:45	09:52	10:17
		Sample ID		ST. MALO PROVINCIAL PARK 1 - RAW #1 WELL	ST. MALO PROVINCIAL PARK 1 - RAW #2 WELL	ST. MALO PROVINCIAL PARK 3 - DISTRIBUTION
Analyte	Unit	Guide Limit #1	Guide Limit #2			
Titanium (Ti)-Total	mg/L	-	-	0.00043	<0.00030	<0.00030
Tungsten (W)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	-	0.02	0.000763	0.000714	0.000749
Vanadium (V)-Total	mg/L	-	-	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Total	mg/L	5	-	0.0261	0.0240	0.0069
Zirconium (Zr)-Total	mg/L	-	-	<0.00020	<0.00020	<0.00020

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2021)

#1: GCDWQ - Aesthetic Objective/Other Value (Jan.2020)

#2: GCDWQ - Maximum Acceptable Concentrations (MACs-Jan.2020)

Volatile Organic Compounds (WATER)

		ALS ID		L2750698-1	L2750698-2
		Sampled Date		16-MAY-23	16-MAY-23
		Sampled Time		09:45	09:52
		Sample ID		ST. MALO PROVINCIAL PARK 1 - RAW #1 WELL	ST. MALO PROVINCIAL PARK 1 - RAW #2 WELL
Analyte	Unit	Guide Limit #1	Guide Limit #2		
Benzene	mg/L	-	0.005	<0.00050	<0.00050
1,1-dichloroethene	mg/L	-	0.014	<0.00050	<0.00050
Dichloromethane	mg/L	-	0.05	<0.00050	<0.00050
Ethylbenzene	mg/L	0.0016	0.14	<0.00050	<0.00050
MTBE	mg/L	0.015	-	<0.00050	<0.00050
1,1,1,2-Tetrachloroethane	mg/L	-	-	<0.00050	<0.00050
1,1,2,2-Tetrachloroethane	mg/L	-	-	<0.00050	<0.00050
Tetrachloroethene	mg/L	-	0.01	<0.00050	<0.00050
Toluene	mg/L	0.024	0.06	<0.00050	<0.00050
1,1,1-Trichloroethane	mg/L	-	-	<0.00050	<0.00050
1,1,2-Trichloroethane	mg/L	-	-	<0.00050	<0.00050
Trichloroethene	mg/L	-	0.005	<0.00050	<0.00050
o-Xylene	mg/L	-	-	<0.00050	<0.00050
M+P-Xylenes	mg/L	-	-	<0.00040	<0.00040
Xylenes (Total)	mg/L	0.02	0.09	<0.00064	<0.00064

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2021)

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 Detection Limit for result exceeds Guide Limit. Assessment against Guide Limit cannot be made.

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* Please refer to the Reference Information section for an explanation of any qualifiers noted.



Office of Drinking Water
ATTN: RAELENE SAWATZKY-DYCK
Unit B - 284 Reimer Ave
Steinbach MB R5G 0R5

Date Received: 24-MAY-23
Report Date: 09-JUN-23 10:59 (MT)
Version: FINAL REV. 2

Client Phone: 204-408-8807

Certificate of Analysis

Lab Work Order #: L2750820

Project P.O. #: Contract#: 7039

Job Reference: 217.63

C of C Numbers:

Legal Site Desc: ST. MALO PROVINCIAL PARK - PWS

Comments:

9-JUN-2023 AMENDED REPORT - PO# corrected to new contract # 7039

Craig Riddell, B.Sc.Ag
Account Manager

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ADDRESS: 1329 Niakwa Road East, Unit 12, Winnipeg, MB R2J 3T4 Canada | Phone: +1 204 255 9720 | Fax: +1 204 255 9721
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

Physical Tests (WATER)

		ALS ID		L2750820-1
		Sampled Date		16-MAY-23
		Sampled Time		-
		Sample ID		ST. MALO PROVINCIAL PARK 2 - TREATED
Analyte	Unit	Guide Limit #1	Guide Limit #2	
Colour, True	CU	15	-	<5.0
Conductivity	umhos/cm	-	-	1210
Hardness (as CaCO ₃)	mg/L	-	-	234 ^{HTC}
Langelier Index (4 C)	No Unit	-	-	0.30
Langelier Index (60 C)	No Unit	-	-	1.1
pH	pH units	7.00-10.5	-	7.80
Total Dissolved Solids	mg/L	500	-	710
Transmittance, UV (254 nm)	%T/cm	-	-	88.7
Turbidity	NTU	-	-	0.65

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2021)

#1: GCDWQ - Aesthetic Objective/Other Value (Jan.2020)

#2: GCDWQ - Maximum Acceptable Concentrations (MACs-Jan.2020)

Anions and Nutrients (WATER)

