

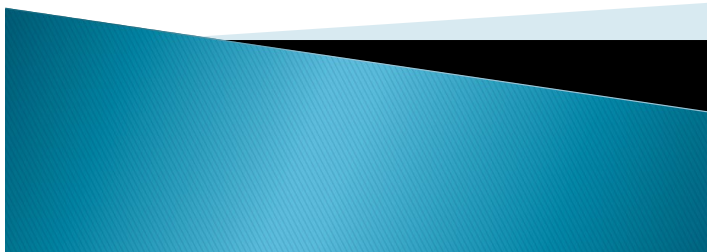
City of Portage la Prairie

2020 Public Water System Annual Report

Public Water System 2020 Annual Report

City of Portage la Prairie

May 3 2021



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Contact Information

Name: *City of Portage la Prairie Public Water System*

Name of Owner: *City of Portage la Prairie*

Contact Person: *Karly Friesen, Director of Utility Operations*

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Water Treatment Staff *Manager: Michael Sandney* *Phone: 1-204-239-8373*

Maintenance *Supervisor: Bryan Cairns* *Phone: 1-204-239-8362*

Director of Operation *Jocelyn Lequier-Jobin B Sc Eng., MFM, GSC* *Phone: 1-204-239-8349*

Public Works *Superintendent: Brian Taylor* *Phone: 1-204-239-8352*

Waterworks *Supervisor: Keith Barron* *Phone: 1-204-239-8354*

Engineering *Manager: Matt Phillips* *Phone: 1-204-239-8349*

Introduction

The 2020 Annual Report for the City of Portage la Prairie summarizes the information to show the Water Treatment Plant's ability to produce safe potable water and meet the requirement of all provincial regulations.

Description of Water System

The City of Portage la Prairie's Public Water System (PWS) provides potable drinking water to a population of approximately 60,000 residents. The PWS also supplies water to three other Regional Water Systems – the Rural Municipality of Portage la Prairie, and the Cartier Regional and Yellowhead Regional Water Systems. The Yellowhead Regional Water Co-op is the largest consumer after the City of Portage la Prairie, McCain Foods and Simplot Potato Processors.

The Water Treatment Plant obtains water for treatment from the Assiniboine River. The intake structure is located 0.5 km from the Plant. The Assiniboine River water is a collection of water from Alberta, central Saskatchewan, southern Saskatchewan, North Dakota, and southern and western Manitoba. Several large cities and processing companies are located along the Assiniboine River and Souris River systems and use the waterway as a source water supply.

All reports for sampling and the 2020 Year End Audit received from the Office of Drinking Water will be posted on the City of Portage la Prairie's web site at <http://www.city-plap.com/main/water-treatment>.

Request for free paper copies of the annual report can be obtained at the City of Portage La Prairie, City Hall. Located at 97 Saskatchewan Avenue East.

Date Prepared March 2021

Michael Sandney
Manager of Water Treatment Division
City of Portage la Prairie

CITY OF PORTAGE LA PRAIRIE

GENERAL DESIGN DATA AND OPERATIONAL INFORMATION

1.1 Background Data

A report was prepared in March 1974 by Wardrop and Associates Ltd for construction of the Water Treatment Plant at the present-day location. The plant construction was started in the fall of 1976 and completed in April of 1978. The plant now replaced the previous Water Treatment Plant that was constructed in 1953. The new plant was one of the first in Canada to use Ozone in its treatment process.

In the late 1990's, the City, in partnership with the Manitoba Water Services Board, undertook studies to evaluate the capacity and ability of the existing plant to meet current and future demands. The plant had been challenged at times to maintain water quality due to poor river water quality and increasing demands on an aging plant. As a result, the City identified a schedule of upgrades that would increase capacity to meet short-term demands, and that would meet current and anticipated Canadian Drinking Water Guidelines.

Major improvements to the plant since 2001 include the addition of pre-clarification; improved rapid sand filtration; backwash process; improved Ozone disinfection; expanded softening capabilities; granular activated carbon adsorption filters; increased treated water storage facility; chlorine contact time; pumping capacity increased to both raw water to the plant and out to the distribution system; residuals management via sludge drying beds; and addition of a larger Lime storage facility. Most of the major components have also been designed to be easily expanded to meet future needs.

1.2 Design Capacity

The Water Treatment facility has a rated production capacity of 34 million litres/day.

1.3 General Plant Description

The City obtains its water from the Assiniboine River. There are three 125-hp motors-265 l/s pumps transfer the raw water from the river impoundment area upstream of the spillway structure to the water treatment plant. The first stage of treatment is a pre-clarification process.

Ballasted Flocculation Clarification is a unique process, where, in addition to various chemicals that are added to promote the coagulation and flocculation (sticking together in big clumps), very fine sand is added to the mix to make the floc (clumps) settle very quickly. This portion removes a large portion of turbidity, organics, and algae, reducing taste odour issues. Potassium permanganate is added as a pre-oxidant. The pre-clarified water is then passed through to the next process.

The softening clarifiers are large circular basins, where hydrated lime and synthetic polymers are added for further coagulation and flocculation. Lime raises the pH to a point where calcium and magnesium are settled out, thus removing hardness from the water. Sodium Hydroxide is also added to the softing clarifiers to aid in the removal of non-carbonate hardness lowering the overall water hardness.

Re-carbonation is the next step, where carbon dioxide is bubbled through the water to form carbonic acid to lower the pH. Stabilizing the pH prevents corrosion or scaling throughout the City's water distribution system. The lowering of the pH also aids in the Ozone process.

Ozone is a strong oxidant that is effective at destroying parasitic organisms such as giardia lamblia and cryptosporidium cysts, and the breakdown of organics. It is also effective in the elimination of viruses and

bacteria. This process involves the bubbling of Ozone gas that is produced on site into the water prior to the filters.

Calcium Thiosulphate is added after ozonation, for the removal of excess ozone gas.

Dual Media Filtration follows the Ozone disinfection process. The break down of organics promote biologically active filtration which significantly improves further organics removal. The Filters contain Anthracite and Sand media in separate layers for longer filter life and filtering of the water. In 2008 a new stainless-steel under-drain system was installed in the sand filters to promote better filtration and the backwashing of the filters. Organics removal is crucial to the reduction of distribution by-products found in the drinking water supply after chlorination. The filtered water is then passed to a under floor reservoir where the water is then either pumped to the Granular Activated Carbon (GAC) Contactors, continued treatment process, or it is diverted for back washing the dual media filters or the GAC contactors. Using non-chlorinated water for backwashing respects the environment, as the backwash waste is ultimately returned to the River.

Granular Activated Carbon Contactors are utilized as a final polishing step for the ultimate reduction in organics, and for the final taste and odour elimination. The adsorption of organic matter by the activated carbon reduces the amount of chlorine required for final disinfection, which ultimately minimizes disinfection by-products in the drinking water system. New Granular Activated Carbon was installed in the fall of 2008 and the spent GAC was returned for regeneration and reuse instead of shipping to landfill sites.

Disinfection occurs in the Storage Reservoir. Final treatment occurs by adding Chlorine and allowing contact time. Chlorine is added for final disinfection, and a residual is maintained in the distribution system to eliminate any re-growth of pathogenic organisms.

Fluoride is added for dental health reasons. Fluoride is added to the drinking water helps make your tooth enamel stronger and teeth healthy and helps in reduce tooth decay. Manitoba Health, Seniors, and Active Living provides funding and monitoring for the fluoridation program.

Further information on Manitoba Health, Seniors and Active Living (Fluoride) can be found at;
<https://www.gov.mb.ca/health/mhsip/>

An Orthophosphate is added to reduce corrosion within the distribution system. It also aids in the prevention of lead leaching into the drinking water.

Sodium Hydroxide is added to raise the pH and increase the alkalinity of the water prior to entering the distribution system.

The City of Portage la Prairie has two Reservoirs; the first is located at the Water Treatment Plant with a design capacity of 4.64 million litres and the second reservoir has a capacity of 9.25 million litres located in the Northwest section of the city. The reservoir located at the Water Treatment Plant has five 40 horsepower driven pumps to supply water to the McKay Reservoir and the distribution systems of the City of Portage la Prairie and Regional Water Systems. The Water Treatment Plant reservoir also has three 100 horsepower variable speed driven pumps to supply water to the Poplar Bluff Industrial Park and Regional Water Systems. The McKay Reservoir has eight 40 horsepower driven, 70 L/S pumps to supply water to the City of Portage la Prairie distribution system and other regional water systems. The Reservoir at the Water Treatment Plant has a capacity of 4.64 ML and the McKay Reservoir has 9.25 ML capacity.

Residuals Solids Management is accomplished via sludge drying beds. The waste sludge, comprised of “unwanted” material removed from the raw water, as well as the chemicals and lime used through the treatment process, is collected and pumped to two 45,000 cubic meter ponds. In these ponds, the sludge settles to the bottom and clarified water is returned to the River.

Plant Specifications:

Plant Type: Conventional lime softening plant with Pre-clarification, biologically activate dual media filtration, ozone, carbon dioxide for pH adjustment and Granular Activated Carbon filters with chlorine disinfection for the distribution system. Design capacity of 34 million litres/day (net).

1.4 City Distribution System

Current population of approximately 13,000 persons have water serviced supplied by 115 km of pipe in the distribution system with 5000 metered users.

1.5 Classification and Certification

Water treatment and water distribution facility and operator classifications fall under The Environment Act's Water and Wastewater Facility Operators Regulation;
https://www.gov.mb.ca/sd/waste_management/wastewater/wastewater_certification_program/index.html

The Portage la Prairie Water Treatment Plant is a Class 4 Facility

Division Manager, Michael Sandney	Level 4 Water Treatment Certification Level 2 Water Distribution Certification
Water Treatment Operators	
Supervisor, Ben Olson	Level 4 Water Treatment Certification
Jeff Sing	Level 4 Water Treatment Certification
Kaley Giffin	Level 4 Water Treatment Certification
Joel Trandafir	Level 3 Water Treatment Certification
Soyan Ibrahim	Level 3 Water Treatment Certification
Vacant	Operator in Training

The City of Portage la Prairie has a Class 2 Water Distribution Facility

Superintendent, Brian Taylor	Class II Water Distribution Certification Class II Wastewater Collection Certification
Supervisor, Keith Barron	Class II Water Distribution Certification Class II Wastewater Collection Certification
Distribution System Operators	
Grant McDonald	Operator in Training
Jim Morrison	Class II Water Distribution Certification

Class II Wastewater Collection Certification

Dave Anderson

Class I Wastewater Collection Certification

Terry Nichols

Class II Water Distribution Certification

Class II Wastewater Collection Certification

2.0 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. As per the Drinking Water Safety Act the Portage la Prairie PWS must ensure that a disinfection residual of at least:

- 0.5 mg of free chlorine per liter of water is detectable at the point where water enters the distribution system, after a minimum contact time of 20 minutes.
- 0.10 mg of free chlorine per liter of water is detectable at all times at any point in the distribution system.

2.1 Type of disinfection used:

The Portage la Prairie Water Treatment Plant disinfects by adding gas chlorine solution via an induction system direct from chlorine cylinders, into the influent for the onsite water reservoir.

There is a re-chlorination system at both reservoir's locations, the Water Treatment Plant Reservoir and McKay Reservoir with calcium hypochlorite chlorine solution, which is used if the free chlorine concentration falls below acceptable standards.

2.2 Equipment redundancy and monitoring requirements:

As required by the Drinking Water Safety Act the Portage la Prairie PWS ensures continuous disinfection is maintained at the plant by keeping in stock all spare parts required for the chlorine feed system. A complete spare chlorinator is also kept in the plant.

Disinfection residuals are monitored continuously at the plant. They are also manually tested three times per day for quality control. Testing is done weekly at a number of different locations throughout the distribution system to insure water safety. The results are recorded on appropriate government forms and sent to the Office of Drinking Water at the end of each month.

