

Public Water System Annual Report

2024

Name of the Public Water System: **St. Malo Public Water System**

Name of Legal Owner: **The Rural Municipality of De Salaberry**

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Water System's Emergency Number: **(204) 746-0407**

Name of Operators: **Al Gauthier & Justin Collette**

Phone during business hours: **(204) 433-7406**

Emergency number: **(204) 746-0407**

Date Prepared: March 3, 2025

Accepted by Council: March 18, 2025

Reference: Resolution No. 2025-105



Denise Parent,
Chief Administrative Officer
The Rural Municipality of De Salaberry

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Introduction

The 2024 Annual Report for the St. Malo Water and Sewer Utility summarizes the current Public Water System (PWS).

Description of the St. Malo Water System

The St. Malo PWS is a year-round water system that served approximately 1,375 people in 2024. St. Malo is located in the Rural Municipality of De Salaberry, approximately 75 km south of Winnipeg, Manitoba.

Originally, the community of St. Malo had a water distribution system of small piping and several individual wells. The system did not meet Manitoba Conservation guidelines on several accounts. Residents did not receive treated nor disinfected water and there was always a lack of pressure.

In 1990, with financial assistance from Manitoba Water Services Board, a water distribution system was installed throughout most of the community. There were a few locations at the extremities of the distribution system where the existing small diameter polyethylene pipes were reutilized and where some 50 mm extensions have since been installed. A test well was drilled, followed by a production well. A water treatment plant (WTP) was built in 1991; filtered and disinfected water was distributed to the community.

Three major upgrades have since occurred to the water system. In February 2010, construction was completed on a steel building expansion for the water plant. This added an additional 255 m² to the existing water plant building. In January 2012, construction was completed on the installation of a backup diesel generator for the water plant.

General System Characteristics

The community is serviced by a single WTP, supplied by a main production well and a secondary well used for supplementary or backup situations. The system draws raw water from two wells on site.

Well #1 is the main well on the northeast of the water plant building with 200 mm casing and 137 m depth; the pump is at 55 m. A 3-Phase - 20 horsepower (HP) submersible pump draws from a screened sandstone aquifer well with a maximum capacity of 1,365 litres per minute (L/min). Well #2, on the south side of the water plant building, serves as a standby supply. This well's pump has maximum capacity 410 L/min; the pump is exercised about every two months.

Raw water is transferred from Well #1 to the buried oxidation storage reservoir prior to filtration. An appropriate dosage of Sodium Hypochlorite (12%) is added to the oxidation storage reservoir to oxidize iron in the water, at a concentration to facilitate regeneration of the filter media prior to filtration. Oxidized water is transferred with a 2-Stage, 5 HP submersible pump from the raw water chamber to two greensand pressure filters (purpose of greensand: is to remove iron).

Following filtration for iron removal, the water is transferred to the first of five cells of the treated water storage reservoirs.

The distribution system consists of generally mixed small diameter piping.

Water Supply Wells

The production well is fitted with a 20 HP, 208V 3-Phase Grundfos submersible pump. The driller's well log rates this well at 1,140 L/min, while the pumping rate used is reported to be 720 L/min.

The backup well is fitted with 5 HP, 208V 3-Phase Grundfos submersible pump. The driller's well log rates this well at 409 L/min, while the pumping rate used is reported to be 340 L/min.

Water Treatment System

A four-float switch, three-wire system governs the operation of the well supply pump. The four float switches control high level alarm, stop pump, start pump and low-level alarm.

Groundwater is conveyed into a 37.2 m³ raw water contact chamber and treated with 12% sodium hypochlorite for the oxidation and subsequent precipitation of iron, regeneration of the manganese greensand filters and primary disinfection. This drip chlorination is estimated at a concentration of approximately 15 mg/L and fed neat from delivery drums.

Retention time within the raw water contact chamber varies, depending on demand, and is a function of the influent/effluent flow rates. Operators adjust the dosage rates based on free chlorine residual measurements taken post filters, ensuring that sufficient free chlorine residual is present prior to discharge to the reservoir.

The treated water from the contact chamber is then transferred to two manganese greensand pressure filters via a 5 HP Grundfos submersible pump. These pressure filters are reported to be 1.52 m and 1.37 m in diameter, capable of processing 900 L/min and 700 L/min, respectively, of water. Manganese greensand filters are intended for the reduction of iron and manganese in the raw water.

Treated Water Storage

Two reservoirs are in use at the WTP; both are concrete. The first reservoir, originally constructed with the WTP in 1990 provides a treated water storage capacity of 262,000 litres. A second larger reservoir, with 660,250 litres of capacity, was constructed in 2008, underneath an adjacent building intended for WTP process upgrades. There would be maximum three days of water storage, depending on water usage.

Utility Operations storage cell numbering system is shown in Table 1-1:

Table 1-1: Utility Operations Storage Cell Number Scheme

<u>DESCRIPTION</u>	<u>CELL NUMBER</u>
Raw Water	Cell #1
New Storage Reservoir	Cell #2, Cell #3, Cell #4
Original Plant Storage Reservoir	Cell #5 (west), Cell #6 (east)

Both in ground reservoirs operate in unison at the same elevation.

Distribution Network

The distribution network provides water to 468 residential and commercial connections via ~12.5 km of water main lines. These main lines, according to the initial 2010 assessment report, are primarily PVC 1120 SDR 26 Series 160 Potable Water, bell and spigot pipe. The exception to the PVC pipe is ~3,700 m of 50 mm polyethylene water main pipe, generally found on the outer perimeter of the utility service area and in newer developments. The remainder of the pipe lengths reported in the 2010 PWSA report are 5,725 m of 100 mm diameter line, 2,710 m of 150 mm line and 350 m of 200 mm water line.

The distribution pumps include:

- Pump 1: 7.5 HP Grundfos pump Model 150 75-3, rated for 8.52 L/second at 36.58 m.
- Pump 2: 7.5 HP Grundfos pump Model 150S75-4, rated for 11.04 L/second at 36.58 m.
- Pump 3: 2 HP Grundfos pump Model A-1189007 9932, rated for 3.03 L/second at 36.58 m.

In 2021, a number of upgrades were done to the water distribution network in the following areas:

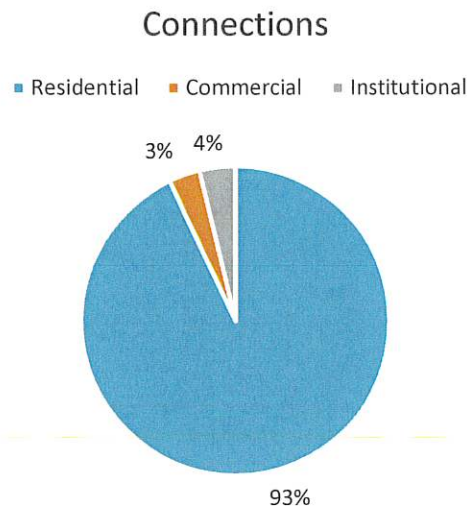
Birch Trail/Benoit Avenue/ Gosselin Street Water Main Looping – Replaced the existing 2-inch and 4-inch water mains with a continuous 6-inch water main (approx. 450 m) to provide for expansion and looping of the water distribution system.

Hebert Street Water Main Replacement – Replaced the existing low-density polyethylene water main (approx. 340m) with a continuous 6-inch water main and replaced the existing lot service connections.

Number of Connections, Population Served and Types of Water Users

The St. Malo Public Water Distribution system is comprised of 468 service connections. All service connections are metered; 436 are residential, 15 are commercial and 17 are institutional. (See Figure 1). The system serves a population of approximately 1,375.

Figure 1



Classification and Certification

The St. Malo water treatment plant is classified as a Class 1 Water Treatment Facility. Utility operator certification as per Manitoba Conservation's Water and Wastewater Facility Operators Regulation under *The Environment Act* are noted below:

- Al Gauthier - Class 1 Water Treatment and Class 2 Water Distribution
- Justin Collette – Class 1 Water Treatment and Class 1 Water Distribution

Disinfection System in Use

The final step in the treatment of safe drinking water is disinfection. Disinfection is the selective destruction or inactivation of potential disease-causing organisms in water.

The Drinking Water Safety Act requires 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, after a minimum contact time of 20 minutes.
- 0.1 mg of free chlorine per litre of water is detectable at all times at any point in the distribution network.

