Rm of Whitemouth

Public Water System

Annual Report

2018

Name of the Public Water System: **Whitemouth Rural Pipeline**

Name of the Legal Owner: **RM of Whitemouth**

Contact Person: **Colleen Johnson (COA)**

Phone: **(204) 348-2221**

Fax: **(204) 348-2576**

Email: **cao@rmwhitemouth.com**

Website: **www.rmwhitemouth.com**

Name of Operators: **Glen Campbell, Sr. Utility Operator – Water Treatment 2**

Water Distribution 1

Waste Water Small System

Sean Fawley, Operator - Water Treatment 1 OIT

Water Distribution 1 OIT

Waste Water Small System OIT

Phone during business hours: **(204) 348-2574 or (204) 348-2221**

Date prepared: March 27, 2019

Prepared By: Glen Campbell

Colleen Johnson CAO

Rm of Whitemouth

Table of Contents

Introduction:

The 2018 Public Water System Annual Report summarizes the ability of the RM of Whitemouth to produce and provide safe potable water to our constituents which meets provincial regulations.

1. **Description of the Water System:**

   The RM of Whitemouth Public Water System provides potable drinking water to a population of approximately 1000 residents. Treated water from the water treatment plant meets all health as stated in the *Guidelines for Canadian Drinking Water Quality* as well as provincial regulations. Aesthetic objectives in the *Guidelines for Canadian Drinking Water Quality* met all except for Aluminum.

   The aluminum level in the treated water sample was 0.160 mg/L. A health-based guideline for aluminum in drinking water has not yet been established. There is no consistent evidence that aluminum in drinking water causes adverse health effects. As a precautionary measure, water treatment plants using aluminum-based coagulants should optimize their treatment process to keep residual aluminum levels in the treated water as low as possible. For plants using aluminum-based coagulants, operational guidance values of less than 0.1 mg/L (100 µg/L) total aluminum for conventional treatment plants and less than 0.2 mg/L (200 µg/L) total aluminum for other types of treatment systems (ex. direct or in-line filtration plants, lime softening plants) are recommended. These values are based on a 12-month running average of monthly samples.

   However, any attempt to minimize aluminum residuals must not compromise the effectiveness of the turbidity control (filtration) system or interfere with disinfection or the removal of disinfection by-product precursors. It is recommended that jar testing be conducted to ensure coagulant addition is optimized.

   We are continuing to bring down these levels with proper Chemical dosing.

1.1 Water Supply Source

The RM of Whitemouth Water Treatment Plant draws its supply water from Natalie Lake of the Winnipeg River. The Winnipeg River has an abundant supply of high-quality water which is easily treated to meet all standards.

The Water Treatment Plant intake is approximately 12 feet below the surface of the river. The water is then pumped into the Water Treatment Plant situated in Seven Sisters Falls, Mb on Waterline Road.

1.2 Water Treatment Processes

The high quality of water which comes out of the Winnipeg River requires a minimal amount of treatment to meet all provincial requirements. Upon entering the water treatment plant and entering our Actiflo treatment system the raw water is injected with a product called Hydrex 3613 Polymere, which is a flocculating agent, an Aluminum Sulphate Solution, which is a further flocculating agent, and Actisand, which is fine silica sand. These processes are geared mainly towards treating the turbidity and colour of the raw water. The raw water comes out of the Winnipeg River with an average turbidity between 3-10 nephelometric turbidity units (NTU). The Actiflo processes drop this figure to on average between 0.5 -0.7 NTU. The water which has been treated through the Actiflo. After going through the filter, the treated water is at approximately 0.030-0.050 NTU. This number is approximately 11% of our regulated limit. The legal requirement for our treated water is 0.3 NTU after these filters. The water is then stored in a 873,000 litre reservoir.

A result of the Actiflo/ Chemical processes is that the water pH drops to approximately 6.3-6.5. This water is then treated with Sodium Hydroxide 25% solution to raise the pH from 6.3-6.5 to a level of 7.6-7.8. This means that the treated water is very close to neutral which aids in controlling corrosion and deposits. The reservoir water is further treated with Sodium Hyprochlorite 12% as a disinfecting agent. Our distribution water must leave the water treatment plant with a minimum of 0.5mg per litre of free chlorine residual and have a minimum of 0.1 mg per litre in all areas of the distribution.