2.3 Disinfection overall performance/results:

For 2020, the Portage la Prairie PWS has met regulatory requirements in regard to monitoring and reporting disinfection residuals leaving the water treatment plant and in the distribution areas.

3.0 2020 Compliance Report

The Corrective Action Report forms submitted in 2020 were considered in determining the PWS performance compliance percentages for each water quality parameter sampling and testing requirements.

Sampling and testing requirements are noted in Drinking Water Safety Regulation M.R. 40/2007 in the Public Water System Audit.

The Monitoring and Reporting requirements are specified in Table 1 and Table 2 of Operating License PWS-08-147, which is posted on the City website.

The City also conducted additional water distribution system testing to monitor the phosphate performance and corrosion in the system.

3.1 Water Quality Standards Compliance

The City of Portage la Prairie Water Treatment Plant had submitted water samples from the City of Portage la Prairie PWS for chemical and physical analyses during 2020. Letters providing assessment comments and recommendations on the test results were received by Mr. Michael Sandney, WTP Manager. The treated water met all the applicable Guidelines for Canadian Drinking Water Quality (GCDWQ) health-based maximum acceptable concentrations (MAC), of the Water Quality Standard”.

Trihalomethane (THM'S) Precursor

Trihalomethane precursors are any materials that can be converted into a Trihalomethane during disinfection with chlorine or ozone. Typically, most of these precursors are constituents of natural organic matter, either suspended or dissolved in the source water. In addition, the bromide ion (Br-) is a precursor material.

Trihalomethane Standard (ug/l) = microgram per litre

Standard of 100 ug/L or less annual average was met over the four testing periods in 2020. The annual average is 83 ug/l.

Haloacetic Acids (HAAs) Precursor

Haloacetic Acid is a disinfection by-products. Haloacetic Acid is formed primarily during the chlorination of water containing natural organic matter. In addition, the bromide ion (Br-) is a precursor material.

Haloacetic Acids Standard (ug/l) = microgram per litre

Standard of 80 ug/L or less annual average was met over the four testing periods in 2020. The annual average is 23 ug/l.

While better management of meltwater and rainwater runoff that is presently being allowed to freely enter the Assiniboine River system carrying significant concentrations of suspended and dissolved organic matter would improve the City's source water quality, the City is required to treat the source water, whatever its' quality, that the City receives at its' River intake. The Water Treatment Plant staff will continue to maximize the treatment process to lower organic compounds during treatment stages.

In 2012, the City initiated a Treated Water Quality Study to identify potential methods of reducing the Total Organic Carbon content through the treatment process prior to the disinfection step. A few potential mitigative measures were identified and investigations into these began in 2013 and trials continued into 2017. The Treated Water Quality Study and the Water Treatment Functional Design Upgrades is being coordinated by AECOM Engineering and trials were conducted by the City of Portage la Prairie Water Treatment Plant staff.

With Phase one upgrades complete in 2017 water quality, distribution pressure and chemical dosing has enhanced due to the upgrades which included the following:

Pre – Treatment jet flash mixing/enhance coagulation was added for removal of Total Organic Carbon and Dissolved Inorganic Carbons. By reducing the disinfection by-products in the raw water.

New Magnetic flowmeters replaced the existing insertion probe meters. Allowing for further accuracy for in chemical dosing into the softening clarifiers, reducing chemical usage. Sodium Hydroxide was added to the softening clarifiers for non-carbonite hardness removal. Lower the overall hardness removal in the softening clarifiers.

Ozone quenching system installation is to address the ozone off gassing after the ozone chamber. Allow for a higher concentration of ozone gas to be applied in the contact chambers for pathogen removal.

Chlorination modification included, relocating chlorine dosing injection point for disinfection and contact time in the treated reservoir. Allowing for even dispersal of the chlorine residual in the finished water before entering the distribution system. Since the relocation of the injection point the chlorine demand has decreased.

McKay Reservoir flow control upgrades. Two new motors and variable frequency drive were added with modification to the Supervisory Control and Data Acquisition Program. Allowing for better control on the overall water distribution system. Maintaining a constant pressure in the system and directional flow control of the system. Also reducing water main breaks within the distribution system.

Phase Two (A) of the Water Treatment Functional Design Upgrade planning is in progress, with the first meeting being held at the Water Treatment Plant on September 7, 2017. Final tender documents for the upgrades were completed March 30, 2018 and construction tender was issued in May 2018.

Award of Phase Two A was awarded to Trotter and Morton Industrial Contracting Inc. on November 5, 2018, with a completion date of August 31, 2019. Completion date was extended to November 30, 2019 due to equipment supply delivery. Certain upgrades were not completed in 2019 and were carried over into 2020/2021 which include: Lime Batching Alterations and the Makeup water System for chemical batch tanks.

Phase Two (A) upgrades include the following: Raw Water Flow Control, Pre-treatment Screening System, Lime Batching Alteration, Ozone Contactor Upgrades, Makeup water System for Chemical Batch Tanks, City Distribution Pumps, PLC Upgrades, WTP & McKay Reservoir SCADA System Upgrade, Flow-paced Sodium Hydroxide Addition, Compound Loop Control for Chlorination, Dissolved ozone Probe with Transmitter, Online UV 254 Analyzer and GAC Flow Control.

Phase Two (B) upgrades include the following: New Backup Generator, Air -Scouring System for Pre-Treatment process and New Ozonation System.

Phase Two (B) was split into two contracts one for the backup generators and the other for installation of the ozonation system and air-scouring system.

Backup generator was tendered in January 2020 and was awarded to Trotter and Morton Industrial Contracting Inc. With completion date of March 31,2021.

Air – Scouring and Ozonation system installation was tendered November 2020 and was awarded to ABCO Supply & Service Ltd. With completion date of March 31,2021

Phase Three of the water plant upgrades included a 15 Million-Liters-Day Water Treatment Plant Expansion Functional Design.

Request for proposal was issued in August 2019 and has been awarded to Stantec Consulting Ltd. Completion of the Functional Design is schedule for January 2021.

The City will continue to work with the Province of Manitoba toward the development of a Watershed Management Strategy which will focus on maintaining or improving the water quality of the Assiniboine River.

Turbidity

Turbidity is an indicator of suspended particles that are present in water and is measured as N.T.U (nephelometric turbidity units). The presence of suspended particles in the water could be an indicator that there is a potential for pathogens present of Cryptosporidium Oocysts, Giardia Lambia Cysts or Viruses.

The City of Portage la Prairie's water treatment plant has four dual media filters which are monitored 24 hrs/day by the computer SCADA system. The computer monitoring program takes samples every five minutes from each individual filter. The monitoring system is programmed to shut off the filter if the turbidity reading reaches 0.295 N.T.U., which is just below the 0.30 N.T.U. standard.

3.2 Water Quality Standards Compliance Table

Parameter	Quality Standard	Frequency	Performance
Total Coliform and E. coli	Zero E. coli and total coliform bacteria detectable per 100 ml in all treated and distribution water	Weekly	100% Compliance
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 min.	Daily	99.96% Compliance
	Report Submissions	Monthly	100% Compliance
Turbidity	Less than or equal to 0.3 NTU in 95% of the measurements in a month of the effluent from each operating particulate filter	Continuous	99.74% Compliance
	Not to exceed 0.3 NTU on dual media filter effluent	Continuous	99.74% Compliance
	Not to exceed 1.0 NTU on any continuous measurement	Continuous	100% Compliance
Total Trihalomethanes to include bromodichloromethane, bromoform, chloroform, dibromochloromethane.	Total Trihalomethanes less than or equal to 0.10 ug/L	Quarterly	Standard of 0.10 mg/l was met with an annual average of 0.083 mg/L
Monitoring Requirements			
Bacterial			100% Compliance
Disinfection			99.96% Compliance
Physical			100% Compliance
Chemistry			100% Compliance
Reporting Requirements			
Disinfection, Physical, Corrective Actions, Emergency	The Regulatory Requirements were met Please see Manitoba Conservation and Water Stewardship 2020 Annual Audit Report		100% Compliance

The link to Health Canada's Guidelines for Canadian Drinking Water Quality website is:

http://www.hc-sc.gc.ca/ewh-semt/water-eau/drink-potab/guide/index_e.html

4.0 Water System Incidents and Corrective Actions:

Some areas of the City experienced discolored water due to pipe corrosion and high localized flow rates, and low free chlorine. Dead end water lines were flushed regularly to maintain water quality and free chlorine residual.

Non- Compliance Incidents:

Failure to submit monthly monitoring reports in accordance with the operating licence.

The Water Treatment Plant - Operating licence require all monitoring reports to be submitted to the Drinking Water Officer within seven days after each calendar month.

September's monthly monitoring reports were not submitted as per operating licence. The reports were missed placed and were submitted on October 28, 2020 putting the water system in non-compliant with the operating licence.

5.0 Additional Reports Required:

N/A

6.0 Drinking Water Safety Orders on the Portage la Prairie PWS and Actions Taken:

In 2020, no Drinking Water Safety Orders were issued for the Portage la Prairie Public Water System.

7.0 Boil Water Orders and Actions Taken in Response:

In 2020, no Boil Water Orders were issued for the Portage la Prairie Water System.

8.0 Warnings issued or Charges Laid on the System in Accordance with The Drinking Water Act:

None issued.

9.0 Major Expenses Incurred in 2020

Raw water flow control	\$1,015,000
Pre-treatment Screening System	\$ 29,000
Lime Batching System	\$ 800,000
Ozone Contractor Upgrades	\$ 305,000
Makeup Water System for Chemical Batch Tanks	\$ 116,000
City Distribution Pumps	\$ 421,000
PLC Upgrades	\$ 290,000
SCADA System Upgrades and McKay Reservoir Control	\$ 522,000
Flow – paced sodium hydroxide addition	\$ 29,000.
Compound Loop control for chlorination	\$ 15,000
Dissolved ozone probe with transmitter	\$ 44,000
Online UV 254 Analyzer	\$ 44,000
GAC Flow Control	\$ 44,000
Disposal of Lime waste Residual	\$ 800,000
Simplot pump and motor install	\$ 150,000
Water Quality Study (UofM)	\$ 11,500
Replacement of service water line to diversion	\$ 10,000

Water plant air compressor replacement	\$ 10,000
Water plant air dryer replacement	\$ 10,000
McKay Reservoir roof repair	\$ 60,000
Heat Pump	\$ 4,200
Hydrocyclone lining replacement	\$ 12,000.
coagulant pump replacement	\$ 7,500
Recirculation pump liner and impellers x 2	\$ 25,000
Sand filter media replacement	\$ 80,000
Clarifier #2 influent valve replacement	\$ 6,000
Water Treatment Plant Upgrading Functional Design	\$ 200,000.
Backup generator	\$ 1,700,000
Dual Media Filter Repair	\$ 30,000
Two Chlorine Vacuum Regulators	\$ 6,000

Major Expenses Projected for 2021

Water Treatment Plant Upgrading Functional Design	\$ 150,000.
Air Scouring & Ozonation System Install	\$ 2,500,000
Lab and Monitoring Equipment Calibration	\$ 6,000
Water Quality Study (UofM)	\$ 11,500
Raw water Pump	\$ 120,000
New Flow Meter for McKay Reservoir	\$ 25,000
Heat Exchanger (Chiller)	\$ 95,000
McKay Reservoir Effluent control valve	\$ 40,000
Two Chlorine Vacuum Regulators	\$ 6,000

Appendix A-Operating License



OPERATING LICENCE FOR A PUBLIC WATER SYSTEM

LICENCE NUMBER: PWS-08-147-02

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

WATER SYSTEM CODE: 171.00
OPERATION ID: 28564
EFFECTIVE DATE: DECEMBER 1, 2018
EXPIRY DATE: NOVEMBER 30, 2023

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

CITY OF PORTAGE LA PRAIRIE: "THE LICENSEE"