The St. Malo PWS achieves the required 0.5 mg of free chlorine per litre of water and 20-minute contact time in its underground water storage reservoir as per the Office of Drinking Water and

The Drinking Water Safety Act. The required 0.1 mg of free chlorine per litre of water is detectable at all times at any point in the PWS distribution network.

Equipment Redundancy and Monitoring Requirements

As required by *The Drinking Water Safety Act*, the St. Malo PWS ensures continuous disinfection is maintained at the plant by keeping all spare parts in stock required for the chemical dosage pump. A complete spare chemical dosage pump is also kept at the WTP.

Utility operators visit the WTP every morning to undertake testing and general operation of the plant is maintained. Regular tasks include free chlorine residual monitoring (at the WTP and throughout the distribution network), chlorine pump adjustment and bulk chemical supply replacement, filter backwashing, recording various pump hour and meter reading, documenting and logging of activities, etc. Chlorination report forms are completed and submitted to the regional Drinking Water Officer at the end of each month.

Disinfectant Residual Overall Performance/Results

In compliance with Sections 21 and 22 of Manitoba Regulation 40/2007 Drinking Water Safety Regulation, the PWS has met 100% of its regulatory requirements in 2024 of monitoring and reporting disinfection residuals leaving the WTP and in the distribution system - refer to Appendix A.

List of Water Quality Standards

The Province of Manitoba has adopted a number of water quality standards from the *Guidelines for Canadian Drinking Water Quality*, developed by Health Canada. The parameters are health-based and express the maximum acceptable concentration for a groundwater supply source. Concentration values in excess of acceptable levels, constitute a health-related issue and require corrective actions.

As per the Rural Municipality of De Salaberry's Operating License for a Public Water System, License No. PWS-10-415-02 (Appendix B), the following tables outlines the quality/treatment standards that the St. Malo Public Water System must operate by:

Parameter	Quality Standard
Total Coliform	Less than one total coliform bacteria detectable per 100 mL in all treated and distributed water
E. coli	Less than one E. coli bacteria detectable per 100 mL in all treated and distributed water
Chlorine Residual	A free chlorine residual of at least 0.5 mg/L in water entering the distribution system following a minimum contact time of 20 minutes A free chlorine residual of at least 0.1 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
Parameter (cont.)	Quality Standard (cont.)
Fluoride	Less than or equal to 1.5 mg/L
Lead	Less than or equal to 0.005 mg/L in the water distribution system
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 0.09 mg/L
Total Xylenes	Less than or equal to 0.09 mg/L
Uranium	Less than or equal to 0.02 mg/L

Bacterial testing: The raw water (untreated well water), the disinfected water (leaving the water storage reservoir) and the water in the distribution system is tested every two weeks for the presence of Total Coliform (TC) and E. coli (EC) bacteria. If these bacteria are present in the water, it is an indication that disease causing organisms may also be present. See Appendix A for collection dates and testing summary.

Ammonia Testing: The PWS Operating Licence has been modified to include weekly monitoring of free ammonia of treated water entering the distribution system. There is no health-based guideline for ammonia in drinking water. While there seems to be little direct health risk from ammonia in drinking water at the levels normally encountered, the presence of elevated ammonia poses a concern as it causes the interference with the normal chlorination process.

Chlorine demand is increased and reaching break-point and the development of a free chlorine residual consistently above 0.5mg/L becomes difficult. The ammonia concentration in the raw water was 1.33mg/L which could interfere with the chlorination process. The Office of Drinking Water has implemented a weekly monitoring requirement for free ammonia for systems that have ammonia concentrations greater than 0.5mg/L in their raw water.

Concentrations of the weekly reported ammonia in 2024 consistently indicated that break-point was being reached and that the ammonia should not be interfering with the disinfection process.

Break-Point: Break-point coordination is a point where chlorine levels exceed the oxidant demand, and the water begins to build a residual of free available chlorine.

Water Chemical Analysis Report (Appendix C for full Chemical Analysis Report)

The 2024 results for the sampling taken from the St. Malo PWS on April 5, 2022 are summarized in the following table and detailed in the April 19, 2022 Certificate of Analysis Report (Appendix C).

<u>Parameter</u>	<u>Quality Standard</u>	<u>Test Results (Treated)</u>	<u>Test Results (Raw)</u>
Arsenic	Less than or equal to 0.01 mg/L	0.00018 mg/L	0.00094 mg/L
Benzene	Less than or equal to 0.005 mg/L	-	<0.00050mg/L
Chromium	Less than or equal to 0.05 mg/L	<0.00010 mg/L	<0.00010 mg/L
Ethylbenzene	Less than or equal to 0.14 mg/L	-	<0.00050 mg/L
Fluoride	Less than or equal to 1.5 mg/L	1.03 mg/L	1.02 mg/L
Lead	Less than or equal to 0.005 mg/L	<0.000050 mg/L	0.000130 mg/L
Manganese	Less than or equal to 0.12 mg/L	<0.00010 mg/L	0.00701 mg/L
Nitrate	Less than or equal to 45 mg/L measured as nitrate (10 mg/L measured as nitrogen)	0.029mg/L	<0.025mg/L
Nitrite	Less than or equal to 3 mg/L measured as nitrite (1 mg/L measured as nitrogen)	<0.0050 mg/L	<0.0050 mg/L
Selenium	Less than or equal to 0.01 mg/L	<0.000050 mg/L	<0.000050 mg/L
Sodium	Less than or equal to 200 mg/L	258 mg/L	254 mg/L
Tetrachloroethylene	Less than or equal to 0.01 mg/L	-	<0.00050mg/L
Trichloroethylene	Less than or equal to 0.005 mg/L	-	<0.00050mg/L
Toluene	Less than or equal to 0.06 mg/L	-	<0.00050 mg/L
Total Dissolved Solids (TDS)	Less than or equal to 500 mg/L	912 mg/L	907 mg/L
Total Xylenes	Less than or equal to 0.09 mg/L	-	<0.00064 mg/L
Uranium	Less than or equal to 0.02 mg/L	0.000634 mg/L	0.000663 mg/L

Highlighted in yellow: AO (aesthetic objectives) → Level of substances or characteristics of water that can affect it's acceptance by consumers, cause problems with water distribution systems and fixtures, or interfere with practices for supplying good quality water. They are not health related guidelines but are related to aesthetic aspects of the water.

Operating Licence

In accordance with section 8(1) of *The Drinking Water Safety Act*, the St. Malo PWS maintains an Operating Licence.

The Operating Licence, attached as Appendix B, identifies the terms and conditions under which the water system must be operated to remain in compliance with *The Drinking Water Safety Act* and its supporting regulations.

Water System Incidents and Corrective Actions

St. Malo PWS had no non-compliance incidents or issues in 2024.

Boil Water Advisories and Actions Taken in Response

One Boil Water Advisory was issued to portions of the St. Malo Water System in 2024.

It first took effect on February 20th 2024. For more information on this advisory, please refer below to Appendix "D".

Warnings Issued/Charges Laid on the System in Accordance with The Drinking Water Safety Act

There were no warnings issued or charges laid on or in relation to the St. Malo PWS in 2024.

Major Expenses Incurred

Water Supply Administration.....	\$67,153.00
Purification and Treatment.....	\$16,607.00
Utilities/Insurance/Taxes	\$21,305.00
Transmission and Distribution	\$50,620.00
Other Water Supply Costs.....	\$26,103.00

Water Rates

Water rates are assessed as per Public Utilities Board Orders 39-21 & 70-24. Under *the Public Utilities Board Act* the board has jurisdiction and authority over certain municipal and other utility matters, including the setting of rates.

