Public Water System Annual Report

-2023-

Name of the Public Water System:	RM of Portage la Prairie (Cartier Regional) 157.00 RM of Portage la Prairie (Portage la Prairie) 171.25
Name of the Legal Owner:	Rural Municipality of Portage la Prairie
Water System's Operating License:	PWS-16-592-02 PWS-08-199-03
Contact Person:	Kyle Hamilton, B.Sc.(CE), M.Eng., P.Eng. Director of Public Works and Utilities
Phone:	204-857-44391
Email:	info@rmofportage.ca
Website:	www.rmofportage.ca
Name of Operator:	Blaine Page, Utility Operations Supervisor
Phone During Business Hours:	204-267-2417
Emergency Numbers:	204-267-2417, 204-856-6412

Date prepared: January 18, 2024

Kyle Hamilton, M.Eng., P.Eng., CAMP
Director of Public Works and Utilities
Rural Municipality of Portage la Prairie

TABLE OF CONTENTS

LIST OF APPENDICES

1.0 Introduction

The Public has the right to easily access information related to potable water consumed including the treatment processes and distribution systems. The 2023 Annual Report for the Rural Municipality of Portage la Prairie (RM of Portage la Prairie) summarizes the Utility's ability to distribute safe potable water and meet provincial regulations.

2.0 Description of the Water System

The RM of Portage la Prairie provides potable drinking water through distribution systems to approximately 4,150 residents.

2.1 Water Supply Source

Potable water is purchased from the Cartier Regional Water Co-operative Water Treatment Plant (CWTP) and City of Portage la Prairie Portage Water Treatment Plant (PWTP).

CWTP annual reports and treatment process are avaliable online at:
http://www.crwc.ca/annual-report.html

PWTP annual reports and treatment process are avaliable online at:
https://www.city-plap.com/cityplap/departments/operations/water-sewer/

2.2 Distribution System

RM of Portage la Prairie (Cartier Regional) 157.00
Treated water purchased from the CWTP supplies the eastern side of the Municipality. The distribution system includes a booster station and a reservoir/pumping station and 210 km of HDPE pipelines.

RM of Portage la Prairie (Portage la Prairie) 171.25
Treated water purchased from the PWTP supplies the northern, central and western regions of the Municipality. The distribution system includes multiple booster stations, pressure stations and 566 km of HDPE and PVC pipelines.

The reservoir, pumping stations and booster stations are all equipped with standby diesel generators for back-up power.

2.3 Storage Reservoir

Oakville Reservoir Capacity: 640 m3/640,000 L

2.4 Number of Connections, Population Served and Types of Water Users

The distribution system contains approximately 1,800 metered service connections with 99% residential and 1% commercial/agricultural.

2.5 Classification and Certification

Operator and facility classification falls under The Environment Act's Water and Wastewater Facility Operator's Regulation.

Facility Classifications

RM of Portage la Prairie (Cartier Regional) 157.00	Water Distribution Class 2
RM of Portage la Prairie (Portage la Prairie) 171.25	Water Distribution Class 2

Operator Classifications

Kyle Hamilton	Water Distribution Level 2 Operator
Blaine Page	Water Distribution Level 2 Operator
Shandy Turner	Water Distribution Level 2 Operator
James Weibe	Water Distribution Level 1 Operator
Serena Davies	Water Distribution Level 1 Operator

3.0 DISINFECTION SYSTEM IN USE

The final step in the treatment of safe 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 Utility must ensure that a disinfectant residual of at least:

- 0.5 mg of free chlorine per litre of water is detectable at the point where the water enters the distribution system, after a minimum contact time of 20 minutes.

- 0.1 mg of free chlorine per litre of water is detectable, at all times, at any point in the distribution network.

3.1 Type of Disinfection System Used

The water that the Utility purchases has been previously disinfected at the respective water treatment plants with chlorine gas. The Utility has the option of adding a 12% sodium hypochlorite solution by chlorinator pump at the Oakville Reservoir, if necessary.

3.2 Equipment Redundancy and Monitoring Requirements

As required by the Drinking Water Safety Act, the Utility ensures continuous disinfection is maintained in the distribution systems. Disinfectant residuals are monitored daily at the Oakville Reservoir and weekly or bi-weekly in the distribution system and recorded on the appropriate monitoring forms. Monthly chlorination report forms are sent to the regional Drinking Water Officer at the end of each month.

3.3 Disinfectant Residual Overall Performance/Results

For 2023, the Utility has met all regulatory requirements regarding monitoring and reporting disinfection residuals leaving the reservoir.