FOR THE OPERATION OF THE **PORTAGE LA PRAIRIE PUBLIC WATER SYSTEM**, WHICH INCLUDES INTAKE STRUCTURES, 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: January 25, 2019



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 professional engineer, who is not an employee of the water system, in accordance with terms of reference for engineering assessments by March 1, 2024, and every five years thereafter.
- 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
Bromate	Less than or equal to 0.01 mg/L
Turbidity	Less than or equal to 0.3 NTU in 95% of the measurements in a month of the effluent from each operating filter Not exceed 0.3 NTU for more than 12 consecutive hours of filter operation Not exceed 1.0 NTU for any measurement
Total trihalomethanes (THMs)	Less than or equal to 0.10 mg/L as locational running annual average of quarterly samples
Total haloacetic acids (HAAs)	Less than or equal to 0.08 mg/L as locational running annual average of quarterly samples
Lead	Less than or equal to 0.01 mg/L in the water distribution system

- 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 have in place and maintain in effective working order, filtration and disinfection equipment and controls designed to provide reduction or inactivation of 99.9% (3-log) of *Cryptosporidium* oocysts and 99.9% (3-log) of *Giardia lamblia* cysts.
- 4.5. The Licensee shall have in place and maintain in effective working order, filtration and/or disinfection equipment and controls designed to provide reduction or inactivation of 99.99% (4-log) of viruses.
- 4.6. 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>)	Weekly sampling program with each set of samples consisting of one raw, one treated, and a minimum of 2 distribution samples Consecutive samples to be separated by at least 5 days
Free chlorine (treated water)	Continuous sampling of water entering the distribution system following at least 20 minutes of contact time A confirmatory sample to be taken daily at the online chlorine analyzer sampling or effluent point
Free chlorine (distribution system)	At the same time 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
Bromate	One treated water sample once every six months
Turbidity	One raw water sample per day Continuous sampling of the effluent from each operating particulate filter A confirmatory sample to be taken daily at the online turbidity analyzer sampling or effluent point
	At the same times and location(s) as bacteriological distribution system sampling
General chemistry (parameter list provided by Office of Drinking Water)	One raw and one treated water sample every six months
Total trihalomethanes (THMs) (distribution system)	Four preserved distribution system samples taken on a quarterly basis during February, May, August, and November, each year at the furthest points in the distribution system
Total haloacetic acids (HAAs) (distribution system)	Four preserved distribution system samples taken on a quarterly basis during February, May, August, and November, each year at mid-points in the distribution system
Other Parameters	As per the instructions of the Drinking Water Officer
Lead	As per the instructions of the Drinking Water Officer

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

- a) bacteriological (total coliform and *E. coli*)
- b) bromate
- c) general chemistry
- d) total trihalomethanes
- e) total haloacetic acids
- f) 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 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.
- 5.5. The Licensee shall operate equipment capable of continuously monitoring the free chlorine residual at no more than five-minute intervals in water entering the water distribution system following a minimum of 20 minutes of contact time.
- 5.6. The Licensee shall operate equipment capable of continuously monitoring the turbidity level at no more than five-minute intervals in the effluent from each particulate filter to ensure compliance with the turbidity standards and to satisfy the removal requirement specified in Clause 4.4.
- 5.7. In instances where continuous disinfectant residual and/or turbidity monitoring equipment is offline, the Licensee shall ensure that a minimum of four samples per day are tested at the online analyzer sampling or effluent point using an approved portable analysis unit and that the results are recorded in a form satisfactory to the Director.
- 5.8. 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 turbidity measurements 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 Director 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.

Appendix B – Water Rights License

MG-14853 (English)

Spec. Ref.

Licence to Use Water for Municipal Purposes

Manitoba
Conservation
Water Branch

200 Saulteaux Cresc.
Winnipeg, Manitoba
R3J 3W3



Issued in accordance with the provisions of
The Water Rights Act and regulations made thereunder.

Licence No.: **2003-022**
(Replaces Licence No. 95-17)
U.T.M.: Zone 14 547862 E
5533632 N

Know all men by these presents that in consideration of and subject to the provisos, conditions and restrictions hereinafter contained, the Minister of Conservation for the Province of Manitoba does by these presents give full right and liberty, leave and licence to **The City of Portage la Prairie** in the Province of Manitoba (hereinafter called "the LICENSEE") to divert water from the **Assiniboine River** for **municipal** purposes by means of a pumping intake system attached to the Assiniboine-Portage Diversion control structure located on the Assiniboine River and a raw water conveyance pipeline extending from the pumping intake to a water treatment and water distribution plant, the raw water intake system and conveyance pipeline, (all hereinafter collectively called "the WORKS"), and generally shown on a copy of a location sketch hereto attached and marked Exhibit "A", the water treatment plant located on the following described lands:

All those portions of Parish Lots 22 and 23 of the Parish of Portage la Prairie, in Manitoba, as more particularly described in Deeds Nos. 71459 and 119851 and Certificate of Title No. 25027, all registered in the Portage la Prairie Land Titles Office.

This Licence is issued upon the express condition that it shall be subject to the provisions of The Water Rights Act and Regulation and all amendments thereto and, without limiting the generality of the aforesaid, to the following terms and conditions, namely:

1. The water shall be used solely for **municipal** purposes.
2. The WORKS shall be operated in accordance with the terms herein contained.
3. a) The maximum rate at which water may be diverted pursuant hereto shall not exceed **0.44 cubic metres per second (15.5 cubic feet per second)**
b) The total quantity of water diverted in any one year shall not exceed **8948.94 cubic decametres (7255.00 acre feet)**
4. The LICENSEE does hereby remise, release and forever discharge Her Majesty the Queen in Right of the Province of Manitoba, of and from all manner of action, causes of action, claims and demands whatsoever which against Her Majesty the LICENSEE ever had, now has or may hereafter have, resulting from the use of water for **municipal** purposes.
5. In the event that the rights of others are infringed upon and/or damage to the property of others is sustained as a result of the operation or maintenance of the WORKS and the rights herein granted, the LICENSEE shall be solely responsible and shall save harmless and fully indemnify Her Majesty the Queen in Right of the Province of Manitoba, from and against any liability to which Her Majesty may become liable by virtue of the issue of this Licence and anything done pursuant hereto.
6. This Licence is not assignable or transferable by the LICENSEE and when no longer required by the LICENSEE this Licence shall be returned to the Director, Water Branch, for cancellation on behalf of the Minister.
7. Upon the execution of this Licence the LICENSEE hereby grants the Minister or the Minister's agents the right of ingress and egress to and from the lands on which the WORKS are located for the purpose of inspection of the WORKS and the LICENSEE shall at all times comply with such directions and/or orders that may be given by the Minister or the Minister's agents in writing from time to time with regard to the operation and maintenance of the WORKS.
8. If for any reason whatsoever the Minister deems it advisable to cancel this Licence, he may do so by letter addressed to the LICENSEE at **97 Saskatchewan Avenue East, Portage la Prairie, MB, R1N 0L8, Canada** and thereafter this Licence shall be determined to be at an end.
9. The term of this Licence shall be **twenty (20) years** and this Licence shall become effective only on the date of execution hereof by a person so authorized in the Department of Conservation. The LICENSEE may apply for renewal of this Licence not more than 365 days and not less than 90 days prior to the expiry date.
10. This Licence expires automatically upon the loss of the legal control of any of the lands on which the WORKS are located or on which water is used, unless the Licence is transferred or amended by the Minister upon application for Licence transfer or amendment.
11. The LICENSEE shall keep records of daily and annual water use and shall provide a copy of such records to the Director, Water Branch, not later than February 1st of the following year.
12. The LICENSEE shall install and maintain, on the pumping WORKS, a water measuring device acceptable to the Director, Water Branch, that will accurately measure the instantaneous water flow and the accumulated annual volume of water diverted from the water source.

13. The LICENSEE shall comply with all instructions and specifications that may be issued by Fisheries and Oceans Canada under the fish habitat protection provisions of Canada's Fisheries and Oceans Act concerning the construction, maintenance, and operation of the WORKS.
14. The LICENSEE shall hold and maintain all other regulatory approvals that may be required and shall comply with all other regulatory requirements for the construction, operation, or maintenance of the WORKS or to divert or use water as provided by this Licence.
15. This Licence is issued subject to the valid existing authorization of the Minister responsible for The Water Resources Administration Act, being Chapter W60 of the Continuing Consolidation of the Statutes of Manitoba issued pursuant to Subsection (4) of Section 14 of that Act, and upon the termination, or withdrawal or cancellation of this authorization as outlined in Clause 18, this Licence shall be void and at an end. This authorization is given under the express condition that it may be terminated by the Minister responsible for The Water Resources Administration Act by the mutual consent of the parties or by the termination or cancellation or withdrawal of this Water rights Licence No. 2003-022.
16. Subject to the conditions herein set out, in reference to the authorization noted in Clause 17, the LICENSEE may, construct and operate and maintain raw water intake pipelines and pumping works located on the upstream side of the dam constructed across the Assiniboine River immediately upstream of the City of Portage la Prairie water treatment plant and referred to as the Assiniboine-Portage diversion control dam.

In witness whereof I the undersigned hereby agree to accept the aforesaid Licence on the terms and conditions set forth therein and hereby set my hand and seal this 14th day of July A.D. 2003.

SIGNED, SEALED AND DELIVERED
in the presence of





 Witness MARGARET LOEWEN MANAGER OF ADMINISTRATION Licensee _____ (Seal)

Canada, PROVINCE OF MANITOBA To Wit:

I, _____ of the _____
of _____ in the Province of Manitoba, MAKE OATH AND SAY:

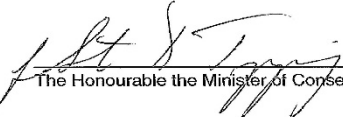
1. That I was personally present and did see _____, the within named party, execute the within instrument.
2. That I know the said _____ and am satisfied that he/she is of the full age of eighteen years.
3. That the said instrument was executed at _____ aforesaid and that I am subscribing witness thereto.

SWORN BEFORE me at the _____
in the Province of Manitoba this _____ day of _____ A.D. 20 _____

_____ }
 A COMMISSIONER FOR OATHS in and for the Province of Manitoba Witness _____

My Commission expires _____

Issued at the City of Winnipeg, in the Province of Manitoba, this 23 day of July A.D. 2003.