Appendices

Appendix "A" – 2024 Bi-weekly Testing Coliform & E. coli

Collection Date	Sample Identification	TC	EC	HPC
02-Jan-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
02-Jan-24	ST MALO 1 - RAW	0	0	
02-Jan-24	ST MALO 2 - TREATED	0	0	
15-Jan-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
15-Jan-24	ST MALO 1 - RAW	0	0	
15-Jan-24	ST MALO 2 - TREATED	0	0	
29-Jan-24	ST MALO 3 -DISTRIBUTION @ 174 ST MALO STREET	0	0	
29-Jan-24	ST MALO 1 - RAW	0	0	
29-Jan-24	ST MALO 2 - TREATED	0	0	
12-Feb-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
12-Feb-24	ST MALO 1 - RAW	0	0	
12-Feb-24	ST MALO 2 - TREATED	0	0	
20-Feb-24	ST MALO 3 - DISTRIBUTION @ 80 DE LEGLISE AVE.	0	0	
20-Feb-24	ST MALO 1 – DISTRIBUTION @ 170 NORET ST.	0	0	
20-Feb-24	ST MALO 2 – DISTRIBUTION @ 150 NORET ST.	0	0	
21-FEB-24	ST MALO 3 - DISTRIBUTION @ 80 DE LEGLISE AVE.	0	0	
21-FEB-24	ST MALO 1 – DISTRIBUTION @ 170 NORET ST.	0	0	
21-FEB-24	ST MALO 2 – DISTRIBUTION @ 150 NORET ST.	0	0	
27-FEB-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
27-FEB-24	ST MALO 3 - DISTRIBUTION @ 21 MORIN ST	0	0	
27-FEB-24	ST MALO 2 - TREATED	0	0	
13-MAR-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
13-MAR-24	ST MALO 1 - RAW	0	0	
13-MAR-24	ST MALO 2 - TREATED	0	0	
25-MAR-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
25-MAR-24	ST MALO 1 - RAW	0	0	
25-MAR-24	ST MALO 2 - TREATED	0	0	
09-APR-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
09-APR-24	ST MALO 1 - RAW	0	0	
09-APR-24	ST MALO 2 - TREATED	0	0	
22-APR -24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
22-APR -24	ST MALO 1 - RAW	0	0	
22-APR -24	ST MALO 2 - TREATED	0	0	
15-MAY-24	ST MALO 1 – ST MALO RAW BACKUP WELL	0	0	
15-MAY-24	ST MALO 2 - TREATED	0	0	
21-MAY-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
21-MAY-24	ST MALO 1 - RAW	0	0	
21-MAY-24	ST MALO 2 - TREATED	0	0	
05-JUNE-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
05-JUNE-24	ST MALO 1 - RAW	0	0	
05-JUNE-24	ST MALO 2 - TREATED	0	0	
17-JUN-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	

Appendix "A" - 2024 Bi-weekly Testing Coliform & E. coli

17-JUN-24	ST MALO 1 - RAW	0	0	
17-JUN-24	ST MALO 2 - TREATED	0	0	
02-JUL-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
02-JUL-24	ST MALO 1 - RAW	0	0	
02-JUL-24	ST MALO 2 - TREATED	0	0	
15-JUL-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
15-JUL-24	ST MALO 1 - RAW	0	0	
15-JUL-24	ST MALO 2 - TREATED	0	0	
29-JUL-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
29-JUL-24	ST MALO 1 - RAW	0	0	
29-JUL-24	ST MALO 2 - TREATED	0	0	
12-Aug-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
12-Aug-24	ST MALO 1 - RAW	0	0	
12-Aug-24	ST MALO 2 - TREATED	0	0	
26-Aug-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
26-Aug-24	ST MALO 1 - RAW	0	0	
26-Aug-24	ST MALO 2 - TREATED	0	0	
10-Sept-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
10-Sept-24	ST MALO 1 - RAW	0	0	
10-Sept-24	ST MALO 2 - TREATED	0	0	
23-Sept-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
23-Sept-24	ST MALO 1 - RAW	0	0	
23-Sept-24	ST MALO 2 - TREATED	0	0	
07-Oct-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
07-Oct-24	ST MALO 1 - RAW	0	0	
07-Oct-24	ST MALO 2 - TREATED	0	0	
22-Oct-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
22-Oct-24	ST MALO 1 - RAW	0	0	
22-Oct-24	ST MALO 2 - TREATED	0	0	
04-Nov-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
04-Nov-24	ST MALO 1 - RAW	0	0	
04-Nov-24	ST MALO 2 - TREATED	0	0	
18-Nov-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
18-Nov-24	ST MALO 1 - RAW	0	0	
18-Nov-24	ST MALO 2 - TREATED	0	0	
02-Dec-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
02-Dec-24	ST MALO 1 - RAW	0	0	
02-Dec-24	ST MALO 2 - TREATED	0	0	
18-Dec-24	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
18-Dec-24	ST MALO 1 - RAW	0	0	
18-Dec-24	ST MALO 2 - TREATED	0	0	

Appendix "A" - 2024 Bi-weekly Testing Coliform & E. coli

20-Nov-23	ST MALO 3 - DISTRIBUTION @ 48 ST CHARLES RD	0	0	
20-Nov-23	ST MALO 3 - DISTRIBUTION @ 6 2 ND STREET	0	0	
21-Nov-23	ST MALO 3 - DISTRIBUTION @ 174 ST MALO STREET	0	0	
21-Nov-23	ST MALO 1 - RAW	0	0	
21-Nov-23	ST MALO 2 - TREATED	0	0	
4-Dec-23	ST MALO 3 - DISTRIBUTION @ 174 ST-MALO STREET	0	0	
4-Dec-23	ST MALO 1 - RAW	0	0	
4-Dec-23	ST MALO 2 - TREATED	0	0	



**OPERATING LICENCE FOR
A PUBLIC WATER SYSTEM**

LICENCE NUMBER: PWS-10-415-02

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

WATER SYSTEM CODE: 217.50
OPERATION ID: 21231
EFFECTIVE DATE: DECEMBER 1, 2020
EXPIRY DATE: NOVEMBER 30, 2025

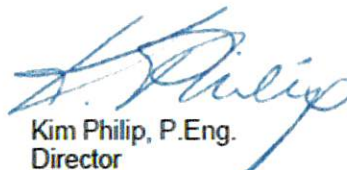
IN ACCORDANCE WITH *THE DRINKING WATER SAFETY ACT*, THIS OPERATING LICENCE IS ISSUED PURSUANT TO SUBSECTION 8(1) TO:

RURAL MUNICIPALITY OF DESALABERRY: "THE LICENSEE"

FOR THE OPERATION OF THE **ST. MALO PUBLIC WATER SYSTEM**, WHICH INCLUDES SECURE WELL(S), TREATMENT FACILITIES, WATER STORAGE RESERVOIRS, 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 LICENSES FOR THIS PUBLIC WATER SYSTEM.

DATE: June 18, 2021


Kim Philip, P.Eng.
Director

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 and equipment 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 cross-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. 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 March 1, 2024, 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.
- 2.5. 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.
- 3.4. 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.

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
Chlorine Residual	A free chlorine residual of at least 0.5 mg/L in water entering the distribution system following a minimum contact time of 20 minutes A free chlorine residual of at least 0.1 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 in the water distribution system
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 chlorination and treated water storage equipment and controls designed to achieve a minimum of 20 minutes of chlorine contact time prior to water entering the distribution system.

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
Free Chlorine (treated water)	One sample per day of water entering the distribution system following at least 20 minutes of contact time
Free Chlorine (distribution system)	At the same times and location(s) as bacteriological distribution system sampling
Total Chlorine (treated water)	One sample per day of water entering the distribution system following at least 20 minutes of contact time
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
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 Chemical 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:

- bacteriological (total coliform and *E. coli*)
- general chemistry
- total metals
- 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 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.
- 6.7. 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.
- 6.8. 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.
- 6.9. 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*.
- 6.10. 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.
- 6.11. 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.
- 6.12. 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.



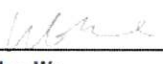
RM of De Salaberry - St. Malo - PWS
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Date Received: 06-APR-22
Report Date: 19-APR-22 15:04 (MT)
Version: FINAL

Client Phone: 204-746-0407

Certificate of Analysis

Lab Work Order #: L2697223
Project P.O. #: 12527
Job Reference: ST. MALO - PWS 217.50
C of C Numbers:
Legal Site Desc: 21231


Hua Wo
Chemistry Laboratory Manager

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ANALYTICAL REPORT

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Physical Tests (WATER)

		ALS ID		L2697223-1	L2697223-2
		Sampled Date		05-APR-22	05-APR-22
		Sampled Time		10:30	10:30
		Sample ID		ST. MALO 1 - RAW	ST. MALO 2 - TREATED
Analyte	Unit	Guide Limit #1	Guide Limit #2		
Colour, True	CU	15	-	6.3	<5.0
Conductivity	umhos/cm	-	-	1590	1640
Hardness (as CaCO ₃)	mg/L	-	-	307 ^{HTC}	300 ^{HTC}
Langelier Index (4 C)	No Unit	-	-	0.63	0.72
Langelier Index (60 C)	No Unit	-	-	1.4	1.5
pH	pH units	7.00-10.5	-	8.04	8.15
Total Dissolved Solids	mg/L	500	-	907	912
Transmittance, UV (254 nm)	%T/cm	-	-	89.5	92.9
Turbidity	NTU	-	-	15.6	<0.10