4.0 List of Water Quality Standards

The Province of Manitoba has adopted water quality standards from the Health Canada Guidelines for Canadian Drinking Water Quality. The parameters are health-based and express the maximum acceptable concentration for drinking water. Concentration values in excess of the guidelines constitute a health-related issue and require corrective actions. The 2023 monitoring requirements and water quality standards for PWS 157.00 and 171.25 are summarized in the following tables:

Monitoring Requirement for PWS 157.00 and 171.25

Parameter	Monitoring Requirement	% Compliance
Bacteriological (Total Coliform and E. Coli)(1)	Biweekly sampling program with each set of samples consisting of two distribution samples (three for PWS 171.25)	100
Free Chlorine (Distribution System)	At the same time and locations as bacteriological sampling	100
Total Chlorine (Distribution system)	At the same time and locations as bacteriological sampling	100
Total Trihalomethanes (THMs)(2) (Distribution System)	One preserved distribution system sample taken on a quarterly basis during February, May, August and November, every second year at the furthest point in the distribution system	Not sampled in 2023
Total Haloacetic Acids (HAAs)(2) (Distribution System)	One preserved distribution system sample taken on a quarterly basis during February, May, August and November, every second year at the mid-point in the distribution system	Not sampled in 2023
Other Parameters	As per the instructions of the Drinking Water Officer	100
Lead	As per the instructions of the Drinking Water Officer	100

Water Quality Standards for PWS 157.00 and 171.25

Parameter	Quality Standard	% Compliance
Total Coliform(1)	Less than one total coliform bacteria detectable per 100 mL in all distributed water	100
E. coli(1)	Less than one *E. coli* bacteria detectable per 100 mL in all distributed water	100
Chlorine Residual	A free chlorine residual of at least 0.1 mg/L at all times at any point in the water distribution system	100
Total Trihalomethanes (THMs)(2)	Less than or equal to 0.10 mg/L as locational annual average of quarterly samples	Not sampled in 2023
Total Haloacetic Acids (HAAs)(2)	Less than or equal to 0.08 mg/L as locational annual average of quarterly samples	Not sampled in 2023
Lead	Less than or equal to 0.01 mg/L in the water distribution system	100

(1) Bacterial Testing: Municipality tests the Oakville Reservoir and various locations in the distribution systems every two weeks. The Municipality does this for the purpose of detecting Total Coliform (TC) and Escherichia Coli (EC) bacteria. If these bacteria are present in the water, it is an indication that disease-causing organisms may also be present.

Long residence times in some sections can cause low free chlorine which is monitored closely. The supplementary Heterotrophic Plate Count (HPC) tests used by the Operators in 2023 showed that bacterial re-growth due to diminishing chlorine levels was not a detectable problem.

Bacteriological results are provided in Appendix A and B.

(2) Trihalomethanes (THM) are formed when chlorine reacts with naturally occurring organic matter in the water. Studies have shown a link between high levels of THM's and cancer. For that reason, the province has set a health-based standard for THM's of 0.100 mg/L. The THM standard is based on an average of four samples per year. THM levels in six locations in the distribution system are tested on a quarterly basis in even years. Both PWTP and CWTP are currently working on solutions to lower THM levels to acceptable standards.

Trihalomethanes (THM) and Haloacetic Acides (HAA) analyses are provided in Appendix A and B when the testing is completed in even years.

5.0 Water System Incidents and Corrective Actions

In 2023, no water system incidents occurred and no corrective actions were required.

6.0 Drinking Water Safety Orders and Actions Taken in Response

In 2023, no drinking water safety orders were issued.

7.0 Boil Water Advisories Issued and Actions Taken in Response

In 2023, six boil water advisories were issued:

- January 4 to 9, 2023: A precautionary boil water advisory was issued for Cambell Wier Avenue and Lytle Street in High Bluff due to depressurization required to repair a watermain leak.

- January 30 to February 1, 2023: A precautionary boil water advisory was issued for Second Street and North School Road in Oakville due to depressurization required to repair a watermain leak.

- February 23 to 25, 2023: A precautionary boil water advisory was issued for the Oakville South area due to depressurization required to repair a watermain leak.

- June 15 to 19, 2023: A precautionary boil water advisory was issued for Enns Brothers due to depressurization required to switch their water service connection from Yellowhead Regional Water Cooperative (YRWC) to 171.25.

- September 5 to 9, 2023: A precautionary boil water advisory was issued for all areas west of Road 40W and on Road 64N from Road 39W to 40W due to depressurization required to repair a watermain leak.