 The Honourable the Minister of Conservation

Date	Sample Identification	TC	EC	CL2 Free	CL2 Total	NTU	HPC
7-Jan-20	RAW	165	4				
	W.T.P.	0	0	1.66	2.05	0.11	
	W.P.C.F.	0	0	1.21	1.81	0.13	
	Nutri-Pea	0	0	0.92	1.71	0.35	
	Co-op Gas			1.08	1.81	0.19	
	P.D.G.H.	0	0	1.17	1.82	0.17	
	L.P.M.			0.81	1.51	0.33	
	Firehall	0	0	0.25	0.60	0.51	
	M.D.C.			0.58	1.19	0.31	
	City Hall			0.55	1.12	0.27	
	City Garage			0.60	1.42	0.28	
	McKay Res.	0	0	1.06	1.65	0.08	
	Tim Hortons			0.56	1.00	0.19	
	Stride Center	0	0	1.63	2.20	0.21	
14-Jan-20	RAW	130	2				
	W.T.P.	0	0	1.41	2.07	0.11	
	W.P.C.F.			1.20	1.61	0.12	
	Nutri-Pea	0	0	1.08	1.52	0.17	
	Co-op Gas	0	0	1.23	1.87	0.17	
	P.D.G.H.			1.19	1.74	0.19	
	L.P.M.			0.80	1.34	0.40	
	Firehall			0.63	1.25	0.38	
	M.D.C.	0	0	0.65	1.26	0.29	
	City Hall	0	0	0.85	1.60	0.36	
	City Garage			0.96	1.51	0.27	
	McKay Res.			1.11	1.51	0.16	
	Tim Hortons			1.03	1.56	0.17	
	P.C.U.	0	0	1.12	1.74	0.20	
21-Jan-20	RAW	89	0				
	W.T.P.	0	0	0.71	1.13	0.13	
	W.P.C.F.			0.34	0.69	0.12	
	AMHS	0	0	0.36	0.70	0.08	
	Nutri-Pea	0	0	0.42	0.87	0.07	
	P.D.G.H.			0.26	0.67	0.12	
	L.P.M.	0	0	0.20	0.67	0.20	
	Firehall			0.38	0.84	0.35	
	M.D.C.			0.23	0.70	0.40	
	City Hall			0.29	0.75	0.22	
	City Garage	0	0	0.31	0.81	0.55	
	McKay Res.			0.54	1.00	0.12	
	Tim Hortons	0	0	0.56	1.11	0.12	
	P.C.U.	0	0	0.59	1.04	0.16	
28-Jan-20	RAW	95	1				
	W.T.P.	0	0	1.41	1.75	0.09	
	W.P.C.F.	0	0	0.66	1.23	0.05	
	Nutri-Pea	0	0	0.70	1.15	0.10	
	Co-op Gas			0.96	1.40	0.10	
	P.D.G.H.	0	0	0.90	1.36	0.10	
	L.P.M.			0.84	1.28	0.12	

	Firehall	0	0	0.32	0.71	0.32	
	M.D.C.			0.51	0.98	0.27	
	City Hall			0.64	1.09	0.27	
	City Garage			0.53	0.84	0.66	
	McKay Res.	0	0	0.73	1.27	0.12	
	Tim Hortons			0.69	1.15	0.14	
	P.C.U.	0	0	0.79	1.25	0.21	
4-Feb-20	RAW	95	3				
	W.T.P.	0	0	1.96	2.40	0.16	
	W.P.C.F.			1.12	1.65	0.26	
	Nutri-Pea	0	0	1.25	1.65	0.18	
	Co-op Gas	0	0	1.60	2.20	0.74	
	P.D.G.H.			1.41	1.81	0.41	
	L.P.M.			1.15	1.61	0.36	
	Firehall			0.64	1.15	0.33	
	M.D.C.	0	0	0.80	1.26	0.30	
	City Hall	0	0	0.98	1.34	0.35	
	City Garage			0.95	1.43	0.44	
	McKay Res.			1.07	1.60	0.19	
	Tim Hortons			0.81	1.31	0.32	
	Stride Centre	0	0	0.74	1.35	0.21	
11-Feb-20	RAW	118	5				
	W.T.P.	0	0	1.67	2.30	0.11	
	W.P.C.F.			0.82	1.33	0.12	
	AMHS	0	0	1.61	2.10	0.20	
	Nuti-Pea	0	0	0.95	1.41	0.07	
	P.D.G.H.			1.50	1.92	0.19	
	L.P.M.	0	0	1.36	1.74	0.22	
	Firehall			0.37	0.83	0.32	
	M.D.C.			0.65	1.12	0.23	
	City Hall			0.69	1.16	0.31	
	City Garage	0	0	0.74	1.22	0.12	
	McKay Res.			1.02	1.53	0.11	
	Tim Hortons	0	0	0.68	1.13	0.10	
	Stride Centre	0	0	0.74	1.13	0.16	
18-Feb-20	RAW	145	2				
	W.T.P.	0	0	1.62	2.10	0.09	
	W.P.C.F.	0	0	1.32	1.80	0.14	
	Nutri-Pea	0	0	1.22	1.54	0.29	
	Co-op Gas			1.60	2.09	0.19	
	P.D.G.H.	0	0	1.56	2.11	0.12	
	L.P.M.			NOT AVAILABLE	0.00	0.00	
	Firehall	0	0	0.54	1.05	0.24	
	M.D.C.			0.72	1.19	0.29	
	City Hall			0.66	1.16	0.31	
	City Garage			0.60	1.19	0.33	
	McKay Res.	0	0	1.13	1.59	0.09	
	Tim Hortons			0.64	0.99	0.11	
	Stride Centre	0	0	1.10	1.69	0.28	
25-Feb-20	RAW	145	1				
	W.T.P.	0	0	1.72	2.30	0.10	

	W.P.C.F.			0.97	1.49	0.17	
	Nutri-Pea	0	0	0.91	1.42	0.12	
	Co-op Gas	0	0	1.46	2.11	0.11	
	P.D.G.H.			1.48	1.98	0.24	
	L.P.M.			1.21	1.62	0.22	
	Firehall			0.46	1.07	0.37	
	M.D.C.	0	0	0.73	1.27	0.27	
	City Hall	0	0	0.68	1.29	0.17	
	City Garage			1.00	1.39	0.25	
	McKay Res.			1.04	1.60	0.15	
	Tim Hortons			0.89	1.30	0.08	
	Stride Centre	0	0	0.90	1.35	0.19	
3-Mar-20	RAW	101	5				
	W.T.P.	0	0	1.57	1.97	0.10	
	W.P.C.F.			1.04	1.55	0.19	
	AMHS	0	0	1.42	1.84	0.70	
	Nutri-Pea	0	0	0.82	1.24	0.02	
	P.D.G.H.			1.14	1.65	0.26	
	L.P.M.			0.00	0.00	0.00	
	Firehall			0.39	0.97	0.33	
	M.D.C.			0.55	1.07	0.36	
	City Hall			0.65	0.99	0.34	
	City Garage	0	0	0.70	1.32	0.47	
	McKay Res.			0.95	1.42	0.18	
	Tim Hortons	0	0	0.78	1.23	0.83	
	Stride Centre	0	0	0.88	1.36	0.14	
10-Mar-20	RAW	101	2				
	W.T.P.	0	0	1.68	2.08	0.08	
	W.P.C.F.	0	0	1.31	1.78	0.16	
	NUTRY PEA	0	0	1.41	1.72	0.04	
	Co-Op			1.42	1.72	0.10	
	P.D.G.H.	0	0	1.34	1.86	0.21	
	L.P.M.			1.46	1.84	0.23	
	Firehall	0	0	0.80	1.32	0.31	
	M.D.C.			1.15	1.65	0.28	
	City Hall			1.10	1.39	0.11	
	City Garage			1.05	1.60	0.37	
	McKay Res.	0	0	1.10	1.63	0.10	
	Tim Hortons			1.23	1.57	0.12	
	Stride Centre	0	0	1.32	1.80	0.18	
17-Mar-20	RAW	>200	1				
	W.T.P.	0	0	1.65	1.96	0.12	
	W.P.C.F.			0.92	1.39	0.18	
	F.D.C	0	0	0.74	1.11	0.02	
	Co-op Gas	0	0	1.27	1.68	0.27	
	P.D.G.H.			1.11	1.55	0.32	
	L.P.M.			0.00	0.00	0.00	
	Firehall			0.65	0.97	0.27	
	M.D.C.	0	0	0.53	0.91	0.21	
	City Hall			0.81	1.28	0.44	
	City Garage	0	0	0.56	0.97	0.41	

	McKay Res.			1.08	1.40	0.19	
	Tim Hortons			0.56	0.90	0.33	
	Stride Centre			0.00	0.00	0.00	
24-Mar-20	RAW	45	0				
	W.T.P.	0	0	1.18	1.59	0.10	
	W.P.C.F.			0.47	1.02	0.06	
	Nutri-Pea	0	0	0.67	1.08	0.42	
	Co-Op	0	0	1.23	1.57	0.11	
	P.D.G.H.			0.96	1.27	0.04	
	Husky Gas	0	0	0.72	1.36	0.01	
	Firehall			0.12	0.62	0.46	
	M.D.C.			0.48	0.76	0.29	
	City Hall			0.58	0.81	0.31	
	City Garage	0	0	0.72	1.16	0.32	
	McKay Res.			0.76	1.18	0.12	
	Tim Hortons	0	0	0.51	0.95	0.32	
	Stride Centre	0	0	0.64	0.88	0.32	
31-Mar-20	RAW	>200	5				
	W.T.P.	0	0	1.70	2.12	0.18	
	W.P.C.F.	0	0	1.02	1.45	0.17	
	AMHS	0	0	0.00	0.00	0.00	
	Nutri-Pea			1.05	1.40	0.24	
	P.D.G.H.	0	0	1.53	2.11	0.29	
	L.P.M.			0.00	0.00	0.00	
	Firehall	0	0	0.35	0.68	0.45	
	M.D.C.			0.72	1.12	0.31	
	City Hall			0.53	0.83	0.41	
	City Garage			0.73	1.09	0.29	
	McKay Res.	0	0	1.25	1.72	0.20	
	Tim Hortons			0.81	1.11	0.44	
	Stride Centre			0.00	0.00	0.00	
7-Apr-20	RAW	>200	22				
	W.T.P.	0	0	1.91	2.30	0.25	
	W.P.C.F.			1.55	2.00	0.34	
	Nutri-Pea	0	0	0.99	1.51	0.27	
	Co-op	0	0	1.50	1.84	0.46	
	P.D.G.H.			1.05	1.65	0.41	
	L.P.M.			0.00	0.00	0.00	
	Firehall			0.70	1.13	0.37	
	M.D.C.	0	0	0.74	1.30	0.50	
	City Hall	0	0	1.13	1.42	0.34	
	City Garage			1.00	1.50	0.40	
	McKay Res.			1.29	1.74	0.29	
	Tim Hortons			0.43	0.83	0.33	
	Stride Center	0	0	0.36	0.68	0.41	
14-Apr-20	RAW	>200	6				
	W.T.P.	0	0	1.61	2.16	0.40	
	W.P.C.F.			1.28	1.69	0.41	
	Co-Op	0	0	1.38	1.83	0.47	
	AMHS			0.00	0.00	0.00	
	Nutri-Pea	0	0	1.10	1.63	0.41	

	Husky Gas	0	0	1.04	1.55	0.38	
	Firehall			0.92	1.38	0.39	
	M.D.C.			1.01	1.49	0.39	
	City Hall			1.04	1.40	0.46	
	City Garage	0	0	0.94	1.43	0.73	
	McKay Res.			1.22	1.60	0.45	
	Tim Hortons	0	0	0.81	1.15	0.36	
	Stride Center	0	0	1.06	1.47	0.70	
21-Apr-20	RAW	>200	200				
	W.T.P.	0	0	1.40	1.95	0.21	
	W.P.C.F.	0	0	1.17	1.42	0.21	
	Nutri-Pea	0	0	0.98	1.27	0.29	
	Co-op			1.25	1.72	0.24	
	P.D.G.H.	0	0	1.24	1.77	0.39	
	L.P.M.			N/A	N/A	N/A	
	Firehall	0	0	0.38	0.83	0.32	
	M.D.C.			0.79	1.17	0.35	
	City Hall			0.73	0.89	0.40	
	City Garage			0.96	1.35	0.28	
	McKay Res.	0	0	0.98	1.41	0.24	
	Tim Hortons			0.40	0.77	0.38	
	Stride Center	0	0	0.45	0.83	0.51	
28-Apr-20	RAW	>200	62				
	W.T.P.	0	0	1.75	2.16	0.14	
	W.P.C.F.			0.94	1.25	0.21	
	Nutri-Pea	0	0	0.71	1.01	0.25	
	Co-Op	0	0	1.23	1.57	0.19	
	P.D.G.H.			1.08	1.37	0.31	
	L.P.M.			n/a	n/a	n/a	
	Firehall			0.35	0.51	0.27	
	M.D.C.	0	0	0.51	0.89	0.30	
	City Hall	0	0	0.59	0.76	0.28	
	City Garage			0.39	0.78	0.34	
	McKay Res.			0.85	1.32	0.12	
	Tim Hortons			0.50	0.94	0.41	
	Stride Center	0	0	0.85	1.14	0.36	
5-May-20	RAW	200	41				
	W.T.P.	0	0	1.55	1.97	0.11	
	W.P.C.F.			1.29	1.71	0.27	
	Nutri-Pea	0	0	0.88	1.33	0.16	
	Co-op Gas	0	0	0.91	1.30	0.39	
	P.D.G.H.			0.90	1.29	0.33	
	L.P.M.	0	0	0.92	1.35	0.46	
	Firehall			0.41	0.79	0.39	
	M.D.C.			0.00	0.00	0.00	
	City Hall			0.61	1.07	0.30	
	City Garage	0	0	0.76	1.07	0.31	
	McKay Res.			1.35	1.62	0.19	
	Tim Hortons	0	0	0.45	0.84	0.24	
	Stride Centre	0	0	1.20	1.60	0.39	
12-May-20	RAW	118	15				