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		L2697223-1	L2697223-2
		Sampled Date		05-APR-22	05-APR-22
		Sampled Time		10:30	10:30
		Sample ID		ST. MALO 1 - RAW	ST. MALO 2 - TREATED
Analyte	Unit	Guide Limit #1	Guide Limit #2		
Alkalinity, Total (as CaCO ₃)	mg/L	-	-	328	323
Ammonia, Total (as N)	mg/L	-	-	1.32	<0.010
Bicarbonate (HCO ₃)	mg/L	-	-	400	394
Bromide (Br)	mg/L	-	-	0.247	0.097
Carbonate (CO ₃)	mg/L	-	-	<0.60	<0.60
Chloride (Cl)	mg/L	250	-	166	182
Fluoride (F)	mg/L	-	1.5	1.02	1.03
Hydroxide (OH)	mg/L	-	-	<0.34	<0.34
Nitrate (as N)	mg/L	-	10	<0.025	0.029
Nitrite (as N)	mg/L	-	1	<0.0050	<0.0050
Sulfate (SO ₄)	mg/L	500	-	263	262

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)

Organic / Inorganic Carbon (WATER)

		ALS ID		L2697223-1	L2697223-2
		Sampled Date		05-APR-22	05-APR-22
		Sampled Time		10:30	10:30
		Sample ID		ST. MALO 1 - RAW	ST. MALO 2 - TREATED
Analyte	Unit	Guide Limit #1	Guide Limit #2		
Dissolved Organic Carbon	mg/L	-	-	2.35	2.43
Total Organic Carbon	mg/L	-	-	2.51	2.35

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

L2697223 CONTD....

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19-APR-22 15:04 (MT)

Total Metals (WATER)

		ALS ID		L2697223-1	L2697223-2	L2697223-3
		Sampled Date		05-APR-22	05-APR-22	05-APR-22
		Sampled Time		10:30	10:30	10:30
		Sample ID		ST. MALO 1 -	ST. MALO 2 -	ST. MALO 3 -
				RAW	TREATED	DISTRIBUTION
Analyte	Unit	Guide Limit #1	Guide Limit #2			@ 174 ST. MALO ST
Aluminum (Al)-Total	mg/L	0.1	2.9	<0.0030	<0.0030	<0.0030
Antimony (Sb)-Total	mg/L	-	0.006	<0.00010	<0.00010	<0.00010
Arsenic (As)-Total	mg/L	-	0.01	0.00094	0.00018	0.00017
Barium (Ba)-Total	mg/L	-	2	0.00842	0.00819	0.00810
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	0.959	0.926	0.942
Cadmium (Cd)-Total	mg/L	-	0.005	<0.000050	<0.000050	<0.000050
Calcium (Ca)-Total	mg/L	-	-	72.6	69.9	70.2
Cesium (Cs)-Total	mg/L	-	-	0.000051	0.000050	0.000050
Chromium (Cr)-Total	mg/L	-	0.05	<0.00010	<0.00010	<0.00010
Cobalt (Co)-Total	mg/L	-	-	0.00016	<0.00010	<0.00010
Copper (Cu)-Total	mg/L	1	2	0.00166	0.00458	0.0107
Iron (Fe)-Total	mg/L	0.3	-	1.16	<0.010	<0.010
Lead (Pb)-Total	mg/L	-	0.005	0.000130	<0.000050	0.000131
Lithium (Li)-Total	mg/L	-	-	0.0942	0.0943	0.0951
Magnesium (Mg)-Total	mg/L	-	-	30.6	30.5	31.0
Manganese (Mn)-Total	mg/L	0.02	0.12	0.00701	<0.00010	0.00011
Molybdenum (Mo)-Total	mg/L	-	-	0.00383	0.00373	0.00367
Nickel (Ni)-Total	mg/L	-	-	0.00063	0.00050	<0.00050
Phosphorus (P)-Total	mg/L	-	-	<0.030	<0.030	<0.030
Potassium (K)-Total	mg/L	-	-	16.1	16.1	16.1
Rubidium (Rb)-Total	mg/L	-	-	0.0121	0.0121	0.0119
Selenium (Se)-Total	mg/L	-	0.05	<0.000050	<0.000050	<0.000050
Silicon (Si)-Total	mg/L	-	-	4.32	4.29	4.24
Silver (Ag)-Total	mg/L	-	-	<0.000010	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	200	-	254	258	260
Strontium (Sr)-Total	mg/L	-	7	1.45	1.45	1.45
Sulfur (S)-Total	mg/L	-	-	102	101	100
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	<0.00010	<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

L2697223 CONTD....

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19-APR-22 15:04 (MT)

Total Metals (WATER)

		ALS ID		L2697223-1	L2697223-2	L2697223-3
		Sampled Date		05-APR-22	05-APR-22	05-APR-22
		Sampled Time		10:30	10:30	10:30
		Sample ID		ST. MALO 1 - RAW	ST. MALO 2 - TREATED	ST. MALO 3 - DISTRIBUTION @ 174 ST. MALO ST
Analyte	Unit	Guide Limit #1	Guide Limit #2			
Titanium (Ti)-Total	mg/L	-	-	<0.00030	<0.00030	<0.00030
Tungsten (W)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	-	0.02	0.000663	0.000634	0.000670
Vanadium (V)-Total	mg/L	-	-	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Total	mg/L	5	-	0.0045	0.0043	0.0213
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		L2697223-1
		Sampled Date		05-APR-22
		Sampled Time		10:30
		Sample ID		ST. MALO 1 - RAW
Analyte	Unit	Guide Limit #1	Guide Limit #2	
Benzene	mg/L	-	0.005	<0.00050
1,1-dichloroethene	mg/L	-	0.014	<0.00050
Dichloromethane	mg/L	-	0.05	<0.00050
Ethylbenzene	mg/L	0.0016	0.14	<0.00050
MTBE	mg/L	0.015	-	<0.00050
Tetrachloroethene	mg/L	-	0.01	<0.00050
Toluene	mg/L	0.024	0.06	<0.00050
Trichloroethene	mg/L	-	0.005	<0.00050
o-Xylene	mg/L	-	-	<0.00050
m+p-Xylenes	mg/L	-	-	<0.00040
Xylenes (Total)	mg/L	0.02	0.09	<0.00064
Surrogate: 4-Bromofluorobenzene (SS)	%	-	-	89.3
Surrogate: 1,4-Difluorobenzene (SS) %		-	-	94.7

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.

Reference Information

Qualifiers for Individual Parameters Listed:

Qualifier	Description
HTC	Hardness was calculated from Total Ca and/or Mg concentrations and may be biased high (dissolved Ca/Mg results unavailable).

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-CO3CO3-CALC-WP	Water	Alkalinity, Carbonate	CALCULATION
The Alkalinity of water is a measure of its acid neutralizing capacity. Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by carbonate is calculated and reported as mg CO ₃ 2-/L.			
ALK-HCO3HCO3-CALC-WP	Water	Alkalinity, Bicarbonate	CALCULATION
The Alkalinity of water is a measure of its acid neutralizing capacity. Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by bicarbonate is calculated and reported as mg HCO ₃ -/L.			
ALK-OHOH-CALC-WP	Water	Alkalinity, Hydroxide	CALCULATION
The Alkalinity of water is a measure of its acid neutralizing capacity. Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by hydroxide is calculated and reported as mg OH-/L.			
ALK-TITR-WP	Water	Alkalinity, Total (as CaCO ₃)	APHA 2320B
The Alkalinity of water is a measure of its acid neutralizing capacity. Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. Total alkalinity is determined by titration with a strong standard mineral acid to the successive HCO ₃ - and H ₂ CO ₃ endpoints indicated electrometrically.			
BR-L-IC-N-WP	Water	Bromide in Water by IC (Low Level)	EPA 300.1 (mod)-LR
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
C-DOC-HTC-WP	Water	Dissolved Organic Carbon by Combustion	APHA 5310 B-WP
Filtered (0.45 um) sample is acidified and purged to remove inorganic carbon, then injected into a heated reaction chamber where organic carbon is oxidized to CO ₂ which is then transported in the carrier gas stream and measured via a non-dispersive infrared analyzer.			
C-TOC-HTC-WP	Water	Total Organic Carbon by Combustion	APHA 5310 B-WP
Sample is acidified and purged to remove inorganic carbon, then injected into a heated reaction chamber where organic carbon is oxidized to CO ₂ which is then transported in the carrier gas stream and measured via a non-dispersive infrared analyzer.			
CL-L-IC-N-WP	Water	Chloride in Water by IC (Low Level)	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
COLOUR-TRUE-WP	Water	Colour, True	APHA 2120C
True Colour is measured spectrophotometrically by comparison to platinum-cobalt standards using the single wavelength method (450 - 465 nm) after filtration of sample through a 0.45 um filter. Colour measurements can be highly pH dependent, and apply to the pH of the sample as received (at time of testing), without pH adjustment. Concurrent measurement of sample pH is recommended.			
EC-WP	Water	Conductivity	APHA 2510B
Conductivity of an aqueous solution refers to its ability to carry an electric current. Conductance of a solution is measured between two spatially fixed and chemically inert electrodes.			
ETL-LANGELIER-4-WP	Water	Langelier Index 4C	Calculated
ETL-LANGELIER-60-WP	Water	Langelier Index 60C	Calculated
F-IC-N-WP	Water	Fluoride in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
HARDNESS-CALC-WP	Water	Hardness Calculated	APHA 2340B
Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO ₃ equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.			
IONBALANCE-CALC-WP	Water	Ion Balance Calculation	APHA 1030E
Cation Sum, Anion Sum, and Ion Balance (as % difference) are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Because all aqueous solutions are electrically neutral, the calculated ion balance (% difference of cations minus anions) should be near-zero.			