		ALS ID		L2750820-1
		Sampled Date		16-MAY-23
		Sampled Time		-
		Sample ID		ST. MALO PROVINCIAL PARK 2 - TREATED
Analyte	Unit	Guide Limit #1	Guide Limit #2	
Alkalinity, Total (as CaCO ₃)	mg/L	-	-	325
Ammonia, Total (as N)	mg/L	-	-	1.05
Bicarbonate (HCO ₃)	mg/L	-	-	397
Bromide (Br)	mg/L	-	-	0.223
Carbonate (CO ₃)	mg/L	-	-	<0.60
Chloride (Cl)	mg/L	250	-	141
Fluoride (F)	mg/L	-	1.5	0.956
Hydroxide (OH)	mg/L	-	-	<0.34
Iodide (I)	mg/L	-	-	<0.20
Nitrate (as N)	mg/L	-	10	0.018
Nitrite (as N)	mg/L	-	1	0.0091
Total Kjeldahl Nitrogen	mg/L	-	-	1.26
Total Nitrogen	mg/L	-	-	1.26
Sulfate (SO ₄)	mg/L	500	-	149
Anion Sum	me/L	-	-	13.6
Cation Sum	me/L	-	-	13.1
Cation - Anion Balance	%	-	-	-2.1

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2021)

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ANALYTICAL REPORT

Organic / Inorganic Carbon (WATER)

		ALS ID		L2750820-1
		Sampled Date		16-MAY-23
		Sampled Time		-
		Sample ID		ST. MALO
				PROVINCIAL
				PARK 2 -
				TREATED
Analyte	Unit	Guide Limit #1	Guide Limit #2	
Dissolved Organic Carbon	mg/L	-	-	4.40
Total Inorganic Carbon	mg/L	-	-	61.2
Total Organic Carbon	mg/L	-	-	3.72

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2021)

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ANALYTICAL REPORT

Total Metals (WATER)

		ALS ID		L2750820-1
		Sampled Date		16-MAY-23
		Sampled Time		-
		Sample ID		ST. MALO PROVINCIAL PARK 2 - TREATED
Analyte	Unit	Guide Limit #1	Guide Limit #2	
Aluminum (Al)-Total	mg/L	0.1	2.9	0.0036
Antimony (Sb)-Total	mg/L	-	0.006	<0.00010
Arsenic (As)-Total	mg/L	-	0.01	0.00070
Barium (Ba)-Total	mg/L	-	2	0.00630
Beryllium (Be)-Total	mg/L	-	-	<0.00010
Bismuth (Bi)-Total	mg/L	-	-	0.000678
Boron (B)-Total	mg/L	-	5	0.760
Cadmium (Cd)-Total	mg/L	-	0.005	0.0000062
Calcium (Ca)-Total	mg/L	-	-	55.4
Cesium (Cs)-Total	mg/L	-	-	0.000043
Chromium (Cr)-Total	mg/L	-	0.05	<0.00010
Cobalt (Co)-Total	mg/L	-	-	0.00014
Copper (Cu)-Total	mg/L	1	2	0.0403
Iron (Fe)-Total	mg/L	0.3	-	0.921
Lead (Pb)-Total	mg/L	-	0.005	0.000242
Lithium (Li)-Total	mg/L	-	-	0.0709
Magnesium (Mg)-Total	mg/L	-	-	23.2
Manganese (Mn)-Total	mg/L	0.02	0.12	0.00464
Molybdenum (Mo)-Total	mg/L	-	-	0.00413
Nickel (Ni)-Total	mg/L	-	-	0.00177
Phosphorus (P)-Total	mg/L	-	-	<0.050
Potassium (K)-Total	mg/L	-	-	12.2
Rubidium (Rb)-Total	mg/L	-	-	0.0125
Selenium (Se)-Total	mg/L	-	0.05	<0.000050
Silicon (Si)-Total	mg/L	-	-	4.27
Silver (Ag)-Total	mg/L	-	-	0.000011
Sodium (Na)-Total	mg/L	200	-	184
Strontium (Sr)-Total	mg/L	-	7	1.12
Tellurium (Te)-Total	mg/L	-	-	<0.00020
Thallium (Tl)-Total	mg/L	-	-	<0.000010
Thorium (Th)-Total	mg/L	-	-	<0.00010
Tin (Sn)-Total	mg/L	-	-	<0.00010
Titanium (Ti)-Total	mg/L	-	-	<0.00030

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2021)

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ANALYTICAL REPORT

Total Metals (WATER)

		ALS ID		L2750820-1
		Sampled Date		16-MAY-23
		Sampled Time		-
		Sample ID		ST. MALO
				PROVINCIAL
				PARK 2 -
				TREATED
Analyte	Unit	Guide Limit #1	Guide Limit #2	
Tungsten (W)-Total	mg/L	-	-	<0.00010
Uranium (U)-Total	mg/L	-	0.02	0.000848
Vanadium (V)-Total	mg/L	-	-	<0.00050
Zinc (Zn)-Total	mg/L	5	-	0.0245
Zirconium (Zr)-Total	mg/L	-	-	<0.00020