- December 13 to 15, 2023: A precautionary boil water advisory was issued for east of Highbluff to just east of Poplar Point due to depressurization required to repair a watermain leak.

8.0 Warnings Issued or Charges Laid in Accordance with The Drinking Water Safety Act

In 2023, no warnings were issued and no charges were laid against the Utility.

9.0 System Expansion in 2023

For 2023, 10 new residential services, 2 new commercial services and two new meter pits were installed in the Municipality.

The Poplar Bluff Regional Reservoir should achieve substantial completion by the March 2024.

10.0 Proposed System Expansion in 2024

For 2024, there are plans for 3 new residential services, 0 new commercial services and two new meter pits to be installed in the Municipality.

The Poplar Bluff Regional Reservoir is forecast for total completion by April 2024.

APPENDIX A
RM of Portage la Prairie (Cartier Regional) 157.00
Bacteriological, THM & HAA Analysis Results

THM & HAA Analysis Completed in Even Years Only

Rural Municipality of Portage la Prairie

Water Testing Results

Collection Date (yyy-mm-dd)	Public Water System	Sample Identification	Sample Number	Chlorine Free (mg/L)	Chlorine Total (mg/L)	Temperature (°C)	Total Coliforms (MPN/100 mL)	Escherichia Coliforms (MPN/100 mL)	Heterotropic Plate Count (CFU/mL)	Total Trihalomethanes (mg/L)	Total Haloacetic Acids (µg/L)
2023-01-03	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ SOS	L2744294-1	1.21	1.4	13.4	0	0	-	-	-
2023-01-03	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 60/26	L2744294-2	1.31	1.44	13.4	0	0	-	-	-
2023-01-16	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK N @ ONF 62/28	L2745147-1	1.33	1.62	10.9	0	0	-	-	-
2023-01-16	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 23/64	L2745147-2	1.39	1.50	10.9	0	0	-	-	-
2023-01-30	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ SOS	L2745993-1	1.06	1.12	7.2	0	0	-	-	-
2023-01-30	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 59/28	L2745993-2	1.28	1.43	7.2	0	0	-	-	-
2023-01-31	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ SOS	L2746015-1	0.13	0.29	9.5	0	0	-	-	-
2023-01-31	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ Oakville Hall	L274605-3	1.24	1.42	9.5	0	0	-	-	-
2023-01-31	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 64/23	L2746015-4	1.29	1.54	9.5	0	0	-	-	-
2023-02-13	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK N @ ONF 65/19	L2746944-1	1.19	1.31	14.1	0	0	-	-	-
2023-02-13	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 64/24	L2746944-2	1.33	1.46	14.1	0	0	-	-	-
2023-02-24	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ Resivoir Yard	L2747850-1	1.14	1.43	14.5	0	0	-	-	-
2023-02-24	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @ Grey Booster #1	L2747850-2	1.80	2.02	14.5	0	0	-	-	-
2023-02-24	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @ Grey Booster #2	L2747850-3	1.62	1.68	14.5	0	0	-	-	-
2023-02-27	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ SOS	L2748016-1	0.73	0.91	11.0	0	0	-	-	-
2023-02-27	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 60/26	L2748013-2	0.27	0.41	11.0	0	0	-	-	-
2023-03-13	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK N @ ONF 65/14	L2748837-1	1.40	1.72	10.0	0	0	10	-	-
2023-03-13	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 58/21	L2748837-2	1.43	1.62	10.0	0	0	<10	-	-
2023-03-27	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ SOS	L2749525-1	0.92	1.11	9.9	0	0	-	-	-
2023-03-27	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 60/25	L2749525-2	2.01	2.07	9.9	0	0	-	-	-
2023-04-11	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK N @ ONF RR/21	WP2304793-001	0.85	1.02	10.6	<1	<1	-	-	-
2023-04-11	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 60/23	WP2304793-002	1.77	1.81	10.6	<1	<1	-	-	-
2023-04-24	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ SOS	WP2305818-001	1.33	1.46	16.6	<1	<1	-	-	-
2023-04-24	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 58/21	WP2305818-002	1.28	1.39	16.6	<1	<1	-	-	-
2023-05-03	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ 4th St HP A	WP2306686-001	1.46	1.57	17.0	<1	<1	-	-	-
2023-05-03	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ 4th St HP B	WP2306686-002	1.45	1.69	17.0	<1	<1	-	-	-