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
<p>Cation and Anion Sums are the total meq/L concentration of major cations and anions. Dissolved species are used where available. Minor ions are included where data is present. Ion Balance (as % difference) cannot be calculated accurately for waters with very low electrical conductivity (EC), and is reported as "Low EC" where EC < 100 uS/cm (umhos/cm). Ion Balance is calculated as:</p> $\text{Ion Balance (\%)} = [\text{Cation Sum} - \text{Anion Sum}] / [\text{Cation Sum} + \text{Anion Sum}]$			
MET-T-CCMS-WP	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020B (mod.)
<p>Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.</p> <p>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.</p>			
NH3-COL-WP	Water	Ammonia by colour	APHA 4500 NH3 F
<p>Ammonia in water samples forms indophenol when reacted with hypochlorite and phenol. The intensity is amplified by the addition of sodium nitroprusside and measured colourimetrically.</p>			
NO2-L-IC-N-WP	Water	Nitrite in Water by IC (Low Level)	EPA 300.1 (mod)
<p>Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.</p>			
NO3-L-IC-N-WP	Water	Nitrate in Water by IC (Low Level)	EPA 300.1 (mod)
<p>Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.</p>			
PH-WP	Water	pH	APHA 4500H
<p>The pH of a sample is the determination of the activity of the hydrogen ions by potentiometric measurement using a standard hydrogen electrode and a reference electrode.</p>			
SO4-IC-N-WP	Water	Sulfate in Water by IC	EPA 300.1 (mod)
<p>Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.</p>			
TDS-WP	Water	Total Dissolved Solids (TDS)	APHA 2540 SOLIDS C.E
<p>A well-mixed sample is filtered through a glass fiber filter paper. The filtrate is then evaporated to dryness in a pre-weighed vial and dried at 180 – 20C. The increase in vial weight represents the total dissolved solids.</p>			
TURBIDITY-WP	Water	Turbidity	APHA 2130B (modified)
<p>Turbidity in aqueous matrices is determined by the nephelometric method.</p>			
UV-%TRANS-WP	Water	UV Transmittance (Calculated)	APHA 5910B
<p>Test method is adapted from APHA Method 5910B. A sample is filtered through a 0.45 um polyethersulfone (PES) filter and its UV Absorbance is measured in a quartz cell at 254 nm. UV Transmittance is calculated from the UV Absorbance result and reported as UV Transmittance per cm. The analysis is carried out without pH adjustment.</p>			
VOC+F1-HSMS-WP	Water	VOC plus F1 by GCMS	EPA 8260C / EPA 5021A
<p>In this method samples are analyzed using a headspace autosampler interfaced to a dual column gas chromatograph with MS and Flame Ionization detectors.</p>			
XYLENES-SUM-CALC-WP	Water	Sum of Xylene Isomer Concentrations	CALCULATED RESULT
<p>Total xylenes represents the sum of o-xylene and m&p-xylene.</p>			

**ALS test methods may incorporate modifications from specified reference methods to improve performance.

Chain of Custody Numbers:

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WP	ALS ENVIRONMENTAL - WINNIPEG, MANITOBA, CANADA

Reference Information

GLOSSARY OF REPORT TERMS

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

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

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

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

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

< - Less than.

D.L. - The reporting limit.

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

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

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

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

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. Guideline limits 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.



Quality Control Report

Workorder: L2697223

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Client: RM of De Salaberry - St. Malo - PWS

St. Malo - PWS Box 398

St. Malo MB R0A 1T0

Contact: TODD GREGOIRE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ALK-TITR-WP Water								
Batch	R5758617							
WG3715099-10 DUP		L2697163-2						
Alkalinity, Total (as CaCO ₃)		75.4	74.6		mg/L	1.1	20	07-APR-22
WG3715099-9 LCS								
Alkalinity, Total (as CaCO ₃)			101.5		%		85-115	07-APR-22
WG3715099-6 MB								
Alkalinity, Total (as CaCO ₃)			<1.0		mg/L		1	07-APR-22
BR-L-IC-N-WP Water								
Batch	R5759280							
WG3714205-10 LCS								
Bromide (Br)			99.7		%		85-115	06-APR-22
WG3714205-9 MB								
Bromide (Br)			<0.010		mg/L		0.01	06-APR-22
C-DIC-HTC-WP Water								
Batch	R5758977							
WG3715212-3 DUP		L2697183-5						
Dissolved Organic Carbon		1.99	1.94		mg/L	2.8	20	07-APR-22
WG3715212-2 LCS								
Dissolved Organic Carbon			102.1		%		80-120	07-APR-22
WG3715212-1 MB								
Dissolved Organic Carbon			<0.50		mg/L		0.5	07-APR-22
WG3715212-4 MS		L2697183-6						
Dissolved Organic Carbon			100.3		%		70-130	07-APR-22
C-TOC-HTC-WP Water								
Batch	R5758979							
WG3715215-3 DUP		L2697183-1						
Total Organic Carbon		<0.50	<0.50	RPD-NA	mg/L	N/A	20	07-APR-22
WG3715215-2 LCS								
Total Organic Carbon			104.1		%		80-120	07-APR-22
WG3715215-1 MB								
Total Organic Carbon			<0.50		mg/L		0.5	07-APR-22
WG3715215-4 MS		L2697183-2						
Total Organic Carbon			97.6		%		70-130	07-APR-22
CL-L-IC-N-WP Water								
Batch	R5759280							
WG3714205-10 LCS								
Chloride (Cl)			100.9		%		90-110	06-APR-22
WG3714205-9 MB								



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Client: RM of De Salaberry - St. Malo - PWS

St. Malo - PWS Box 398

St. Malo MB R0A 1T0

Contact: TODD GREGOIRE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-L-IC-N-WP	Water							
Batch R5759280								
WG3714205-9 MB								
Chloride (Cl)			<0.10		mg/L		0.1	08-APR-22
COLOUR-TRUE-WP	Water							
Batch R5758616								
WG3715096-3 DUP		L2697071-1						
Colour, True		23.7	23.3		CU	1.7	20	07-APR-22
WG3715096-2 LCS								
Colour, True			100.4		%		85-115	07-APR-22
WG3715096-1 MB								
Colour, True			<5.0		CU		5	07-APR-22
EC-WP	Water							
Batch R5758617								
WG3715099-10 DUP		L2697163-2						
Conductivity		410	409		umhos/cm	0.2	10	07-APR-22
WG3715099-8 LCS								
Conductivity			99.9		%		90-110	07-APR-22
WG3715099-6 MB								
Conductivity			<1.0		umhos/cm		1	07-APR-22
F-IC-N-WP	Water							
Batch R5759280								
WG3714205-11 DUP		L2697165-1						
Fluoride (F)		0.646	0.642		mg/L	0.6	20	06-APR-22
WG3714205-10 LCS								
Fluoride (F)			102.9		%		90-110	06-APR-22
WG3714205-9 MB								
Fluoride (F)			<0.020		mg/L		0.02	06-APR-22
WG3714205-12 MS		L2697165-1						
Fluoride (F)			108.4		%		75-125	06-APR-22
MET-T-CCMS-WP	Water							
Batch R5760438								
WG3715048-4 DUP		WG3715048-3						
Aluminum (Al)-Total		<0.0030	<0.0030	RPD-NA	mg/L	N/A	20	08-APR-22
Antimony (Sb)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	08-APR-22
Arsenic (As)-Total		0.00074	0.00070		mg/L	4.8	20	08-APR-22
Barium (Ba)-Total		0.00304	0.00305		mg/L	0.4	20	08-APR-22
Beryllium (Be)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	08-APR-22