1.3 Water Treatment and Distribution Capacities

The RM of Whitemouth Water Treatment Plant operates at an incoming rate of 15 litres per second and runs for approximately 8 hours per day using two 20hp distribution duty pumps. We treat approximately 500000 litres daily on average. Distribution system pressure is maintained at between 50-57psi using frequency drive pumps and a pressure relief system.

1.4 Distribution System

RM of Whitemouth's water distribution system is approximately 80 kilometres long and is comprised of approximately 50% PVC and 50% HDPE. Distribution piping varies in size from 8" to 2".

1.5 Number of Connections, and water user types

RM of Whitemouth has approximately 500 connections with a large different type of users from residential, commercial, and farms. From small users to large users. From year round to seasonal connections.

1.6 System Classification and Certification under the Water and Wastewater Facility Operators Regulation under the Environment Act.

A Class 2 Water Treatment Facility

A Class 1 Water Distribution System

2. Disinfection System in Use.

The RM of Whitemouth uses liquefied Sodium Hypochlorite 12% as our disinfection method. Disinfection is the selective destruction or inactivation of potential disease-causing organisms in water. As per the *Drinking Water Safety Act* the RM of Whitemouth Public Water System must ensure that we maintain a free 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
- O.1 mg of free chlorine per litre of water is detectable at all times at any point in the distribution network.

2.1 Type of Disinfection System Used

The RM of Whitemouth Water Treatment Plant disinfects using Sodium Hypochlorite 12% concentration. Chlorine is added to the system using 2 peristaltic pumps, one as primary one as backup should one fail or fault the other will automatically switch.

2.2 Need for Redundancy and Monitoring

The "Drinking Water and Safety Act" requires that disinfection is continuously maintained. To ensure this we use two separate chlorine pumps allowing for redundancy in the system itself where one side can be turned off and the disinfecting needs will be met by the remaining side and some spare parts which are more prone to fail or need replacing.

Disinfectant total and free residuals are checked and recorded daily at the water treatment plant and bi-weekly at points throughout the distribution system. Results are recorded on the appropriate monitoring forms and are sent to the regional Drinking Water Officer at the end of each month. SCADA system that records free chlorine levels on a continuous basis.

2.3 Disinfectant Residual Overall Performance and Results

For the year 2018 the RM of Whitemouth Public Water System has met 99% of the regulatory requirements for treated water and 99% for distributed water.

3. 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 they express the maximum acceptable concentrations for drinking water. Concentration values in excess of the standards constitute a possible health related issue and require corrective actions. The 2018 results for the RM of Whitemouth Public Water System are summarized in the following tables:

3.1 Disinfection Monitoring and Reporting

	Regulatory Requirement	Water System Performance
Free Chlorine Residual entering the Distribution System	≥0.5 mg/L	Met requirements 99% Analyzer out of calibration
Frequency of Testing	Daily	Meets requirements
Free Chlorine Residual in the Distribution System	≥0.1 mg/L	Met requirements 99% Missed one set of samples
Frequency of Testing	Bi-Weekly	Met requirements 99% Missed one set of samples
Report Submissions	Monthly	Fully meets requirements

3.2 Bacteriological Monitoring and Reporting

	Regulatory Requirement	Water System Performance
Number of Raw/Incoming Water Samples	26	Met requirements 99% Missed one set of samples
Number of Treated Water Samples	26	Met requirements 99% Missed one set of samples
Number of Distribution Water Samples	52	Met requirements 99% Missed one set of samples
Frequency of Testing	Bi-weekly	Met requirements 99% Missed one set of samples
Total Coliform (TC) Present in Water Samples	0 TC per 100mL	Met requirements 99% Missed one set of samples
E. Coli (EC) Present in Water Samples	0 EC per 100mL	Met requirements 99% Missed one set of samples

3.3 Turbidity Monitoring and Reporting

	Regulatory Requirement	Water System Performance
Chemically assisted, rapid gravity filtration process	≤0.3NTU in at Least 95% Of samples	Fully meets requirements
Standard	Never to exceed 1.0 NTU	Fully meets requirements
Frequency of Testing	Continuous	Fully meets requirements
Report Submissions	Monthly	Few adjustments needed

3.4 Disinfection By-products Monitoring and Reporting

	Regulatory Requirement	Water System Performance
Trihalomethane sampling requirements	Quarterly	Testing required every 2nd year completed 2017 Presently doing in 2019
Total Trihalomethane Standard	0.1mg/L	Passed 0.0923
Haoacetic Acid sampling requirements	Quarterly	Testing required every 2nd year completed 2017 Presently doing in 2019
Haloacetic Acid Standard	0.08mg/L	Passed 0.0693

4. Water System Alterations, Incidents and Corrective Actions

4.1 Water Breaks

All waterline repairs were done while the waterline was still under minimal positive pressure to ensure no in line contamination. After repairs were completed waterlines were flushed and checked to make sure that a satisfactory disinfectant residual was maintained prior to being put back into service. All repairs were done in such a way as to minimize down time for users and as much advance notice given as possible. The RM of Whitemouth had less than 10 repairs in 2018.