2023-05-08	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK N @ ONF 65/19	WP2307267-001	1.27	1.34	7.7	<1	<1	-	-	-
2023-05-08	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 61/32	WP2307267-002	1.21	1.32	7.7	<1	<1	-	-	-
2023-05-23	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ SOS	WP2309181-001	0.71	0.92	12.2	<1	<1	-	-	-
2023-05-23	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 60/26	WP2309181-002	0.24	0.37	12.2	<1	<1	-	-	-
2023-06-05	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK N @ ONF RR/430	WP2310776-001	1.19	1.26	13.9	<1	<1	-	-	-
2023-06-05	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 64/24	WP2310776-002	1.21	1.34	13.9	<1	<1	-	-	-
2023-06-19	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ SOS	WP2312549-001	0.69	0.89	20.2	<1	<1	<10	-	-
2023-06-19	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF61/23	WP2312549-002	1.43	1.49	20.2	<1	<1	<10	-	-
2023-07-04	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF62/25	WP2314119-001	1.53	1.69	21.4	1	<1	-	-	-
2023-07-04	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK N @ ONF64/18	WP2314121-001	1.67	1.91	21.5	<1	<1	<10	-	-
2023-07-06	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @ OSF62/25	WP2314575-001	1.65	1.72	15.8	<1	<1	-	-	-
2023-07-17	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ SOS	WP2315812-001	1.51	1.65	16.7	<1	<1	-	-	-
2023-07-17	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF331/32	WP2315812-002	1.58	1.76	16.7	<1	<1	-	-	-
2023-07-26	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ 405 3rd Ave	WP2316965-001	1.61	1.37	14.5	<1	<1	-	-	-
2023-08-14	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ SOS	WP2319197-001	1.45	1.66	21.1	<1	<1	-	-	-
2023-08-14	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 60/25	WP2319197-002	1.91	2.04	21.1	<1	<1	-	-	-
2023-08-28	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK N @ ONF 66/25	WP2321286-001	1.39	1.57	14.7	<1	<1	-	-	-
2023-08-28	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 60/25	WP2321286-001	1.51	1.66	14.7	<1	<1	-	-	-
2023-09-11	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ SOS	WP2322758-001	1.39	1.52	7.4	<1	<1	<10	-	-
2023-09-11	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 60/23	WP2322758-002	1.50	1.67	7.4	<1	<1	<10	-	-
2023-09-25	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK N @ ONF 60/20	WP2324389-001	0.71	0.86	13.1	<1	<1	<10	-	-
2023-09-25	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 61/27	WP2324389-002	1.26	1.42	13.1	<1	<1	<10	-	-
2023-10-10	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ SOS	WP2326035-001	1.13	1.34	10.6	<1	<1	-	-	-
2023-10-10	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 54/26	WP2326035-002	1.53	1.58	10.6	<1	<1	-	-	-
2023-10-23	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK N @ ONF 64/18	WP2327244-001	0.51	0.62	17.1	<1	<1	-	-	-
2023-10-23	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 64/24	WP2327244-002	1.28	1.56	17.1	<1	<1	-	-	-
2023-11-02	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ OSM	WP2328489-001	0.83	0.99	15.6	<1	<1	-	-	-
2023-11-06	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ SOS	WP2328744-001	0.43	0.67	17.3	<1	<1	-	-	-
2023-11-06	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 61/23	WP2328744-002	0.24	0.36	17.3	<1	<1	-	-	-
2023-11-20	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK N @ ONF 65/19	WP2330155-001	1.24	1.44	7.1	<1	<1	-	-	-
2023-11-20	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 61/32	WP2330155-002	1.23	1.27	7.1	<1	<1	-	-	-
2023-11-22	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ OSM	WP2330541-001	0.47	0.61	17.5	<1	<1	-	-	-
2023-12-04	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK T @ SOS	WP2331509-001	0.80	0.93	14.8	<1	<1	<10	-	-
2023-12-04	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 64/28	WP2331509-002	0.44	0.61	14.8	<1	<1	<10	-	-
2023-12-18	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK N @ ONF RR/21	WP2332854-001	0.82	0.88	9.1	<1	<1	<10	-	-
2023-12-18	157.00	RM PLAP-C 3 - DISTRIBUTION - OAK S @OSF 61/23	WP2332854-002	1.49	1.52	9.1	<1	<1	<10	-	-

APPENDIX B
RM of Portage la Prairie (Portage la Prairie) 171.25
Bacteriological, THM & HAA Analysis Results