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Client: RM of De Salaberry - St. Malo - PWS
 St. Malo - PWS Box 398
 St. Malo MB R0A 1T0
 Contact: TODD GREGOIRE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch	R5760438							
WG3715048-4 DUP		WG3715048-3						
Bismuth (Bi)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	08-APR-22
Boron (B)-Total		0.321	0.326		mg/L	1.7	20	08-APR-22
Cadmium (Cd)-Total		0.0000079	0.0000081		mg/L	1.6	20	08-APR-22
Calcium (Ca)-Total		34.4	34.6		mg/L	0.5	20	08-APR-22
Cesium (Cs)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	08-APR-22
Chromium (Cr)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	08-APR-22
Cobalt (Co)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	08-APR-22
Copper (Cu)-Total		0.00187	0.00188		mg/L	0.3	20	08-APR-22
Iron (Fe)-Total		0.019	0.018		mg/L	3.3	20	08-APR-22
Lead (Pb)-Total		0.000188	0.000182		mg/L	3.6	20	08-APR-22
Lithium (Li)-Total		0.0458	0.0444		mg/L	3.1	20	08-APR-22
Magnesium (Mg)-Total		13.0	13.2		mg/L	0.9	20	08-APR-22
Manganese (Mn)-Total		0.00656	0.00668		mg/L	1.7	20	08-APR-22
Molybdenum (Mo)-Total		0.00210	0.00206		mg/L	2.2	20	08-APR-22
Nickel (Ni)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	08-APR-22
Potassium (K)-Total		3.61	3.55		mg/L	1.4	20	08-APR-22
Phosphorus (P)-Total		<0.050	0.043		mg/L	3.4	20	08-APR-22
Rubidium (Rb)-Total		0.00137	0.00137		mg/L	0.2	20	08-APR-22
Selenium (Se)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	08-APR-22
Silicon (Si)-Total		4.07	4.09		mg/L	0.5	20	08-APR-22
Silver (Ag)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	08-APR-22
Sodium (Na)-Total		68.0	68.9		mg/L	1.4	20	08-APR-22
Strontium (Sr)-Total		0.284	0.283		mg/L	0.2	20	08-APR-22
Sulfur (S)-Total		30.2	30.4		mg/L	0.6	20	08-APR-22
Tellurium (Te)-Total		<0.00020	<0.00020	RPD-NA	mg/L	N/A	20	08-APR-22
Thallium (Tl)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	08-APR-22
Thorium (Th)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	08-APR-22
Tin (Sn)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	08-APR-22
Titanium (Ti)-Total		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	08-APR-22
Tungsten (W)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	08-APR-22
Uranium (U)-Total		0.000949	0.000915		mg/L	3.7	20	08-APR-22
Vanadium (V)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	08-APR-22
Zinc (Zn)-Total		0.0059	0.0059		mg/L			08-APR-22



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Client: RM of De Salaberry - St. Malo - PWS

St. Malo - PWS Box 398

St. Malo MB R0A 1T0

Contact: TODD GREGOIRE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch R5760438								
WG3715048-4 DUP		WG3715048-3						
Zinc (Zn)-Total		0.0059	0.0059		mg/L	0.6	20	08-APR-22
Zirconium (Zr)-Total		<0.00020	<0.00020	RPD-NA	mg/L	N/A	20	08-APR-22
WG3715048-2 LCS								
Aluminum (Al)-Total			103.9		%		80-120	08-APR-22
Antimony (Sb)-Total			108.6		%		80-120	08-APR-22
Arsenic (As)-Total			100.1		%		80-120	08-APR-22
Barium (Ba)-Total			100.5		%		80-120	08-APR-22
Beryllium (Be)-Total			105.6		%		80-120	08-APR-22
Bismuth (Bi)-Total			102.7		%		80-120	08-APR-22
Boron (B)-Total			103.8		%		80-120	08-APR-22
Cadmium (Cd)-Total			101.5		%		80-120	08-APR-22
Calcium (Ca)-Total			102.4		%		80-120	08-APR-22
Cesium (Cs)-Total			101.6		%		80-120	08-APR-22
Chromium (Cr)-Total			101.6		%		80-120	08-APR-22
Cobalt (Co)-Total			101.0		%		80-120	08-APR-22
Copper (Cu)-Total			100.2		%		80-120	08-APR-22
Iron (Fe)-Total			99.2		%		80-120	08-APR-22
Lead (Pb)-Total			101.6		%		80-120	08-APR-22
Lithium (Li)-Total			105.5		%		80-120	08-APR-22
Magnesium (Mg)-Total			111.1		%		80-120	08-APR-22
Manganese (Mn)-Total			101.3		%		80-120	08-APR-22
Molybdenum (Mo)-Total			103.5		%		80-120	08-APR-22
Nickel (Ni)-Total			100.8		%		80-120	08-APR-22
Potassium (K)-Total			103.3		%		80-120	08-APR-22
Phosphorus (P)-Total			108.9		%		80-120	08-APR-22
Rubidium (Rb)-Total			97.9		%		80-120	08-APR-22
Selenium (Se)-Total			100.8		%		80-120	08-APR-22
Silicon (Si)-Total			103.7		%		80-120	08-APR-22
Silver (Ag)-Total			103.4		%		80-120	08-APR-22
Sodium (Na)-Total			102.5		%		80-120	08-APR-22
Strontium (Sr)-Total			101.3		%		80-120	08-APR-22
Sulfur (S)-Total			97.9		%		80-120	08-APR-22
Tellurium (Te)-Total			99.1		%		80-120	08-APR-22
Thallium (Tl)-Total			101.0		%		80-120	08-APR-22



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Client: RM of De Salaberry - St. Malo - PWS

St. Malo - PWS Box 398

St. Malo MB RDA 1T0

Contact: TODD GREGOIRE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch	R5760438							
WG3715048-2	LCS							
Thorium (Th)-Total			96.5		%		80-120	08-APR-22
Tin (Sn)-Total			101.5		%		80-120	08-APR-22
Titanium (Ti)-Total			96.7		%		80-120	08-APR-22
Tungsten (W)-Total			100.5		%		80-120	08-APR-22
Uranium (U)-Total			99.4		%		80-120	08-APR-22
Vanadium (V)-Total			101.6		%		80-120	08-APR-22
Zinc (Zn)-Total			100.9		%		80-120	08-APR-22
Zirconium (Zr)-Total			93.5		%		80-120	08-APR-22
WG3715048-1	MB							
Aluminum (Al)-Total			<0.0030		mg/L		0.003	08-APR-22
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	08-APR-22
Arsenic (As)-Total			<0.00010		mg/L		0.0001	08-APR-22
Barium (Ba)-Total			<0.00010		mg/L		0.0001	08-APR-22
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	08-APR-22
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	08-APR-22
Boron (B)-Total			<0.010		mg/L		0.01	08-APR-22
Cadmium (Cd)-Total			<0.0000050		mg/L		0.000005	08-APR-22
Calcium (Ca)-Total			<0.050		mg/L		0.05	08-APR-22
Cesium (Cs)-Total			<0.000010		mg/L		0.00001	08-APR-22
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	08-APR-22
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	08-APR-22
Copper (Cu)-Total			<0.00050		mg/L		0.0005	08-APR-22
Iron (Fe)-Total			<0.010		mg/L		0.01	08-APR-22
Lead (Pb)-Total			<0.000050		mg/L		0.00005	08-APR-22
Lithium (Li)-Total			<0.0010		mg/L		0.001	08-APR-22
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	08-APR-22
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	08-APR-22
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	08-APR-22
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	08-APR-22
Potassium (K)-Total			<0.050		mg/L		0.05	08-APR-22
Phosphorus (P)-Total			<0.030		mg/L		0.03	08-APR-22
Rubidium (Rb)-Total			<0.00020		mg/L		0.0002	08-APR-22
Selenium (Se)-Total			<0.000050		mg/L		0.00005	08-APR-22
Silicon (Si)-Total			<0.10		mg/L		0.1	08-APR-22