4.2 Water Hook-Ups

During 2018 there were 19 hook-ups to our water system. Neva Falls water coop plus a few others.

4.3 Other Incidents or Corrective Actions

Around October 24, 2018 Bacteria samples were missed as there is no records of them being done by the lab. It is unclear as to why, if its operator error or where they lost in the mail. For this reason, it shows in our that we where in 99% compliance in monitoring and reporting. We did complete 25 or 26 required samples.

In July it shows that we failed to meet disinfection requirements. This was an analyzer that was out. It showed that it was reading .41 ppm and when tested it, actual was .56ppm. Minimum requirement leaving the plant is .50 ppm. It was recalibrated within 20 minutes of it being below standard.

Microbial requirements are not met due to our recording software for 3-log barrier needing a little bit of programing changes. We got this recording software in March 2018 and were only now notified that it needs these small changes.

5. Drinking Water Safety Orders on Water System and Corrective Actions Taken

During 2018, there were no Drinking Water Safety Orders issued for the RM of Whitemouth Public Water System.

6. Boil Water Advisories Issued on Water System and Corrective Actions Taken

During 2018 the RM of Whitemouth Public Water System did not have any boil water advisories issued.

7. Warnings Issued or Charges Laid on Water System in Accordance with The Drinking

Water Safety Act

During 2018 the RM of Whitemouth Public Water System did not have any warnings or charges.

8. Major Expenses Incurred in 2018

There were no major expenses incurred in 2018

9. Anticipated Future Major Cost Items, System Expansion and/or Increased Production

- Extending our distribution line into the RM of Lac du Bonnet and LDG of Pinawa

Manitoba
Sustainable Development

Office of Drinking Water
Unit B 284 Reimer Avenue
Steinbach, Manitoba, R5G 0R5 **T**
204-371-7421 **F** 204-326-2472
http://www.manitoba.ca/drinkingwater

Sent via electronic mail: no hard copy to follow

March 19, 2019

Colleen Johnson
RM of Whitemouth
Box 248, 49 Railway Ave. Whitemouth,
MB, R0E 2G0
cao@rmwhitemouth.com

2018 Annual Compliance Audit

Dear Ms. Johnson:

Please find enclosed the 2018 Annual Compliance Audit for the Whitemouth public water system (PWS). The report compares water system compliance to *The Drinking Water Safety Act* and its supporting regulations, and the terms and conditions of the water system's current operating licence (PWS-08-127-02).

Where non-compliance items are identified, the issues do not necessarily translate into increased public health risk. The Office of Drinking Water uses processes, including boil water advisories, to notify water users of a public health risk.

Please review the following terms and conditions of your operating licence to ensure ongoing compliance:

- Water quality sampling frequencies identified in *Table 2*.
- Water System Assessment (due date: March 1, 2025)
- 2018 Public Water System Annual Report (due date: March 31, 2018)
- Advisory Notification Plan (due date: May 1, 2019)

Operational Guidelines

Water suppliers that own and operate a portion of their water supply on a seasonal basis, such as a campground or park, are reminded they are required to follow Seasonal Water System Start-up/Shutdown procedures. Your operating licence may be amended in the future to reflect this requirement; however, in the interim, the protocol must be followed.

Water suppliers are reminded to immediately notify the Office of Drinking Water of any condition(s) that may affect the ability of the water system to produce or deliver safe drinking water. These conditions include:

- treatment upsets, bypass conditions, operation outside of licence conditions
- contamination of source or treated water
- a disinfection, filtration, or distribution system failure

Operational Guidelines to assist operators in meeting regulatory obligations for monitoring and reporting under The Drinking Water Safety Act, including Seasonal System and Emergency Reporting requirements, can be found on our website at: www.gov.mb.ca/drinkingwater.