	W.T.P.	0	0	1.69	2.01	0.13	
	W.P.C.F.	0	0	1.35	1.55	0.11	
	Co-Op			0.51	0.74	0.04	
	Nutri-Pea	0	0	1.05	1.33	0.07	
	P.D.G.H.	0	0	1.17	1.57	0.06	
	Husky			1.12	1.46	0.35	
	Firehall	0	0	0.30	0.60	0.42	
	M.D.C.			0.77	1.00	0.17	
	City Hall			0.84	1.24	0.04	
	City Garage			0.66	0.99	0.04	
	McKay Res.	0	0	0.70	1.07	0.07	
	Tim Hortons			0.93	1.29	0.02	
	P.C.U.	0	0	0.99	1.36	0.03	
19-May-20	RAW	>200	18				
	W.T.P.	0	0	1.60	1.91	0.13	
	W.P.C.F.			0.91	1.35	0.04	
	AMHS / Co-op	0	0	1.30	1.71	0.07	
	P.D.G.H.			1.05	1.58	0.25	
	City Hall	0	0	0.23	0.59	0.25	
	Firehall			0.24	0.68	0.22	
	Husky			0.96	1.30	0.16	
	Nutri-Pea	0	0	0.69	1.06	0.19	
	M.D.C.	0	0	0.44	0.91	0.19	
	Island Park	0	0	0.78	1.20	0.07	
	McKay Res.			0.85	1.26	0.03	
	City Garage			0.63	1.01	0.28	
	Tim Hortons			1.02	1.44	0.03	
26-May-20	RAW	>200	4				
	W.T.P.	0	0	2.20	2.40	0.10	
	W.P.C.F.			1.34	1.61	0.06	
	CO-OP	0	0	1.39	1.70	0.09	
	P.D.G.H.			1.40	1.81	0.21	
	City Hall			0.58	0.99	0.23	
	Firehall			0.18	0.50	0.41	
	Husky	0	0	0.82	1.38	0.18	
	Nutri-Pea	0	0	0.68	1.12	0.11	
	M.D.C.			0.51	1.03	0.64	
	Island Park	0	0	0.67	1.11	0.05	
	McKay Res.			0.58	1.10	0.07	
	City Garage	0	0	0.50	0.90	0.29	
	Tim Hortons	0	0	0.58	1.05	0.05	
2-Jun-20	RAW	>200	0				
	W.T.P.	0	0	1.81	2.20	0.12	
	W.P.C.F.	0	0	1.33	1.81	0.42	
	AMHS / Co-op			1.03	1.54	0.28	
	P.D.G.H.	0	0	0.84	1.44	0.21	
	City Hall			0.16	0.53	0.37	
	Firehall	0	0	0.12	0.43	0.41	
	L.P.M.			n/a	n/a	n/a	
	Nutri-Pea	0	0	0.45	0.84	0.21	
	M.D.C.			n/a	n/a	n/a	

	Island Park	0	0	0.58	1.08	0.33	
	McKay Res.	0	0	0.65	1.05	0.12	
	City Garage			0.19	0.56	0.30	
	Tim Hortons			1.04	1.40	0.27	
9-Jun-20	RAW	145	3				
	W.T.P.	0	0	1.87	2.30	0.12	
	W.P.C.F.			1.00	1.45	0.50	
	CO-OP	0	0	1.36	1.69	0.07	
	P.D.G.H.			0.62	0.94	0.14	
	City Hall	0	0	0.33	0.84	0.13	
	Firehall			0.18	0.59	0.46	
	HUSKY			0.83	1.12	0.19	
	Nutri-Pea	0	0	0.69	1.04	0.47	
	M.D.C.	0	0	0.52	0.94	0.70	
	GOLF COURSE	0	0	1.26	1.61	0.14	
	McKay Res.			0.74	1.08	0.13	
	City Garage			0.55	1.01	0.31	
	Tim Hortons			1.11	1.46	0.27	
16-Jun-20	RAW	>200	0				
	W.T.P.	0	0	1.33	1.84	0.10	
	W.P.C.F.			0.76	1.33	0.27	
	Co-op	0	0	0.92	1.39	0.22	
	P.D.G.H.			0.75	1.21	0.33	
	City Hall			0.28	0.64	0.54	
	Firehall			0.11	0.23	0.95	
	Husky Gas Bar	0	0	0.68	1.18	0.26	
	Nutri-Pea	0	0	0.46	0.88	0.49	
	M.D.C.			0.25	0.58	0.77	
	Island Park/GolfCourse	0	0	0.58	0.99	0.28	
	McKay Res.			0.50	0.95	0.23	
	City Garage	0	0	0.33	0.70	0.27	
	Tim Hortons	0	0	0.70	1.15	0.18	
23-Jun-20	RAW	>200	2				
	W.T.P.	0	0	1.90	2.50	0.09	
	W.P.C.F.	0	0	1.35	1.83	0.21	
	Co-op			1.56	1.85	0.04	
	P.D.G.H.	0	0	1.15	0.59	0.06	
	City Hall			0.65	1.01	0.14	
	Firehall	0	0	0.22	0.44	0.88	
	L.P.M.			1.24	1.53	0.33	
	Nutri-Pea	0	0	0.88	1.33	0.24	
	M.D.C.			0.52	1.00	0.49	
	Island Park	0	0	1.40	1.80	0.01	
	McKay Res.	0	0	0.86	1.20	0.75	
	City Garage			0.56	0.87	0.30	
	Tim Hortons			1.28	1.67	0.04	
30-Jun-20	RAW	>200	6				
	W.T.P.	0	0	1.77	2.11	0.10	
	W.P.C.F.			1.16	1.26	0.10	
	Co-op	0	0	0.94	1.38	0.04	
	P.D.G.H.			1.17	1.42	0.02	

	City Hall	0	0	0.47	0.63	0.33	
	Firehall			0.20	0.58	0.87	
	L.P.M.			1.03	1.43	0.17	
	Nutri-Pea	0	0	0.89	1.10	0.55	
	M.D.C.	0	0	0.59	0.78	1.52	
	Island Park	0	0	1.16	1.68	0.08	
	McKay Res.			0.67	1.04	0.23	
	City Garage			0.42	0.69	0.43	
	Tim Hortons			1.05	1.21	0.18	
7-Jul-20	RAW	>200	165				
	W.T.P.	0	0	1.36	1.67	0.17	
	W.P.C.F.			1.23	1.62	0.19	
	AMHS / Co-op	0	0	0.82	1.26	0.25	
	P.D.G.H.			1.23	1.57	16.00	
	City Hall			0.31	0.61	0.34	
	Firehall			0.20	0.40	0.62	
	Husky	0	0	0.97	1.55	2.06	
	Nutri-Pea	0	0	0.46	0.72	0.46	
	M.D.C.			n/a	n/a	n/a	
	Island Park	0	0	0.37	0.66	0.29	
	McKay Res.			0.41	0.70	0.28	
	City Garage	0	0	0.19	0.41	0.58	
	Tim Hortons	0	0	0.77	1.24	0.26	
14-Jul-20	RAW	>200	70				
	W.T.P.	0	0	1.20	1.66	0.11	
	W.P.C.F.	0	0	0.67	1.13	0.18	
	AMHS / Co-op			0.85	1.22	0.10	
	P.D.G.H.	0	0	0.49	0.86	0.21	
	City Hall			0.10	0.23	0.42	
	Firehall	0	0	0.11	0.38	0.88	
	HuskyGas			0.22	0.65	0.20	
	Nutri-Pea	0	0	0.11	0.41	17.00	
	M.D.C.			0.12	0.33	0.78	
	Island Park	0	0	0.38	0.82	0.23	
	McKay Res.	0	0	0.29	0.66	0.13	
	City Garage			0.10	0.39	0.88	
	Tim Hortons			0.43	0.76	0.15	
21-Jul-20	RAW	>200	0				
	W.T.P.	0	0	1.48	1.83	0.17	
	W.P.C.F.			0.21	0.70	0.15	
	Co-op	0	0	0.69	1.21	0.17	
	P.D.G.H.			0.82	1.09	0.23	
	City Hall	0	0	0.11	0.31	0.39	
	Firehall			0.00	0.23	0.68	
	HUSKY			0.66	1.16	0.23	
	Nutri-Pea	0	0	0.10	0.38	0.56	
	M.D.C.	0	0	0.10	0.30	0.75	
	Golf Course	0	0	0.30	0.68	0.28	
	McKay Res.			0.38	0.73	0.24	
	City Garage			0.12	0.30	0.50	
	Tim Hortons			0.17	0.49	0.20	

28-Jul-20	RAW	>200	4				
	W.T.P.	0	0	2.03	2.40	0.17	
	W.P.C.F.			0.86	1.35	0.19	
	Nutri-Pea	0	0	0.18	0.60	0.25	
	Co-op	0	0	1.51	2.02	0.29	
	P.D.G.H.			1.01	1.58	0.24	
	Husky Gas	0	0	0.70	1.31	0.28	
	Firehall			0.05	0.23	2.05	
	MDC			n/a	n/a	n/a	
	City Hall			0.11	0.51	0.60	
	City Garage	0	0	0.10	0.47	0.50	
	McKay Res.			0.82	1.26	0.31	
	Tim Hortons	0	0	0.38	0.71	0.22	
	Golf Club	0	0	0.90	1.59	0.34	
4-Aug-20	RAW	>200	0				
	W.T.P.	0	0	1.37	1.91	0.13	
	W.P.C.F.	0	0	1.46	2.02	0.23	
	AMHS / Co-op			0.94	1.47	0.17	
	P.D.G.H.	0	0	0.53	1.21	0.46	
	City Hall			0.25	0.80	0.52	
	Firehall	0	0	0.11	0.23	0.77	
	L.P.M.			n/a	n/a	n/a	
	Nutri-Pea	0	0	0.23	0.73	0.39	
	M.D.C.	0	0	0.12	0.59	4.86	
	Island Park	0	0	1.40	2.03	0.28	
	McKay Res.			0.97	1.55	0.19	
	City Garage			0.11	0.58	0.42	
	Tim Hortons			0.91	1.36	0.26	
11-Aug-20	RAW	>200	11				
	W.T.P.	0	0	3.00	3.90	0.15	
	W.P.C.F.			2.20	2.75	0.32	
	CO-OP	0	0	2.30	2.60	0.38	
	P.D.G.H.			2.20	2.70	0.54	
	City Hall	0	0	1.20	1.84	0.88	
	Firehall			0.17	0.71	1.09	
	Husky			1.79	2.20	0.93	
	Nutri-Pea	0	0	1.46	2.19	1.86	
	M.D.C.	0	0	0.36	0.94	1.87	
	Golf Course	0	0	2.20	3.00	0.53	
	McKay Res.			0.57	0.99	0.27	
	City Garage			0.95	1.40	1.13	
	Tim Hortons			1.31	1.92	0.27	
18-Aug-20	RAW	>200	22				
	W.T.P.	0	0	1.96	2.26	0.08	
	W.P.C.F.			1.23	1.68	0.14	
	AMHS / Co-op	0	0	0.68	1.08	0.27	
	P.D.G.H.			0.71	1.10	0.35	
	City Hall			0.19	0.55	0.80	
	Firehall			0.20	0.44	0.78	
	L.P.M.	0	0	0.70	1.31	0.78	
	Nutri-Pea	0	0	0.18	0.52	1.21	