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Client: RM of De Salaberry - St. Malo - PWS
 St. Malo - PWS Box 398
 St. Malo MB R0A 1T0
 Contact: TODD GREGOIRE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch	R5760438							
WG3715048-1	MB							
Silver (Ag)-Total			<0.000010		mg/L		0.00001	08-APR-22
Sodium (Na)-Total			<0.050		mg/L		0.05	08-APR-22
Strontium (Sr)-Total			<0.00020		mg/L		0.0002	08-APR-22
Sulfur (S)-Total			<0.50		mg/L		0.5	08-APR-22
Tellurium (Te)-Total			<0.00020		mg/L		0.0002	08-APR-22
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	08-APR-22
Thorium (Th)-Total			<0.00010		mg/L		0.0001	08-APR-22
Tin (Sn)-Total			<0.00010		mg/L		0.0001	08-APR-22
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	08-APR-22
Tungsten (W)-Total			<0.00010		mg/L		0.0001	08-APR-22
Uranium (U)-Total			<0.000010		mg/L		0.00001	08-APR-22
Vanadium (V)-Total			<0.00050		mg/L		0.0005	08-APR-22
Zinc (Zn)-Total			<0.0030		mg/L		0.003	08-APR-22
Zirconium (Zr)-Total			<0.00020		mg/L		0.0002	08-APR-22
WG3715048-5	MS	WG3715048-3						
Aluminum (Al)-Total			96.2		%		70-130	08-APR-22
Antimony (Sb)-Total			97.6		%		70-130	08-APR-22
Arsenic (As)-Total			96.3		%		70-130	08-APR-22
Barium (Ba)-Total			95.5		%		70-130	08-APR-22
Beryllium (Be)-Total			104.3		%		70-130	08-APR-22
Bismuth (Bi)-Total			99.4		%		70-130	08-APR-22
Boron (B)-Total			N/A	MS-B	%		-	08-APR-22
Cadmium (Cd)-Total			97.4		%		70-130	08-APR-22
Calcium (Ca)-Total			N/A	MS-B	%		-	08-APR-22
Cesium (Cs)-Total			95.7		%		70-130	08-APR-22
Chromium (Cr)-Total			95.9		%		70-130	08-APR-22
Cobalt (Co)-Total			94.7		%		70-130	08-APR-22
Copper (Cu)-Total			91.3		%		70-130	08-APR-22
Iron (Fe)-Total			95.0		%		70-130	08-APR-22
Lead (Pb)-Total			92.0		%		70-130	08-APR-22
Lithium (Li)-Total			102.2		%		70-130	08-APR-22
Magnesium (Mg)-Total			N/A	MS-B	%		-	08-APR-22
Manganese (Mn)-Total			94.0		%		70-130	08-APR-22
Molybdenum (Mo)-Total			97.2		%		70-130	08-APR-22



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Client: RM of De Salaberry - St. Malo - PWS

St. Malo - PWS Box 398

St. Malo MB R0A 1T0

Contact: TODD GREGOIRE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch R5760438								
WG3715048-5 MS		WG3715048-3						
Nickel (Ni)-Total			93.9		%		70-130	08-APR-22
Potassium (K)-Total			91.5		%		70-130	08-APR-22
Phosphorus (P)-Total			101.1		%		70-130	08-APR-22
Rubidium (Rb)-Total			92.7		%		70-130	08-APR-22
Selenium (Se)-Total			100.1		%		70-130	08-APR-22
Silicon (Si)-Total			95.6		%		70-130	08-APR-22
Silver (Ag)-Total			92.5		%		70-130	08-APR-22
Sodium (Na)-Total			N/A	MS-B	%		-	08-APR-22
Strontium (Sr)-Total			N/A	MS-B	%		-	08-APR-22
Sulfur (S)-Total			N/A	MS-B	%		-	08-APR-22
Tellurium (Te)-Total			94.2		%		70-130	08-APR-22
Thallium (Tl)-Total			90.7		%		70-130	08-APR-22
Thorium (Th)-Total			96.2		%		70-130	08-APR-22
Tin (Sn)-Total			97.0		%		70-130	08-APR-22
Titanium (Ti)-Total			96.3		%		70-130	08-APR-22
Tungsten (W)-Total			97.2		%		70-130	08-APR-22
Uranium (U)-Total			92.8		%		70-130	08-APR-22
Vanadium (V)-Total			98.5		%		70-130	08-APR-22
Zinc (Zn)-Total			93.4		%		70-130	08-APR-22
Zirconium (Zr)-Total			96.9		%		70-130	08-APR-22
NH3-COL-WP	Water							
Batch R5761905								
WG3716432-3 DUP		L2697230-1						
Ammonia, Total (as N)		0.072	0.059		mg/L	20	20	12-APR-22
WG3716432-2 LCS								
Ammonia, Total (as N)			100.5		%		85-115	12-APR-22
WG3716432-1 MB								
Ammonia, Total (as N)			<0.010		mg/L		0.01	12-APR-22
WG3716432-4 MS		L2697230-1						
Ammonia, Total (as N)			81.0		%		75-125	12-APR-22
NO2-L-IC-N-WP	Water							
Batch R5759280								
WG3714205-10 LCS								
Nitrite (as N)			103.5		%		90-110	08-APR-22
WG3714205-9 MB								



Quality Control Report

Workorder: L2697223

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Client: RM of De Salaberry - St. Malo - PWS
 St. Malo - PWS Box 398
 St. Malo MB R0A 1T0
 Contact: TODD GREGOIRE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-L-IC-N-WP	Water							
Batch R5759280								
WG3714205-9 MB								
Nitrite (as N)			<0.0010		mg/L		0.001	06-APR-22
NO3-L-IC-N-WP	Water							
Batch R5759280								
WG3714205-10 LCS								
Nitrate (as N)			101.0		%		90-110	06-APR-22
WG3714205-9 MB								
Nitrate (as N)			<0.0050		mg/L		0.005	06-APR-22
PH-WP	Water							
Batch R5758617								
WG3715099-10 DUP		L2697163-2						
pH		7.81	7.79	J	pH units	0.02	0.2	07-APR-22
WG3715099-7 LCS								
pH			7.00		pH units		6.9-7.1	07-APR-22
SO4-IC-N-WP	Water							
Batch R5759280								
WG3714205-10 LCS								
Sulfate (SO4)			102.9		%		90-110	06-APR-22
WG3714205-9 MB								
Sulfate (SO4)			<0.30		mg/L		0.3	06-APR-22
TDS-WP	Water							
Batch R5761217								
WG3714694-3 DUP		L2697166-1						
Total Dissolved Solids		489	496		mg/L	1.3	20	07-APR-22
WG3714694-2 LCS								
Total Dissolved Solids			95.5		%		85-115	07-APR-22
WG3714694-1 MB								
Total Dissolved Solids			<4.0		mg/L		4	07-APR-22
Batch R5764923								
WG3716235-3 DUP		L2698170-1						
Total Dissolved Solids		184	205		mg/L	5.9	20	12-APR-22
WG3716235-2 LCS								
Total Dissolved Solids			96.6		%		85-115	12-APR-22
WG3716235-1 MB								
Total Dissolved Solids			<4.0		mg/L		4	12-APR-22
TURBIDITY-WP	Water							



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Client: RM of De Salaberry - St. Malo - PWS
 St. Malo - PWS Box 398
 St. Malo MB R0A 1T0
 Contact: TODD GREGOIRE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TURBIDITY-WP Water								
Batch	R5757416							
WG3713930-3	DUP	L2696719-1						
Turbidity		1.10	1.16		NTU	5.3	15	06-APR-22
WG3713930-2	LCS		100.5		%		85-115	06-APR-22
WG3713930-1	MB		<0.10		NTU		0.1	06-APR-22
UV-%TRANS-WP Water								
Batch	R5757782							
WG3714727-3	DUP	L2696719-1						
Transmittance, UV (254 nm)		96.2	97.9		%T/cm	1.8	20	07-APR-22
WG3714727-1	IRM	BLANK	100.0		%		99.5-100.5	07-APR-22
WG3714727-2	LCS		103.7		%		85-115	07-APR-22
VOC+F1-HSMS-WP Water								
Batch	R5762201							
WG3714414-4	DUP	L2696512-1						
Benzene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	06-APR-22
1,1-dichloroethene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	06-APR-22
Dichloromethane		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	06-APR-22
Ethylbenzene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	06-APR-22
MTBE		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	06-APR-22
Tetrachloroethene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	06-APR-22
Toluene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	06-APR-22
Trichloroethene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	06-APR-22
M+P-Xylenes		<0.00040	<0.00040	RPD-NA	mg/L	N/A	30	06-APR-22
o-Xylene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	06-APR-22
WG3714414-2	LCS							
Benzene			99.8		%		70-130	06-APR-22
1,1-dichloroethene			101.4		%		70-130	06-APR-22
Dichloromethane			92.4		%		70-130	06-APR-22
Ethylbenzene			95.1		%		70-130	06-APR-22
MTBE			102.0		%		70-130	06-APR-22
Tetrachloroethene			92.8		%		70-130	06-APR-22
Toluene			103.2		%		70-130	06-APR-22