Additional Information

Beginning in 2019, the requirement to submit a compliance plan will be removed from operating licences as they are renewed or amended. Section 8 of the Drinking Water Quality Standard Regulation states that the director may require water systems to submit a plan if they are not in compliance with a drinking water standard that details when and how the water supply will come into compliance with the standard. Water systems will be notified in writing if a plan is requested.

Health Canada has completed their review on National Guidelines, including algae (total microcystin toxins) manganese and lead. The new guidelines are expected to be finalized and posted with minor changes following the public consultation stage. Owners and operators are encouraged to review Health Canadas guidelines and related chemistry results to determine what impact they may have on your water supply. You will receive notification of any changes to Health Canadas Guidelines for Canadian Drinking Water Quality and Manitoba Standards should they affect your water supply.

Beginning April 1, 2019, the Office of Drinking Water will begin posting PWS Operating Licences and a copy of the most recent chemistry analysis on our public website.

The 2018 Annual Compliance Audit is based on information submitted to this office. If you have questions regarding non-compliance items identified in this audit, please review your records prior to contacting this office. If your records conflict with the audit information, please call me at (204) 371-7421.

Sincerely,

Colin Nakata
Regional Drinking Water Officer

Enclosures
copy: Glen Campbell, Sr. Utility Operator

2018 Annual Compliance Audit

Water System: WHITEMOUTH - PWS

Code: 249.25

Water System Owner: Rural Municipality of Whitemouth

Water System Operating Licence: PWS-08-127-02 Expiry Date: November 30, 2022

1) This report documents the Whitemouth Public Water System compliance for the period from January 1 to December 31, 2018.

2) Addendum A to this report provides specific information on the non-compliance incidents identified in the summary below.

3) Other than the information provided in attached Addendum A, the water supplier has complied with *The Drinking Water Safety Act,* its supporting regulations, and the terms and conditions of the water system's current operating licence

4) This report is based on information submitted by the water supplier, agents of the water supplier, and / or the Province of Manitoba.

Summary of Non-Compliance Incidents:

Failure to Meet Disinfection Requirements
Failure to Meet Bacteriological Requirements
Failure to Meet Microbial Requirements
Failure to Meet Operational Requirements

Addendum A: Record of Non-Compliance
Water System: WHITEMOUTH - PWS
Report period: January 1, 2018 to December 31, 2018.

Enforcement Action Taken

Date	Incident	Outcome
	None reported	

Disinfection Requirements

Date	Incident	Outcome
July	Failure to maintain a free chlorine residual of at least 0.5 mg/L in accordance with the operating licence	Non-compliant
October	Failure to maintain a free chlorine residual of at least 0.1 mg/L at all times at any point in the water distribution system	Non-compliant
October	Failure to take and/or record disinfection residual measurement within the distribution system	Non-compliant

Bacteriological Requirements

Date	Incident	Outcome
October	Failure to submit bacteriological samples at the frequency specified in your operating licence	Non-compliant
October	Failure to meet Bacteriological Standards: Total Coliform (TC) and E. coli (EC) as a result of failing to submit bacteriological samples at the specified frequency	Non-compliant

Microbial Requirements

Date	Incident	Outcome
2018	Failure to meet the 3-log protozoa barrier	Non-compliant

Turbidity Requirements

Date	Incident	Outcome
	None reported	

Chemical Requirements

Date	Incident	Outcome
	None reported	

Operational Requirements

Date	Incident	Outcome
2018	Failure to submit a Advisory Notification Plan	Non-compliant

RM of Whitemouth Rural Pipeline
ATTN: GLEN CAMPBELL
Whitemouth Rural Pipeline Box 248
Whitemouth MB R0E 2G0

Date Received: 30- AUG- 18
Report Date: 11- SEP- 18 12:44 (MT)
Version: FINAL

Client Phone: 204- 348- 2574

Certificate of Analysis

Lab Work Order #: L2156092

Project P.O. #:	NOT SUBMITTED
Job Reference:	WHITEMOUTH - PWS 249.25
C of C Numbers:	
Legal Site Desc:	7238

Hua Wo
Chemistry Laboratory Manager

ADDRESS: 1329 Niakwa Road East, Unit 12, Winnipeg, MB R2J 3T4 Canada | Phone: + 1 204 255 9720 | Fax : + 1 204 255 9721

Physical Tests (WATER)