	M.D.C.			0.25	0.90	1.10	
	Island Park	0	0	0.90	1.49	0.50	
	McKay Res.			0.89	1.31	0.11	
	City Garage	0	0	0.13	0.70	0.98	
	Tim Hortons	0	0	0.80	1.12	0.24	
25-Aug-20	RAW	>200	19				
	W.T.P.	0	0	1.69	2.14	0.11	
	W.P.C.F.	0	0	1.54	1.84	0.20	
	AMHS / Co-op			1.11	1.47	0.00	
	P.D.G.H.	0	0	1.04	1.53	0.31	
	City Hall			0.14	0.40	0.00	
	Firehall	0	0	0.13	0.39	0.70	
	L.P.M.			n/a	n/a	n/a	
	Nutri-Pea	0	0	0.24	0.49	0.79	
	M.D.C.			0.10	0.41	0.00	
	Island Park	0	0	0.10	0.34	0.43	
	McKay Res.	0	0	0.39	0.77	0.31	
	City Garage			0.13	0.39	0.00	
	Tim Hortons			0.81	1.06	0.00	
1-Sep-20	RAW	>200	66				
	W.T.P.	0	0	1.79	2.17	0.09	
	W.P.C.F.			0.70	0.95	0.02	
	Co-Op Gas	0	0	1.25	1.52	0.02	
	P.D.G.H.			1.26	1.66	0.02	
	City Hall	0	0	0.10	0.38	0.33	
	Firehall			0.13	0.34	0.39	
	Husky			0.60	1.20	0.20	
	Nutri-Pea	0	0	0.10	0.14	0.79	
	M.D.C.	0	0	0.14	0.34	0.83	
	Island Park	0	0	0.13	0.28	0.03	
	McKay Res.			0.60	1.01	0.56	
	City Garage			0.24	0.43	0.34	
	Tim Hortons			0.55	0.74	0.14	
8-Sep-20	RAW	Present	Present				
	W.T.P.	Absent	Absent	2.10	2.69	0.07	
	W.P.C.F.			1.50	1.91	0.19	
	AMHS / Co-op	Absent	Absent	1.78	2.16	0.11	
	P.D.G.H.			1.41	1.89	0.22	
	City Hall			0.43	0.79	0.17	
	Firehall			0.57	0.84	0.29	
	HUSKY	Absent	Absent	0.60	0.81	0.21	
	Nutri-Pea	Absent	Absent	1.15	1.48	0.70	
	M.D.C.			0.43	0.79	0.17	
	Island Park	Absent	Absent	0.19	0.42	0.07	
	McKay Res.			1.18	1.47	0.09	
	City Garage	0	0	0.33	0.60	0.28	
	Tim Hortons	0	0	0.76	1.02	0.90	
15-Sep-20	RAW	>200	78				
	W.T.P.	0	0	1.47	1.89	0.10	
	W.P.C.F.	0	0	0.84	1.32	0.20	
	Husky	0	0	0.70	1.15	0.57	

	Co-Op Gas	0	0	1.27	1.65	0.17	
	P.D.G.H.	0	0	1.02	1.51	0.19	
	M.D.C.			0.28	0.64	0.39	
	Firehall	0	0	0.11	0.50	0.71	
	Nutri-Pea	0	0	0.41	0.88	0.59	
	City Hall			0.22	0.80	0.51	
	City Garage			0.17	0.56	0.40	
	McKay Res.	0	0	0.75	1.24	0.29	
	Tim Hortons			0.83	1.10	0.31	
	Island Golf	0	0	0.14	0.47	0.49	
22-Sep-20	RAW	>200	70				
	W.T.P.	0	0	1.74	1.91	0.09	
	W.P.C.F.			1.17	1.36	0.06	
	Husky			0.98	1.38	0.85	
	Co-Op Gas	0	0	1.46	1.80	1.35	
	P.D.G.H.			1.22	1.63	0.11	
	M.D.C.	0	0	0.22	0.52	1.54	
	Firehall			0.11	0.34	0.85	
	Nutri-Pea	0	0	0.36	0.78	0.27	
	City Hall	0	0	0.12	0.36	0.17	
	City Garage			0.27	0.63	0.38	
	McKay Res.			0.85	1.31	0.21	
	Tim Hortons			0.50	0.97	0.85	
	Golf Course	0	0	0.15	0.42	0.08	
29-Sep-20	RAW	>200	>200				
	W.T.P.	0	0	1.38	1.83	0.08	
	W.P.C.F.			0.64	1.07	0.08	
	Husky	0	0	0.74	1.17	0.20	
	AMHS	0	0	1.13	1.50	0.04	
	P.D.G.H.			0.93	1.31	0.10	
	M.D.C.			0.21	0.40	0.47	
	Firehall			0.11	0.31	0.50	
	Nutri-Pea	0	0	0.51	0.89	0.13	
	City Hall			0.75	1.12	0.20	
	City Garage	0	0	0.20	0.51	0.26	
	McKay Res.			0.65	1.04	0.10	
	Tim Hortons	0	0	0.41	0.85	0.10	
	Golf Course	0	0	0.57	0.90	0.12	
6-Oct-20	RAW	>200	>200				
	W.T.P.	0	0	1.53	1.94	0.07	
	W.P.C.F.	0	0	0.90	1.23	0.07	
	Husky			0.22	0.51	0.42	
	Co-Op Gas			1.30	1.68	0.11	
	P.D.G.H.	0	0	1.11	1.58	0.15	
	M.D.C.			0.37	0.69	0.08	
	Firehall	0	0	0.26	0.45	0.45	
	Nutri-Pea	0	0	0.81	1.10	0.08	
	City Hall			0.61	1.03	0.29	
	City Garage			0.34	0.70	0.41	
	McKay Res.	0	0	1.04	1.47	0.09	
	Tim Hortons			0.66	1.32	0.12	

	Golf Course	0	0	0.70	1.11	0.38	
13-Oct-20	RAW	>200	48				
	W.T.P.	0	0	1.74	2.02	0.08	
	W.P.C.F.			1.22	1.56	0.13	
	Co-Op Gas	0	0	1.46	1.81	0.15	
	P.D.G.H.			1.42	1.67	0.14	
	City Hall	0	0	0.95	1.30	0.39	
	Firehall			0.36	0.72	0.77	
	Husky			1.11	1.50	0.22	
	Nutri-Pea	0	0	1.20	1.55	0.34	
	MDC	0	0	0.61	1.02	0.46	
	Stride Center	0	0	1.02	1.51	0.30	
	McKay Res.			1.36	1.64	0.19	
	City Garage			0.68	1.19	0.52	
	Tim Hortons			0.98	1.27	0.20	
20-Oct-20	RAW	>200	21				
	W.T.P.	0	0	1.21	1.52	0.10	
	W.P.C.F.			1.07	1.39	0.72	
	A.M.H.S	0	0	1.03	1.38	0.10	
	Husky	0	0	0.90	1.28	0.70	
	P.D.G.H.			0.98	1.17	0.74	
	M.D.C.			0.84	1.41	0.59	
	Firehall			0.15	0.46	0.52	
	Nutri-Pea	0	0	1.31	1.48	0.77	
	City Hall			0.59	0.82	0.52	
	City Garage	0	0	1.01	1.34	0.69	
	McKay Res.			1.17	1.54	0.19	
	Tim Hortons	0	0	1.01	1.45	0.35	
	Stride Place	0	0	0.98	1.40	0.27	
27-Oct-20	RAW	>200	66				
	W.T.P.	0	0	1.36	1.82	0.12	
	W.P.C.F.	0	0	1.01	1.48	0.24	
	Husky			1.19	1.59	0.04	
	Co-Op Gas			1.44	1.89	0.16	
	P.D.G.H.	0	0	1.28	1.73	0.21	
	M.D.C.			0.74	1.32	0.40	
	Firehall	0	0	0.51	1.02	0.31	
	Nutri-Pea	0	0	1.19	1.69	0.47	
	City Hall			0.81	1.23	0.31	
	City Garage			1.00	1.51	0.64	
	McKay Res.	0	0	1.13	1.58	0.14	
	Tim Hortons			0.91	1.52	0.65	
	Golf Course	0	0	1.26	1.79	0.37	
3-Nov-20	RAW	>200	41				
	W.T.P.	0	0	2.50	4.00	0.12	
	W.P.C.F.			1.58	2.10	0.09	
	Husky			2.80	4.30	0.14	
	Co-Op Gas	0	0	2.80	3.60	0.06	
	P.D.G.H.			3.00	4.00	0.19	
	M.D.C.	0	0	1.11	1.68	0.52	
	Firehall			1.04	1.58	0.67	

	Nutri-Pea	0	0	1.72	2.15	0.18	
	City Hall	0	0	1.89	2.20	0.24	
	City Garage			1.43	1.93	0.31	
	McKay Res.			1.67	2.18	0.15	
	Tim Hortons			1.25	1.66	0.25	
	Stride Place	0	0	2.10	3.40	0.61	
9-Nov-20	RAW	>200	10				
	W.T.P.	0	0	1.73	2.20	0.13	
	W.P.C.F.			1.68	2.20	0.27	
	AMHS	0	0	1.60	2.08	0.64	
	McKay Res.			1.38	1.91	0.19	
	P.D.G.H.			1.41	1.86	0.57	
	City Hall			1.11	1.59	0.33	
	Firehall			0.46	0.90	0.36	
	Husky	0	0	1.32	1.83	0.57	
	Nutri-Pea	0	0	1.24	1.69	0.44	
	MDC			0.77	1.28	0.30	
	Stride Center	0	0	1.16	1.73	0.53	
	City Garage	0	0	1.06	1.78	0.74	
	Tim Hortons	0	0	1.15	1.56	0.21	
17-Nov-20	RAW	>200	10				
	W.T.P.	0	0	1.30	1.66	0.11	
	W.P.C.F.	0	0	1.09	1.52	0.09	
	Husky			1.00	1.51	0.32	
	Co-Op Gas			0.91	1.38	0.19	
	P.D.G.H.	0	0	0.97	1.47	0.14	
	M.D.C.			0.70	1.28	0.48	
	Firehall	0	0	0.37	0.78	0.67	
	Nutri-Pea	0	0	0.91	1.49	0.82	
	City Hall			0.81	1.30	0.26	
	City Garage			0.74	1.15	0.29	
	McKay Res.	0	0	0.76	1.29	0.13	
	Tim Hortons			0.48	1.09	0.20	
	Golf Course	0	0	0.77	1.17	0.21	
24-Nov-20	RAW	>200	2				
	W.T.P.	0	0	1.09	1.43	0.27	
	W.P.C.F.			0.54	1.05	0.72	
	Husky			1.47	1.99	0.57	
	Co-Op Gas	0	0	1.12	1.70	0.28	
	P.D.G.H.			1.35	2.02	0.82	
	M.D.C.	0	0	0.20	0.65	1.22	
	Firehall			0.10	0.50	1.30	
	Nutri-Pea	0	0	0.46	1.02	0.40	
	City Hall	0	0	0.25	0.56	1.56	
	City Garage			0.30	0.75	1.40	
	McKay Res.			0.60	1.13	0.15	
	Tim Hortons			0.29	0.69	0.36	
	Stride (Island)	0	0	0.73	0.97	1.54	
1-Dec-20	RAW	>200	25				
	W.T.P.	0	0	1.43	1.81	0.09	
	W.P.C.F.			0.86	1.11	0.28	