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Client: RM of De Salaberry - St. Malo - PWS
 St. Malo - PWS Box 398
 St. Malo MB R0A 1T0

Contact: TODD GREGOIRE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC+F1-HSMS-WP	Water							
Batch	R5762201							
WG3714414-2	LCS							
Trichloroethene			84.7		%		70-130	06-APR-22
M+P-Xylenes			100.6		%		70-130	06-APR-22
o-Xylene			98.3		%		70-130	06-APR-22
WG3714414-1	MB							
Benzene			<0.00050		mg/L		0.0005	06-APR-22
1,1-dichloroethene			<0.00050		mg/L		0.0005	06-APR-22
Dichloromethane			<0.00050		mg/L		0.0005	06-APR-22
Ethylbenzene			<0.00050		mg/L		0.0005	06-APR-22
MTBE			<0.00050		mg/L		0.0005	06-APR-22
Tetrachloroethene			<0.00050		mg/L		0.0005	06-APR-22
Toluene			<0.00050		mg/L		0.0005	06-APR-22
Trichloroethene			<0.00050		mg/L		0.0005	06-APR-22
M+P-Xylenes			<0.00040		mg/L		0.0004	06-APR-22
o-Xylene			<0.00050		mg/L		0.0005	06-APR-22
Surrogate: 4-Bromofluorobenzene (SS)			93.3		%		70-130	06-APR-22
Surrogate: 1,4-Difluorobenzene (SS)			96.5		%		70-130	06-APR-22
WG3714414-5	MS	L2696512-1						
Benzene			102.1		%		70-130	06-APR-22
1,1-dichloroethene			102.2		%		60-140	06-APR-22
Dichloromethane			95.4		%		70-130	06-APR-22
Ethylbenzene			94.7		%		70-130	06-APR-22
MTBE			102.9		%		70-130	06-APR-22
Tetrachloroethene			90.9		%		70-130	06-APR-22
Toluene			102.4		%		70-130	06-APR-22
Trichloroethene			86.9		%		70-130	06-APR-22
M+P-Xylenes			98.0		%		70-130	06-APR-22
o-Xylene			97.4		%		70-130	06-APR-22

Quality Control Report

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Contact: TODD GREGOIRE

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L2697223

Report Date: 19-APR-22

Client: RM of De Salaberry - St. Malo - PWS
 St. Malo - PWS Box 398
 St. Malo MB R0A 1T0
 Contact: TODD GREGOIRE

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Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
pH	1	05-APR-22 10:30	07-APR-22 12:00	0.25	49	hours	EHTR-FM
	2	05-APR-22 10:30	07-APR-22 12:00	0.25	49	hours	EHTR-FM

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
 EHTR: Exceeded ALS recommended hold time prior to sample receipt.
 EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
 EHT: Exceeded ALS recommended hold time prior to analysis.
 Rec. HT: ALS recommended hold time (see units).

Notes*:

Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
 Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L2697223 were received on 06-APR-22 10:55.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes 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 pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Environment, Climate and Parks
Office of Drinking Water
1007 Century Street, Winnipeg, Manitoba,
Canada R3H 0W4



L2697223-CCFC

Report to Operator (email PDF):		Report to Owner (email PDF):	
Contact: Alsin Gauthier	Contact: Denise Parent	DWO: Colin Nakata	Regular Service (default): <input checked="" type="checkbox"/> (is 5-7 Days):
Address: Box 308, St. Malo, MB R0A 1T0	Address: Box 40, St. Pierre-Jolys, MB R0A 1V0	DWO Address: Unit B-284 Reimer Ave., Steinbach, MB R5G	<input type="checkbox"/> 1 Day, rush / priority
Phone: (204) 433-7406	Phone: (204) 433-7406	DWO Phone: (204) 371-7421	<input type="checkbox"/> 2 Day, rush / priority
Email: almalopw@rmdesalaberry.mb.ca	Email: cao@rmdesalaberry.mb.ca	DWO Email: Colin.Nakata@gov.mb.ca	<input type="checkbox"/> 3 Day, rush / priority
		Additional Email: Joern.Muenster@gov.mb.ca	
		Nancy.Eidse@gov.mb.ca	

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

Client / Project Information:		Agency Code: 382	Report Type: EMS (Lab-MWS)	Project: DWQ-C
Operation Name: ST. MALO - PWS	Account:			
Operation Code: 217.50	Expected Sample Time:	February-2022		
Operation ID: 21231				
Sampled by: Al Gauthier				

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-mm-yyyy)	Sample Time (hh:mm)	Sample Matrix	Sample Type	# of Containers
2202CNS020	MB05CED041	St. Malo 1 - Raw			05/05/22	10:20 AM	5	1	X
2202CNS021	MB05CED042	St. Malo 2 - Treated	1.18	1.53	05/05/22	10:20 AM	10	1	X
2202CNS022	MB05CED043	St. Malo 3 - Distribution	1.14	1.37	05/05/22	10:20 AM	9	1	X

P.O. 12527-

Failure to complete all portions of this form may delay analysis.		Sample Matrix: 6-Raw Water, 9-Distributed Water, 10-Treated Water
Please fill in this form LEGIBLY.		Sample Type: 1-Grab Sample
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: Al Gauthier	Date & Time: April 5/22	Validated By (lab use only):
Received By: O.A.	Date & Time: APR 06 2022	Sample Condition (lab use only):
(lab use only)	Temperature: 6.4	Samples Received in Good Condition? Y / N



Health
Environment and Climate Change

PUBLIC NOTICE

BOIL WATER ADVISORY FOR A PORTION OF THE ST. MALO PUBLIC WATER SYSTEM

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

February 20, 2024.

Scheduled maintenance to the water system will lead to a loss of water pressure in a portion of the St. Malo water distribution system. Distribution depressurization can compromise the safety of the water supply.

A boil water advisory is being issued **beginning at 10:00 on February 20th, 2024**, to ensure the protection of public health in the following areas:

- All water users on Noret Avenue
- 76 – 83 De L'Eglise Avenue

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.



Health
Environment and Climate

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 204-433-7406 or the Regional Drinking Water Officer at 204-795-6908, 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>



Health

Dr. Mahmoud Khodaveisi
Medical Officer of Health

February 22, 2024.

Code: 217.50

Denise Parent, Chief Administrative Officer
Rural Municipality of De Salaberry
Box 40
St-Pierre-Jolys MB
R0A 1V0
cao@rmdesalaberry.mb.ca

**RE: BOIL WATER ADVISORY ISSUED TO PORTIONS OF THE ST. MALO WATER
DISTRIBUTION SYSTEM**

Dear Denise Parent:

Drinking Water Officer, Kale Black has advised me that the St. Malo water system has met all conditions for rescinding the boil water advisory and that bacteriological testing results meet regulatory standards.

I am therefore rescinding the boil water advisory that was placed on the St. Malo water system on February 20, 2024.

Please ensure all water users are notified that the advisory has been rescinded and that normal water usage can be resumed. A copy of this letter can be provided as notification. Notices posted in public locations such as washrooms are to be removed.

Should you have any questions, please contact Kale Black, Regional Drinking Water Officer at 204-795-6908.

Sincerely,

Dr. Mahmoud Khodaveisi
Medical Officer of Health
Southern Health-Santé Sud

Cc: Sacha Janzen – A/Director, Office of Drinking Water
Marc Balcaen – A/Manager, Field Operations, Office of Drinking Water
Dr. Davinder Singh - Medical Officer of Health, Southern Regional Health Authority
Kale Black – Senior Regional Drinking Water Officer, Office of Drinking Water
Alain Gautier – RM of De Salaberry Public Works
healthprotection@gov.mb.ca - Public Health Inspector