				ALS ID	L2156092-1		L2156092-2	
				Sampled Date	29-AUG-18		29-AUG-18	
				Sampled Time	11:00		11:00	
				Sample ID	**RM OF WHITEMOUTH 1 - RAW**		**RM OF WHITEMOUTH 2 - TREATED**	
Analyte	Unit	Guide Limit #1	Guide Limit #2					
Colour, True	CU	15	-		22.4		<5.0	
Conductivity	umhos/cm	-	-		111		169	
Hardness (as CaCO3)	mg/L	-	-		51.5	HTC	52.5	HTC
Langelier Index (4 C)	No Unit	-	pH		-0.88		-1.1	
Langelier Index (60 C)	units	7.00-10.5	pH		-0.10		-0.34	
pH	No Unit	500	mg/L		7.89		7.76	
Total Dissolved Solids	mg/L	-	-		88		100	
Transmittance, UV (254 nm)	%T/cm	-	-		52.4		85.5	
Turbidity	NTU	-	-		5.99		0.62	

Federal Guidelines for Canadian Drinking Water Quality (FEB, 2017)
#1: GCDWQ - Aesthetic Objective/Other Value
#2: GCDWQ - Maximum Acceptable Concentrations (MACs)

Anions and Nutrients (WATER)

				ALS ID	L2156092-1	L2156092-2
				Sampled Date	29-AUG-18	29-AUG-18
				Sampled Time	11:00	11:00
				Sample ID	**RM OF WHITEMOUTH 1 - RAW**	**RM OF WHITEMOUTH 2 - TREATED**
Analyte	Unit	Guide Limit #1	Guide Limit #2			
Alkalinity, Total (as CaCO3)	mg/L	-	-		49.2	39.2
Ammonia, Total (as N)	mg/L	-	-		<0.010	<0.010
Bicarbonate (HCO3)	mg/L	-	-		60.0	47.8
Bromide (Br)	mg/L	-	-		<0.010	<0.010
Carbonate (CO3)	mg/L	-	-		<0.60	<0.60
Chloride (Cl)	mg/L	250	-		1.92	4.87
Fluoride (F)	mg/L	1.5			0.049	<0.020
Hydroxide (OH)	mg/L	-	-		<0.34	<0.34
Nitrate (as N)	mg/L	-	10		<0.0050	<0.0050
Nitrite (as N)	mg/L	-	1		<0.0010	<0.0010
Sulfate (SO4)	mg/L	500	-		3.15	37.4

Federal Guidelines for Canadian Drinking Water Quality (FEB, 2017) #1: GCDWQ - Aesthetic Objective/Other Value
#2: GCDWQ - Maximum Acceptable Concentrations (MACs)

Organic / Inorganic Carbon (WATER)

				ALS ID	L2156092-1	L2156092-2
				Sampled Date	29-AUG-18	29-AUG-18
				Sampled Time	11:00	11:00
				Sample ID	**RM OF WHITEMOUTH 1 - RAW**	**RM OF WHITEMOUTH 2 - TREATED**
Analyte	Unit	Guide Limit #1	Guide Limit #2			
Dissolved Organic Carbon	mg/L	-	-		9.69	3.99
Total Organic Carbon	mg/L	-	-		9.67	3.83

Federal Guidelines for Canadian Drinking Water Quality (FEB, 2017) #1: GCDWQ - Aesthetic Objective/Other Value
#2: GCDWQ - Maximum Acceptable Concentrations (MACs)

Total Metals (WATER)