	Husky	0	0	1.09	1.49	0.50	
	AMHS	0	0	1.11	1.57	0.53	
	P.D.G.H.			1.22	1.55	0.25	
	M.D.C.			0.48	0.91	0.69	
	Firehall			0.35	0.54	0.81	
	Nutri-Pea	0	0	0.68	0.90	0.40	
	City Hall			0.15	0.35	1.05	
	City Garage	0	0	0.52	1.04	0.71	
	McKay Res.			1.00	1.31	0.15	
	Tim Hortons	0	0	0.53	0.85	0.35	
	Stride Place	0	0	0.36	0.73	0.52	
8-Dec-20	RAW	130	4				
	W.T.P.	0	0	1.42	1.89	0.12	
	W.P.C.F.	0	0	0.83	1.25	0.13	
	Husky			0.85	1.43	0.11	
	Co-Op Gas			1.25	1.67	0.08	
	P.D.G.H.	0	0	1.12	1.49	0.18	
	M.D.C.			0.21	0.43	0.86	
	Firehall	0	0	0.23	0.27	0.91	
	Nutri-Pea	0	0	0.44	0.85	0.26	
	City Hall			0.36	0.82	0.26	
	City Garage			0.24	0.54	0.70	
	McKay Res.	0	0	0.77	1.16	0.18	
	Tim Hortons			0.40	0.92	0.37	
	Stride	0	0	0.73	1.12	0.22	
15-Dec-20	RAW	145	5				
	W.T.P.	0	0	1.45	1.80	0.12	
	W.P.C.F.			0.80	1.28	0.27	
	Co-Op Gas	0	0	1.10	1.59	0.51	
	P.D.G.H.			1.01	1.36	0.41	
	City Hall	0	0	0.13	0.27	0.92	
	Firehall			0.11	0.36	0.48	
	Husky			0.98	1.45	0.39	
	Nutri-Pea	0	0	0.63	1.04	0.09	
	M.D.C.	0	0	0.41	0.88	0.68	
	Stride Place	0	0	1.01	1.37	0.66	
	McKay Res.			0.73	1.22	0.19	
	City Garage			0.43	0.78	0.31	
	Tim Hortons			0.64	0.96	0.40	
22-Dec-20	RAW	130	1				
	W.T.P.	0	0	1.26	1.64	0.10	
	W.P.C.F.			1.01	1.25	0.61	
	Husky	0	0	0.91	1.61	0.76	
	Co-Op Gas	0	0	1.14	1.58	0.07	
	P.D.G.H.			0.97	1.45	0.19	
	M.D.C.			0.51	0.85	0.54	
	Firehall			0.18	0.35	1.43	
	Nutri-Pea	0	0	0.80	1.24	0.49	
	City Hall			0.72	1.08	0.90	
	City Garage	0	0	0.58	1.00	0.71	
	McKay Res.			1.12	1.46	0.74	

	Tim Hortons	0	0	0.47	0.91	0.24	
	Golf Course	0	0	0.91	1.29	0.45	
29-Dec-20	RAW						
	W.T.P.			No Testing Done	0.00	0.00	
	W.P.C.F.			0.00	0.00	0.00	
	Husky			0.00	0.00	0.00	
	Co-Op Gas			0.00	0.00	0.00	
	P.D.G.H.			0.00	0.00	0.00	
	M.D.C.			0.00	0.00	0.00	
	Firehall			0.00	0.00	0.00	
	Nutri-Pea			0.00	0.00	0.00	
	City Hall			0.00	0.00	0.00	
	City Garage			0.00	0.00	0.00	
	McKay Res.			0.00	0.00	0.00	
	Tim Hortons			0.00	0.00	0.00	
	Golf Course			0.00	0.00	0.00	

Trihalomethane Results

WATER SYSTEM NAME	FEB	MAY	AUG	NOV	AVG THM (mg/L)
MB Hydro	0.0639	0.0629	0.122	0.0659	0.0787
Fire Hall	0.0623	0.0967	0.193	0.0431	0.0988
Craig Dunn	0.0277	0.0637	0.115	0.0222	0.0572
City Garage	0.0648	0.0889	0.187	0.0519	0.0982

Haloacetic Acids Results

WATER SYSTEM NAME	FEB	MAY	AUG	NOV	AVG HAA (mg/L)
Portage Hospital	0.0203	0.0251	0.0386	0.0136	0.0244
Tim Hortons - Downtown	0.0273	0.0272	0.0547	0.0201	0.0323
Fire Hall	0.0268	0.0290	0.0619	0.0152	0.0332
City Hall	0.0292	0.0291	0.0648	0.0168	0.0350



City of Portage la Prairie - Portage la
Prairie Regional
ATTN: MICHAEL SANDNEY

Portage la Prairie Regional - PWS
97 Saskatchewan Avenue East
Portage la Prairie MB R1N 0L8

Date Received: 30- APR-20
Report Date: 08-MAY-20 12:41 (MT)
Version: FINAL

Client Phone: 204- 239- 8372

Certificate of Analysis

Lab Work Order #: L2442079
Project P.O. #: NOT SUBMITTED
Job Reference: PORTAGE LA PRAIRIE - PWS 171.00
C of C Numbers:
Legal Site Desc: 28564

Hua Wo

Chemistry Laboratory Manager

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ANALYTICAL REPORT

Physical Tests (WATER)

		ALS ID		L2442079-1	L2442079-2
		Sampled Date		29-APR-20	29-APR-20
		Sampled Time		14:20	14:10
		Sample ID		PORTAGE LA PRAIRIE 1 - RAW	PORTAGE LA PRAIRIE 2 - TREATED
Analyte	Unit	Guide Limit #1	Guide Limit #2		
Colour, True	CU	15	-	42.8	<5.0
Conductivity	umhos/cm	-	-	634	552
Hardness (as CaCO ₃)	mg/L	-	-	285 <small>HTC</small>	172 <small>HTC</small>
Langelier Index (4 C)	No Unit	-	-	0.66	0.24
Langelier Index (60 C)	No Unit	-	-	1.4	1.0
pH	pH units	7.00-10.5	-	8.31	8.13
Total Dissolved Solids	mg/L	500	-	427	350
Transmittance, UV (254 nm)	%T/cm	-	-	45.7	86.3
Turbidity	NTU	-	-	50.1	<0.10

Federal Guidelines for Canadian Drinking Water Quality (JAN, 2020) #1: GCDWQ - Aesthetic Objective/Other Value (Jan.2020)
#2: GCDWQ - Maximum Acceptable Concentrations (MACs-Jan.2020)

Anions and Nutrients (WATER)

		ALS ID		L2442079-1	L2442079-2	L2442079-3
		Sampled Date		29-APR-20	29-APR-20	29-APR-20
		Sampled Time		14:20	14:10	14:10
		Sample ID		PORTAGE LA PRAIRIE 1 - RAW	PORTAGE LA PRAIRIE 2 - TREATED	PORTAGE LA PRAIRIE 2 - TREATED
Analyte	Unit	Guide Limit #1	Guide Limit #2			
Alkalinity, Total (as CaCO ₃)	mg/L	-	-	202	111	
Ammonia, Total (as N)	mg/L	-	-	0.039	0.013	
Bicarbonate (HCO ₃)	mg/L	-	-	241	135	
Bromate	ug/L	-	10			<3.0 <small>DLM</small>
Bromide (Br)	mg/L	-	-	0.042	<0.010	
Carbonate (CO ₃)	mg/L	-	-	2.64	<0.60	
Chloride (Cl)	mg/L	250	-	15.8	24.8	
Fluoride (F)	mg/L	-	1.5	0.108	0.673	
Hydroxide (OH)	mg/L	-	-	<0.34	<0.34	
Nitrate (as N)	mg/L	-	10	0.367	0.460	
Nitrite (as N)	mg/L	-	1	0.0070	<0.0010	
Sulfate (SO ₄)	mg/L	500	-	134	137	

Federal Guidelines for Canadian Drinking Water Quality (JAN, 2020) #1: GCDWQ - Aesthetic Objective/Other Value (Jan.2020)

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

Organic / Inorganic Carbon (WATER)

		ALS ID		L2442079-1	L2442079-2
		Sampled Date		29-APR-20	29-APR-20
		Sampled Time		14:20	14:10
		Sample ID		PORTAGE LA PRAIRIE 1 - RAW	PORTAGE LA PRAIRIE 2 - TREATED
Analyte	Unit	Guide Limit #1	Guide Limit #2		
Dissolved Organic Carbon	mg/L	-	-	11.1	4.36
Total Organic Carbon	mg/L	-	-	9.82	4.04

Federal Guidelines for Canadian Drinking Water Quality (JAN, 2020) #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

		ALS ID		L2442079-1	L2442079-2	L2442079-4
		Sampled Date		29-APR-20	29-APR-20	29-APR-20
		Sampled Time		14:20	14:10	14:55
		Sample ID		PORTAGE LA PRAIRIE 1 - RAW	PORTAGE LA PRAIRIE 2 - TREATED	PORTAGE LA PRAIRIE 3 - DIST @ FIRE HALL
Analyte	Unit	Guide Limit #1	Guide Limit #2			
Aluminum (Al)-Total	mg/L	0.1	-	0.723	0.0072	0.0067
Antimony (Sb)-Total	mg/L	-	0.006	0.00029	0.00023	0.00022
Arsenic (As)-Total	mg/L	-	0.01	0.00445	0.00054	0.00055
Barium (Ba)-Total	mg/L	-	2	0.0741	0.0794	0.0763
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	0.077	0.042	0.043
Cadmium (Cd)-Total	mg/L	-	0.005	0.0000425	<0.000050	<0.000050
Calcium (Ca)-Total	mg/L	-	-	57.6	56.9	61.2
Cesium (Cs)-Total	mg/L	-	-	0.000124	0.000024	0.000024
Chromium (Cr)-Total	mg/L	-	0.05	0.00114	0.00058	0.00063
Cobalt (Co)-Total	mg/L	-	-	0.00088	<0.00010	<0.00010
Copper (Cu)-Total	mg/L	1	2	0.00411	0.00884	0.00784
Iron (Fe)-Total	mg/L	0.3	-	1.35	<0.010	0.110
Lead (Pb)-Total	mg/L	-	0.005	0.000995	<0.000050	<0.000050
Lithium (Li)-Total	mg/L	-	-	0.0404	0.0391	0.0401
Magnesium (Mg)-Total	mg/L	-	-	34.1	7.25	8.21
Manganese (Mn)-Total	mg/L	0.02	0.12	0.122	0.00019	0.00330
Molybdenum (Mo)-Total	mg/L	-	-	0.00218	0.00224	0.00224
Nickel (Ni)-Total	mg/L	-	-	0.00534	0.00080	0.00093
Phosphorus (P)-Total	mg/L	-	-	0.228	0.506	0.468
Potassium (K)-Total	mg/L	-	-	14.2	14.6	14.8
Rubidium (Rb)-Total	mg/L	-	-	0.00350	0.00276	0.00287
Selenium (Se)-Total	mg/L	-	0.05	0.000458	0.000219	0.000233
Silicon (Si)-Total	mg/L	-	-	9.18	3.22	3.30
Silver (Ag)-Total	mg/L	-	-	0.000011	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	200	-	38.8	47.1	47.1
Strontium (Sr)-Total	mg/L	-	7	0.236	0.161	0.181
Sulfur (S)-Total	mg/L	-	-			48.3
Tellurium (Te)-Total	mg/L	-	-	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	-	-	0.000032	<0.000010	<0.000010
Thorium (Th)-Total	mg/L	-	-	0.00021	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010

Federal Guidelines for Canadian Drinking Water Quality (JAN, 2020)

#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.