THM & HAA Analysis Completed in Even Years Only

Rural Municipality of Portage la Prairie

Water Testing Results

Collection Date (yyy-mm-dd)	Public Water System	Sample Identification	Sample Number	Chlorine Free (mg/L)	Chlorine Total (mg/L)	Temperature (°C)	Total Coliforms (MPN/100 mL)	Escherichia Coliforms (MPN/100 mL)	Heterotropic Plate Count (CFU/mL)	Total Trihalomethanes (mg/L)	Total Haloacetic Acids (µg/L)
2023-01-03	171.25	PLAP RM 3 - DISTRIBUTION #3 @ PPF 70/22	L2744295-3	0.21	0.37	13.4	0	0			
2023-01-05	171.25	PLAP RM 3 - DISTRIBUTION #3 @ High Bluff Hall	L2744509-10	0.74	0.95	9.3	0	0	-	-	-
2023-01-05	171.25	PLAP RM 3 - DISTRIBUTION #3 @ High Bluff Hall	L2744509-3	1.31	1.54	9.3	0	0	-	-	-
2023-01-05	171.25	PLAP RM 3 - DISTRIBUTION #3 @ High Bluff Hall	L2744509-9	1.13	1.47	9.3	0	0	-	-	-
2023-01-09	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MDF 76/45	L2744699-1	0.34	0.49	10.8	0	0	-	-	-
2023-01-09	171.25	PLAP RM 3 - DISTRIBUTION #5 @ 1AW-F5	L2744699-2	0.84	1.06	10.8	0	0	-	-	-
2023-01-16	171.25	PLAP RM 3 - DISTRIBUTION #4 @ PNF 68/35	L2745148-1	0.98	1.21	11.3	0	0	-	-	-
2023-01-23	171.25	PLAP RM 3 - DISTRIBUTION #1 @ BSF 63/PWR	L2745585-1	1.44	1.86	9.9	0	0	-	-	-
2023-01-23	171.25	PLAP RM 3 - DISTRIBUTION #6 @ GBF 60/39B	L2745585-2	0.17	0.37	9.9	0	0	-	-	-
2023-01-30	171.25	PLAP RM 3 - DISTRIBUTION #3 @ 20 Macdonald St	L2746007-3	1.17	1.68	7.1	0	0	-	-	-
2023-02-06	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MDF 44/73	L2746474-2	1.14	1.89	12.8	0	0	-	-	-
2023-02-06	171.25	PLAP RM 3 - DISTRIBUTION #5 @ WWTP	L2746474-6	1.10	1.27	12.8	0	0	-	-	-
2023-02-13	171.25	PLAP RM 3 - DISTRIBUTION #1 @ YHBS	L2746938-1	0.26	0.41	14.8	0	0	-	-	-
2023-02-13	171.25	PLAP RM 3 - DISTRIBUTION #4 @ PNF 70/35	L2746942-4	0.95	1.61	14.1	0	0	-	-	-
2023-02-21	171.25	PLAP RM 3 - DISTRIBUTION #1 @ BSF 62/42	L2747496-1	0.12	0.20	12.2	0	0	-	-	-
2023-02-21	171.25	PLAP RM 3 - DISTRIBUTION #6 @ GBF62/36	L2747496-6	1.52	1.75	12.2	0	0	-	-	-
2023-02-21	171.25	PLAP RM 3 - DISTRIBUTION #1 @ YHBS	L2747519-1	0.31	0.49	13.1	0	0	-	-	-
2023-02-27	171.25	PLAP RM 3 - DISTRIBUTION #3 @ HBF67/32	L2748018-1	0.37	0.53	10.6	0	0	-	-	-
2023-03-06	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MDF 69/46	L2748446-2	0.42	0.59	6.0	0	0	<10	-	-
2023-03-06	171.25	PLAP RM 3 - DISTRIBUTION #3 @ HBF67/32	L2748446-3	0.89	1.02	6.0	0	0	<10	-	-
2023-03-06	171.25	PLAP RM 3 - DISTRIBUTION #5 @ PC-H1	L2748446-7	0.34	0.48	6.0	0	0	<10	-	-
2023-03-13	171.25	PLAP RM 3 - DISTRIBUTION #4 @ PNF 70/35	L2748836-4	1.47	1.67	10.0	0	0	20	-	-
2023-03-13	171.25	PLAP RM 3 - DISTRIBUTION #5 @ PC-H1	L2748831-5	1.49	1.60	10.0	0	0	-	-	-
2023-03-20	171.25	PLAP RM 3 - DISTRIBUTION #1 @ BSF64/43	L2749209-9	0.13	0.21	10.9	0	0	>3000	-	-