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2021)

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CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: WP2417644	Page	: 1 of 3
Client	: Manitoba Conservation & Climate	Laboratory	: ALS Environmental - Winnipeg
Contact	: Bill Prevost	Account Manager	: Janani Mudiyansele
Address	: Unit B - 284 Reimer Avenue Steinbach MB Canada R5G 0R5	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 346 2737	Telephone	: +1 204 255 9720
Project	: ST. MALO PROVINCIAL PARK - PWS - 217.63	Date Samples Received	: 17-Jul-2024 15:32
PO	: Contract#: 7039 (MICROCHEM)	Date Analysis Commenced	: 18-Jul-2024
C-O-C number	: ----	Issue Date	: 23-Jul-2024 11:14
Sampler	: ----		
Site	: ST. MALO PROVINCIAL PARK - PWS - 217.63 OP ID: 26729		
Quote number	: DWQ-C		
No. of samples received	: 1		
No. of samples analysed	: 1		

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
Lee McTavish		Inorganics, Winnipeg, Manitoba



No Breaches Found

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
mg/L	milligrams per litre

>: 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	ST. MALO PROVINCIAL PARK 3 - DISTRIBUTION DEAD END @ GROUP 3	----	----	----	----	----	----
				Sampling date/time	17-Jul-2024 13:45	----	----	----	----	----	----
				Sub-Matrix	Drinking Water	----	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	WP2417644-001	-----	-----	-----	-----	-----	-----	-----
Anions and Nutrients											
Nitrate (as N)	14797-55-8	E235.NO3-L/WP	mg/L	0.0137	----	----	----	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/WP	mg/L	0.0151	----	----	----	----	----	----	----

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 MAC							
Anions and Nutrients										
Nitrate (as N)	14797-55-8	mg/L	10 mg/L							
Nitrite (as N)	14797-65-0	mg/L	1 mg/L							

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

Key:

CDWG

MAC

Canada Guidelines for Canadian Drinking Water Quality (JAN, 2023)

Maximum Acceptable Concentrations

Collection Date	TC	EC	Sample Identification
03-May-24	<1	<1	ST. MALO PP 2 - TREATED
03-May-24	24	<1	ST. MALO PP 1 - RAW @ WELL 2
03-May-24	<1	<1	ST. MALO PP 3 - DISTRIBUTION @ BAY 10
06-May-24	<1	<1	ST. MALO PP 2 - TREATED
06-May-24	<1	<1	ST. MALO PP 1 - RAW
06-May-24	<1	<1	ST. MALO PP 3 - DISTRIBUTION @ Bay 10
21-May-24	<1	<1	ST. MALO PP 1 - RAW WELL #1
21-May-24	<1	<1	ST. MALO PP 2 - TREATED PLANT
21-May-24	<1	<1	ST. MALO PP 3 - DISTRIBUTION @ BAX 10
05-Jun-24	<1	<1	ST. MALO PP 3 - Distribution @ Bay 10 standpipe
05-Jun-24	<1	<1	ST. MALO PP 2 - Treated
05-Jun-24	<1	<1	ST. MALO PP 1 - Raw
19-Jun-24	<1	<1	ST. MALO PP 1 - RAW Well #2
19-Jun-24	<1	<1	ST. MALO PP 2 - TREATED Plant
19-Jun-24	<1	<1	ST. MALO PP 3 - DISTRIBUTION @Group 3
03-Jul-24	<1	<1	ST. MALO PP 3 - DISTRIBUTION @
03-Jul-24	<1	<1	ST. MALO PP 1 - RAW
03-Jul-24	<1	<1	ST. MALO PP 2 - TREATED
17-Jul-24	<1	<1	ST. MALO PP 2 - TREATED @Plant
17-Jul-24	<1	<1	ST. MALO PP 1 - RAW @Well #2
17-Jul-24	<1	<1	ST. MALO PP 3 - DISTRIBUTION @Group #3
31-Jul-24	<1	<1	ST. MALO PP 1 - RAW
31-Jul-24	<1	<1	ST. MALO PP 2 - TREATED
31-Jul-24	<1	<1	ST. MALO PP 3 - DISTRIBUTION @
06-Aug-24	<1	<1	ST. MALO PP 2 - TREATED - SAMPLE 1 - PLANT
06-Aug-24	<1	<1	ST. MALO PP 3 - DISTRIBUTION @ SAMPLE 2 - BAY 10
14-Aug-24	<1	<1	ST. MALO PP 2 - TREATED Plant
14-Aug-24	<1	<1	ST. MALO PP 1 - RAW Well #2
14-Aug-24	<1	<1	ST. MALO PP 3 - DISTRIBUTION @ Group 3 - Stand pipe
27-Aug-24	<1	<1	ST. MALO PP 1 - RAW
27-Aug-24	<1	<1	ST. MALO PP 2 - TREATED
27-Aug-24	<1	<1	ST. MALO PP 3 - DISTRIBUTION @