				ALS ID	L2156092-1	L2156092-2
				Sampled Date	29-AUG-18	29-AUG-18
				Sampled Time	11:00	11:00
				Sample ID	**RM OF WHITEMOUTH 1 - RAW**	**RM OF WHITEMOUTH 2 - TREATED**
Analyte	Unit	Guide Limit #1	Guide Limit #2			
Aluminum (Al)-Total	mg/L	0.1	-		0.229	0.160
Antimony (Sb)-Total	mg/L	-	0.006		<0.00010	<0.00010
Arsenic (As)-Total	mg/L	-	0.01		0.00101	0.00032
Barium (Ba)-Total	mg/L	-	1		0.0111	0.00973
Beryllium (Be)-Total	mg/L	-	-		<0.00010	<0.00010
Bismuth (Bi)-Total	mg/L	-	-		<0.000050	<0.000050
Boron (B)-Total	mg/L	-	5		<0.010	<0.010
Cadmium (Cd)-Total	mg/L	-	0.005		<0.0000050	0.0000081
Calcium (Ca)-Total	mg/L	-	-		13.0	13.6
Cesium (Cs)-Total	mg/L	-	-		0.000034	<0.000010
Chromium (Cr)-Total	mg/L	-	0.05		0.00079	0.00047
Cobalt (Co)-Total	mg/L	-	-		0.00013	<0.00010
Copper (Cu)-Total	mg/L	1	2		0.00135	0.00056
Iron (Fe)-Total	mg/L	0.3	-		0.241	0.039
Lead (Pb)-Total	mg/L	-	0.01		0.000141	<0.000050
Lithium (Li)-Total	mg/L	-	-		0.0018	0.0017
Magnesium (Mg)-Total	mg/L	-	-		4.62	4.51
Manganese (Mn)-Total	mg/L	0.05	-		0.0130	0.00063
Molybdenum (Mo)-Total	mg/L	-	-		0.000208	0.000201
Nickel (Ni)-Total	mg/L	-	-		0.00091	0.00093
Phosphorus (P)-Total	mg/L	-	-		<0.050	<0.050
Potassium (K)-Total		-	-		0.816	0.772
Rubidium (Rb)-Total		-	-		0.00183	0.00132
Selenium (Se)-Total		-	0.05		0.000136	<0.000050
Silicon (Si)-Total		-	-		1.70	1.15
Silver (Ag)-Total		-	-		<0.000010	<0.000010
Sodium (Na)-Total		200	-		2.71	15.5
Strontium (Sr)-Total		-	-		0.0270	0.0269
Tellurium (Te)-Total		-	-		<0.00020	<0.00020
Thallium (Tl)-Total		-	-		<0.000010	<0.000010
Thorium (Th)-Total		-	-		<0.00010	<0.00010
Tin (Sn)-Total		-	-		<0.00010	<0.00010
Titanium (Ti)-Total		-	-		0.00632	<0.00030

Federal Guidelines for Canadian Drinking Water Quality (FEB, 2017)
#1: GCDWQ - Aesthetic Objective/Other Value
#2: GCDWQ - Maximum Acceptable Concentrations (MACs)

Total Metals (WATER)

				ALS ID	L2156092-1	L2156092-2
				Sampled Date	29-AUG-18	29-AUG-18
				Sampled Time	11:00	11:00
				Sample ID	**RM OF WHITEMOUTH 1 - RAW**	**RM OF WHITEMOUTH 2 - TREATED**
Analyte	Unit	Guide Limit #1	Guide Limit #2			
Tungsten (W)-Total	mg/L	-	-		<0.00010	<0.00010
Uranium (U)-Total	mg/L mg/L	-	0.02		0.000098	<0.000010
Vanadium (V)-Total	mg/L mg/L	-	-		0.00112	<0.00050
Zinc (Zn)-Total		5	-		<0.0030	0.0127
Zirconium (Zr)-Total		-	-		0.000268	<0.000060

Federal Guidelines for Canadian Drinking Water Quality (FEB, 2017)
#1: GCDWQ - Aesthetic Objective/Other Value
#2: GCDWQ - Maximum Acceptable Concentrations

(MACs) Volatile Organic Compounds (WATER)

			ALS ID	L2156092-1	L2156092-2
			Sampled Date	29-AUG-18	29-AUG-18
			Sampled Time	11:00	11:00
			Sample ID	**RM OF WHITEMOUTH 1 - RAW**	**RM OF WHITEMOUTH 2 - TREATED**
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	<0.0015 DLCI	<0.0015 DLCI
Ethylbenzene	mg/L	0.0016	0.14	<0.00050	<0.00050
MTBE	mg/L	0.015	-	<0.00050	<0.00050
Tetrachloroethene	mg/L	-	0.01	<0.00050	<0.00050
Toluene	mg/L	0.024	0.06	<0.00050	<0.00050
Trichloroethene o-	mg/L	-	0.005	<0.00050	<0.00050
Xylene M+P-Xylenes	mg/L	-	-	<0.00050	<0.00050
Xylenes (Total)	mg/L	-	-	<0.00040	<0.00040
Surrogate: 4-Bromofluorobenzene (SS)	mg/L	0.02	0.09	<0.00064	<0.00064
Surrogate: 1,4-Difluorobenzene (SS)	%	-	-	99.9	94.5
	%	-	-	102.2	101.2

Federal Guidelines for Canadian Drinking Water Quality (FEB, 2017)
#1: GCDWQ - Aesthetic Objective/Other Value
#2: GCDWQ - Maximum Acceptable Concentrations (MACs)