2023-03-20	171.25	PLAP RM 3 - DISTRIBUTION #6 @ GBF59/36B	L2749209-6	1.21	1.49	10.9	0	0	<10	-	-
2023-03-27	171.25	PLAP RM 3 - DISTRIBUTION #1 @ BSF 64/43	L2749528-1	0.11	0.23	10.1	0	0	<10	-	-
2023-03-28	171.25	PLAP RM 3 - DISTRIBUTION #3 @ PPF 70/22	L2749527-3	0.13	0.27	10.7	0	0	-	-	-
2023-04-03	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MDF 69/46	WP2304091-001	0.50	0.89	13.6	<1	<1	-	-	-
2023-04-03	171.25	PLAP RM 3 - DISTRIBUTION #5 @ 1AW-Hydrant	WP2304119-001	1.11	1.34	13.6	<1	<1	<10	-	-
2023-04-11	171.25	PLAP RM 3 - DISTRIBUTION #4 @ PNF 71/37	WP2304794-001	0.58	0.82	12.2	<1	<1	-	-	-
2023-04-17	171.25	PLAP RM 3 - DISTRIBUTION #1 @ BSF 63/45	WP2305218-001	0.13	0.40	12.5	<1	<1	-	-	-
2023-04-17	171.25	PLAP RM 3 - DISTRIBUTION #6 @ GBF 62/35	WP2305218-002	0.48	1.19	12.5	<1	<1	-	-	-
2023-04-24	171.25	PLAP RM 3 - DISTRIBUTION #3 @ PF-Hydrant	WP2305817-001	1.55	1.76	16.6	<1	<1	-	-	-
2023-05-01	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MDF 69/46	WP2306466-001	0.22	0.30	8.5	<1	<1	-	-	-
2023-05-01	171.25	PLAP RM 3 - DISTRIBUTION #5 @ WWTP	WP2306466-002	0.69	1.25	8.5	<1	<1	-	-	-
2023-05-08	171.25	PLAP RM 3 - DISTRIBUTION #4 @ PNF 70/35	WP2307255-001	0.90	1.13	7.7	<1	<1	-	-	-
2023-05-08	171.25	PLAP RM 3 - DISTRIBUTION #1 @ YH BOOSTER	WP2307260-001	0.47	0.61	7.7	<1	<1	-	-	-
2023-05-10	171.25	PLAP RM 3 - DISTRIBUTION #1 @ YH BOOSTER	WP2307697-001	0.71	0.93	11.5	<1	<1	-	-	-
2023-05-15	171.25	PLAP RM 3 - DISTRIBUTION #4 @ Delta CG East Start Up	WP2308245-001	0.31	0.71	14.3	<1	<1	-	-	-
2023-05-15	171.25	PLAP RM 3 - DISTRIBUTION #4 @ Delta CG West Start Up	WP2308245-002	0.39	0.67	14.3	<1	<1	-	-	-
2023-05-15	171.25	PLAP RM 3 - DISTRIBUTION #1 @ BSF 65/47	WP2308249-001	0.80	0.91	14.3	<1	<1	-	-	-
2023-05-15	171.25	PLAP RM 3 - DISTRIBUTION #6 @ GBF 62.5/38	WP2308249-002	1.19	1.54	14.3	<1	<1	-	-	-
2023-05-23	171.25	PLAP RM 3 - DISTRIBUTION #3 @ HBF 68/32	WP2309180-001	0.41	0.62	12.2	<1	<1	-	-	-
2023-05-29	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MFD 73/45B	WP2309884-001	0.75	1.25	15.1	<1	<1	-	-	-
2023-05-29	171.25	PLAP RM 3 - DISTRIBUTION #5 @ PC-H1	WP2309884-001	0.97	1.48	15.1	<1	<1	-	-	-
2023-06-05	171.25	PLAP RM 3 - DISTRIBUTION #4 @ Delta CG	WP2310779-001	1.07	1.41	13.8	<1	<1	-	-	-
2023-06-12	171.25	PLAP RM 3 - DISTRIBUTION #1 @ BSF 62/46	WP2311656-001	0.88	1.17	11.3	<1	<1	<10	-	-
2023-06-12	171.25	PLAP RM 3 - DISTRIBUTION #6 @ GBF 62/36	WP2311656-002	1.42	1.81	11.3	<1	<1	<10	-	-
2023-06-16	171.25	PLAP RM 3 - DISTRIBUTION #1 @ Enns Brothers	WP2312194-001	0.43	0.71	19.0	<1	<1	-	-	-
2023-06-19	171.25	PLAP RM 3 - DISTRIBUTION #3 @ PPF 70/22	WP2312548-001	0.72	0.93	22.1	<1	<1	<10	-	-