		ALS ID		L2442079-1	L2442079-2	L2442079-4
		Sampled Date		29-APR-20	29-APR-20	29-APR-20
		Sampled Time		14:20	14:10	14:55
		Sample ID		PORTAGE LA PRAIRIE 1 - RAW	PORTAGE LA PRAIRIE 2 - TREATED	PORTAGE LA PRAIRIE 3 - DIST @ FIRE HALL
Analyte	Unit	Guide Limit #1	Guide Limit #2			
Titanium (Ti)-Total	mg/L	-	-	0.0187	<0.00030	<0.00030
Tungsten (W)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	-	0.02	0.00331	0.000106	0.000161
Vanadium (V)-Total	mg/L	-	-	0.00441	0.00081	0.00084
Zinc (Zn)-Total	mg/L	5	-	0.0081	<0.0030	0.0037
Zirconium (Zr)-Total	mg/L	-	-	0.00104	<0.00020	<0.00020

Federal Guidelines for Canadian Drinking Water Quality (JAN, 2020)

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

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



City of Portage la Prairie - Portage la
Prairie Regional
ATTN: MICHAEL SANDNEY

Portage la Prairie Regional - PWS
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Date Received: 28- OCT-20

Report Date: 09-NOV-20 15:28 (MT)

Version: FINAL

Client Phone: 204- 239- 8372

Certificate of Analysis

Lab Work Order #: L2522593

Project P.O. NOT SUBMITTED

#: Job PORTAGE LA PRAIRIE - PWS 171.00

Reference:

C of C Numbers: 28564

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Chemistry Laboratory Manager

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ANALYTICAL REPORT

Physical Tests (WATER)

		ALS ID		L2522593-1	L2522593-2
		Sampled Date		28-OCT-20	28-OCT-20
		Sampled Time		08:00	08:00
		Sample ID		PORTAGE LA PRAIRIE 1 - RAW	PORTAGE LA PRAIRIE 2 - TREATED
Analyte	Unit	Guide Limit #1	Guide Limit #2		
Colour, True	CU	15	-	11.0	<5.0
Conductivity	umhos/cm	-	-	940	738
Hardness (as CaCO3)	mg/L	-	-	396 ^{HTC}	233 ^{HTC}
Langelier Index (4 C)	No Unit	-	-	1.1	0.24
Langelier Index (60 C)	No Unit	-	-	1.9	1.0
pH	pH units	7.00-10.5	-	8.50	8.10
Total Dissolved Solids	mg/L	500	-	575	445
Transmittance, UV (254 nm)	%T/cm	-	-	67.6	87.3
Turbidity	NTU	-	-	49.9	0.16

Federal Guidelines for Canadian Drinking Water Quality (JAN, 2020)

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

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

Anions and Nutrients (WATER)

		ALS ID		L2522593-1	L2522593-2	L2522593-3
		Sampled Date		28-OCT-20	28-OCT-20	28-OCT-20
		Sampled Time		08:00	08:00	08:00
		Sample ID		PORTAGE LA PRAIRIE 1 - RAW	PORTAGE LA PRAIRIE 2 - TREATED	PORTAGE LA PRAIRIE 2 - TREATED
Analyte	Unit	Guide Limit #1	Guide Limit #2			
Alkalinity, Total (as CaCO3)	mg/L	-	-	292	129	
Ammonia, Total (as N)	mg/L	-	-	0.055	<0.010	
Bicarbonate (HCO3)	mg/L	-	-	330	157	
Bromate	ug/L	-	10			<0.30
Bromide (Br)	mg/L	-	-	0.055	<0.010	
Carbonate (CO3)	mg/L	-	-	13.2	<0.60	
Chloride (Cl)	mg/L	250	-	21.7	27.0	
Fluoride (F)	mg/L	-	1.5	0.158	0.802	
Hydroxide (OH)	mg/L	-	-	<0.34	<0.34	
Nitrate (as N)	mg/L	-	10	0.125	0.146	
Nitrite (as N)	mg/L	-	1	0.0019	<0.0010	
Sulfate (SO4)	mg/L	500	-	199	201	

Federal Guidelines for Canadian Drinking Water Quality (JAN, 2020) #1:

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

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

Organic / Inorganic Carbon (WATER)

		ALS ID		L2522593-1	L2522593-2
		Sampled Date		28-OCT-20	28-OCT-20
		Sampled Time		08:00	08:00
		Sample ID		PORTAGE LA PRAIRIE 1 - RAW	PORTAGE LA PRAIRIE 2 - TREATED
Analyte	Unit	Guide Limit #1	Guide Limit #2		
Dissolved Organic Carbon	mg/L	-	-	8.17	4.43
Total Organic Carbon	mg/L	-	-	10.1	5.52

Federal Guidelines for Canadian Drinking Water Quality (JAN, 2020) #1:

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

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

- Detection Limit for result exceeds Guide Limit. Assessment against Guide Limit cannot be made.
- Analytical result for this parameter exceeds Guide Limit listed on this report.

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

ANALYTICAL REPORT

Total Metals (WATER)

Analyte	Unit	ALS ID		L2522593-1	L2522593-2	L2522593-4
		Guide Limit #1	Guide Limit #2	28-OCT-20 08:00 PORTAGE LA PRAIRIE 1 - RAW	28-OCT-20 08:00 PORTAGE LA PRAIRIE 2 - TREATED	27-OCT-20 14:30 PORTAGE LA PRAIRIE 3 - DISTRIBUTION (TIM HORTONS)
Aluminum (Al)-Total	mg/L	0.1	-	1.08	0.0070	0.0040
Antimony (Sb)-Total	mg/L	-	0.006	0.00026	0.00019	0.00018
Arsenic (As)-Total	mg/L	-	0.01	0.00497	0.00093 RRV	0.00108
Barium (Ba)-Total	mg/L	-	2	0.107	0.0182	0.0179
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	0.098	0.063	0.048
Cadmium (Cd)-Total	mg/L	-	0.005	0.0000580	0.0000052	0.0000135
Calcium (Ca)-Total	mg/L	-	-	82.0	55.8	49.0
Cesium (Cs)-Total	mg/L	-	-	0.000238	0.000024	0.000022
Chromium (Cr)-Total	mg/L	-	0.05	0.00186	0.00053	0.00059
Cobalt (Co)-Total	mg/L	-	-	0.00122	<0.00010	<0.00010
Copper (Cu)-Total	mg/L	1	2	0.00355	0.0252	0.324
Iron (Fe)-Total	mg/L	0.3	-	2.19	<0.010	0.019
Lead (Pb)-Total	mg/L	-	0.005	0.00122	<0.000050	0.000090
Lithium (Li)-Total	mg/L	-	-	0.0554	0.0530	0.0526
Magnesium (Mg)-Total	mg/L	-	-	46.5	22.8	15.8
Manganese (Mn)-Total	mg/L	0.02	0.12	0.262	0.00051	0.00055
Molybdenum (Mo)-Total	mg/L	-	-	0.00297	0.00338	0.00324
Nickel (Ni)-Total	mg/L	-	-	0.00657	0.00106 RRV	0.00161 RRV
Phosphorus (P)-Total	mg/L	-	-	0.130	0.478	0.399
Potassium (K)-Total	mg/L	-	-	8.98	9.10	8.76
Rubidium (Rb)-Total	mg/L	-	-	0.00394	0.00234	0.00252
Selenium (Se)-Total	mg/L	-	0.05	0.000450	0.000358	0.000351
Silicon (Si)-Total	mg/L	-	-	9.69	5.13	3.16
Silver (Ag)-Total	mg/L	-	-	0.000014	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	200	-	47.1	49.1	48.8
Strontium (Sr)-Total	mg/L	-	7	0.334	0.191	0.162
Sulfur (S)-Total	mg/L	-	-	-	-	65.2
Tellurium (Te)-Total	mg/L	-	-	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	-	-	0.000032	<0.000010	<0.000010
Thorium (Th)-Total	mg/L	-	-	0.00021	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010

Federal Guidelines for Canadian Drinking Water Quality (JAN, 2020)

#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.

City of Portage la Prairie
Appendix C – Bacteriological Sample Result

		ALS ID		L2522593-1	L2522593-2	L2522593-4
		Sampled Date		28-OCT-20	28-OCT-20	27-OCT-20
		Sampled Time		08:00	08:00	14:30
		Sample ID		PORTAGE LA PRAIRIE 1 - RAW	PORTAGE LA PRAIRIE 2 - TREATED	PORTAGE LA PRAIRIE 3 - DISTRIBUTION (TIM HORTONS)
Analyte	Unit	Guide Limit #1	Guide Limit #2			
Titanium (Ti)-Total	mg/L	-	-	0.0297	<0.00030	<0.00030
Tungsten (W)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	-	0.02	0.00296	0.000185	0.000085
Vanadium (V)-Total	mg/L	-	-	0.00615	0.00190 ^{RRV}	0.00123 ^{RRV}
Zinc (Zn)-Total	mg/L	5	-	0.0091	0.0030	0.0339
Zirconium (Zr)-Total	mg/L	-	-	0.00085	<0.00020	<0.00020

**Federal Guidelines for
Canadian Drinking Water
Quality (JAN, 2020) #1:
GCDWQ - Aesthetic
Objective/Other Value
(Jan.2020)**

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

Appendix D – Public Water System Audit Report

2021 Annual Compliance Audit - Office of Drinking Water

Hello Nathan Peto:

Please find enclosed the 2020 Annual Compliance Audit for the City of Portage La Prairie public water system (PWS 171.00).

NEW INFORMATION

In an effort to streamline administration processes, the Office of Drinking Water will not be generating annual compliance audits for systems with a population of 1000 or more people for the 2021 reporting year. These systems are required to provide an independent Annual Water System Report pursuant to Section 32 of the Drinking Water Safety Regulation. Please review subsection 23(2) Contents of annual report to ensure you are recording the information required to report throughout the year.

The 2020 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 contact me.

Sincerely,



Kale Black C. Tech
Water Systems Operations Specialist / Sr. Drinking Water Officer
Environmental Stewardship Division, Manitoba Conservation and Climate
309 - 25 Tupper Street North, Portage La Prairie, MB.
R1N 3K1
Cell: 1-204-795-6908
Fax: 1-204-239-3215

24hr Environmental Emergency Response Line: 204-944-4888
Toll Free in Manitoba 1-855-944-4888

January 15, 2021

2020 Annual Compliance Audit

Water System: PORTAGE LA PRAIRIE - PWS	Code: 171.00
Water System Owner: City of Portage La Prairie	Address: 97 Saskatchewan Ave. E., Portage la Prairie, MB R1N0L8
Operating Licence: PWS-08-147-02	Expiry Date: November 30, 2023
Water System Assessment Due Date: March 1, 2024	Compliance Plan Due Date: N/A
Public Water System Annual Report Due Date: March 31, 2021	Advisory Notification Plan Due Date: May 1, 2021

- 1) This report documents compliance of the Portage La Prairie Public Water System for the period from January 1 to December 31, 2020.
- 2) This report provides specific information on the non-compliance incidents identified in the summary below.
- 3) Other than the information provided in this report, 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.
- 5) 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.

Non-compliance with Treatment Standards:

Water system was compliant in the audited time period.

Non-compliance Incidents:

2020 Annual Compliance Audit
PORTAGE LA PRAIRIE - PWS
January 1, 2020 to December 31, 2020

*Note failure to submit bacteriological samples at the frequency specified or the required number of samples, results in additional non-compliance with other terms and conditions of the operating licence. This includes the applicable bacteriological standards, disinfection standard and monitoring requirements, and other requirements applicable to the location of the missed sample.

Date	Incident	Outcome
2020-10-28	Failure to submit monthly monitoring reports in accordance with the operating licence	Non-compliant

If you have any questions, please do not hesitate to contact me at (204) 795-6908.

Sincerely,



Kale Black
Senior Regional Drinking Water Officer