2023-06-26	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MDF 69/46	WP2313241-001	1.13	1.46	19.6	<1	<1	<10	-	-
2023-06-26	171.25	PLAP RM 3 - DISTRIBUTION #5 @ 1AW Hydrant	WP2313241-002	0.38	0.89	19.6	<1	<1	<10	-	-
2023-07-04	171.25	PLAP RM 3 - DISTRIBUTION #4 @ Delta CG	WP2314118-001	0.80	1.23	21.1	<1	<1	-	-	-
2023-07-10	171.25	PLAP RM 3 - DISTRIBUTION #1 @ BSF 63/PWR	WP2314956-001	1.65	2.12	13.1	<1	<1	-	-	-
2023-07-10	171.25	PLAP RM 3 - DISTRIBUTION #6 @ GBF61/33	WP2314956-002	0.74	1.18	13.1	<1	<1	-	-	-
2023-07-17	171.25	PLAP RM 3 - DISTRIBUTION #3 @ 20 Macdonald st	WP2315813-001	1.28	1.74	15.9	<1	<1	-	-	-
2023-07-24	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MDF 69/46	WP2316600-001	0.53	0.96	22.0	<1	<1	-	-	-
2023-07-24	171.25	PLAP RM 3 - DISTRIBUTION #5 @ WWTP	WP2316600-002	0.21	0.48	22.0	<1	<1	-	-	-
2023-07-31	171.25	PLAP RM 3 - DISTRIBUTION #4 @ Delta CG	WP2317655-001	1.06	1.43	19.0	<1	<1	-	-	-
2023-08-08	171.25	PLAP RM 3 - DISTRIBUTION #1 @ BSF 62/46	WP2318445-001	1.80	2.01	23.1	<1	<1	-	-	-
2023-08-08	171.25	PLAP RM 3 - DISTRIBUTION #6 @ GBF 62/35	WP2318445-002	1.21	1.39	23.1	<1	<1	-	-	-
2023-08-14	171.25	PLAP RM 3 - DISTRIBUTION #3 @ HBF 69/34	WP2319193-001	0.23	0.56	21.1	<1	<1	-	-	-
2023-08-21	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MDF 69/46	WP2320159-001	0.39	0.84	16.7	<1	<1	-	-	-
2023-08-21	171.25	PLAP RM 3 - DISTRIBUTION #5 @ PC Hydrant	WP2320159-002	0.76	0.92	16.7	<1	<1	-	-	-
2023-08-28	171.25	PLAP RM 3 - DISTRIBUTION #4 @ PNF 18st	WP2321285-001	1.09	1.39	15.8	<1	<1	-	-	-
2023-09-05	171.25	PLAP RM 3 - DISTRIBUTION #1 @ BSF 62/42	WP2322121-001	0.29	0.61	8.7	<1	<1	<10	-	-
2023-09-05	171.25	PLAP RM 3 - DISTRIBUTION #6 @ GBF62/35	WP2322121-002	0.69	0.98	8.7	<1	<1	<10	-	-
2023-09-06	171.25	PLAP RM 3 - DISTRIBUTION #1 @ Burnside Booster	WP2322392-001	2.15	2.20	11.1	<1	<1	-	-	-
2023-09-06	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MDF TCH/41	WP2322392-002	0.78	0.90	11.1	<1	<1	-	-	-
2023-09-06	171.25	PLAP RM 3 - DISTRIBUTION #2 @ Macdonald Booster	WP2322392-003	0.91	1.20	11.1	<1	<1	-	-	-
2023-09-06	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MDF TCH/47	WP2322392-004	0.30	0.48	11.1	<1	<1	-	-	-
2023-09-06	171.25	PLAP RM 3 - DISTRIBUTION #1 @ BSF 61/46	WP2322392-005	0.27	0.52	11.1	<1	<1	-	-	-
2023-09-07	171.25	PLAP RM 3 - DISTRIBUTION #1 @ Burnside Booster	WP2322522-001	2.14	2.23	11.9	<1	<1	-	-	-
2023-09-07	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MDF TCH/47	WP2322522-002	0.44	0.57	11.9	<1	<1	-	-	-
2023-09-07	171.25	PLAP RM 3 - DISTRIBUTION #1 @ BSF 61/46	WP2322522-003	0.26	0.53	11.9	<1	<1	-	-	-
2023-09-07	171.25	PLAP RM 3 - DISTRIBUTION #2 @ Macdonald Booster	WP2322522-004	1.20	1.61	11.9	<1	<1	-	-	-
2023-09-07	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MDF TCH/41	WP2322522-005	0.77	0.96	11.9	<1	<1	-	-	-
2023-09-11	171.25	PLAP RM 3 - DISTRIBUTION #3 @ PPF 70/22	WP2322757-001	0.42	0.69	7.4	<1	<1	<10	-	-
2023-09-18	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MDF 67/43	WP2323679-001	0.93	1.42	17.0	<1	<1	-	-	-
2023-09-18	171.25	PLAP RM 3 - DISTRIBUTION #5 @ 1AW F3	WP2323679-002	0.54	0.75	17.0	<1	<1	-	-	-
2023-09-25	171.25	PLAP RM 3 - DISTRIBUTION #4 @ Delta CG	WP2324390-001	0.44	0.75	13.1	<1	<1	-	-	-
2023-10-02	171.25	PLAP RM 3 - DISTRIBUTION #1 @ BSF 63/45	WP2325151-001	0.19	0.37	13.8	<1	<1	-	-	-
2023-10-02	171.25	PLAP RM 3 - DISTRIBUTION #6 @ GBF 60/240	WP2325151-002	1.40	1.77	13.8	<1	<1	-	-	-
2023-10-10	171.25	PLAP RM 3 - DISTRIBUTION #3 @ 20 Macdonald St	WP2326039-001	1.23	1.56	9.7	<1	<1	-	-	-
2023-10-16	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MDF 67/40	WP2326603-001	0.67	0.97	9.2	<1	<1	-	-	-
2023-10-16	171.25	PLAP RM 3 - DISTRIBUTION #5 @ WWT F1	WP2326603-001	0.40	0.65	9.2	<1	<1	-	-	-
2023-10-23	171.25	PLAP RM 3 - DISTRIBUTION #4 @ PNF 70/31	WP2327242-001	0.19	0.37	16.4	<1	<1	-	-	-
2023-10-30	171.25	PLAP RM 3 - DISTRIBUTION #1 @ BSF 63/PWR	WP2328113-001	1.64	2.07	7.4	<1	<1	-	-	-
2023-10-31	171.25	PLAP RM 3 - DISTRIBUTION #6 @ GBF 55/39	WP2328113-002	0.20	0.58	7.4	<1	<1	-	-	-
2023-11-06	171.25	PLAP RM 3 - DISTRIBUTION #3 @ HB	WP2328741-001	0.17	0.32	16.2	<1	<1	-	-	-
2023-11-14	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MDF 69/46	WP2329593-001	0.24	0.43	15.1	<1	<1	-	-	-
2023-11-14	171.25	PLAP RM 3 - DISTRIBUTION #5 @ PC-H1	WP2329593-002	0.61	0.78	15.1	<1	<1	-	-	-
2023-11-20	171.25	PLAP RM 3 - DISTRIBUTION #4 @ PNF 69/240	WP2330156-001	1.09	1.58	7.7	<1	<1	-	-	-
2023-11-27	171.25	PLAP RM 3 - DISTRIBUTION #1 @ BSF 65/45	WP2330948-001	0.27	0.41	8.6	<1	<1	-	-	-
2023-11-27	171.25	PLAP RM 3 - DISTRIBUTION #6 @ GBF 61/33	WP2330948-002	0.18	0.34	8.6	<1	<1	-	-	-
2023-11-29	171.25	PLAP RM 3 - DISTRIBUTION #1 @ IND- EAST	WP2331176-001	0.66	1.31	12.6	<1	<1	-	-	-
2023-12-04	171.25	PLAP RM 3 - DISTRIBUTION #3 @ PPF 26H/21	WP2331508-001	0.26	0.41	14.8	<1	<1	<10	-	-
2023-12-11	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MDF TCH/41	WP2332260-001	0.19	0.30	2.5	<1	<1	NO RESULT	-	-
2023-12-11	171.25	PLAP RM 3 - DISTRIBUTION #5 @ 1AW-F2	WP2332260-002	0.25	0.60	2.5	<1	<1	NO RESULT	-	-
2023-12-14	171.25	PLAP RM 3 - DISTRIBUTION #3 @ HB HALL	WP2332632-001	0.52	1.14	18.4	<1	<1	-	-	-
2023-12-14	171.25	PLAP RM 3 - DISTRIBUTION #3 @ FLUSH EAST OF HB	WP2332632-002	0.67	1.25	18.4	<1	<1	-	-	-
2023-12-14	171.25	PLAP RM 3 - DISTRIBUTION #3 @ FLUSH 26/430	WP2332632-003	0.19	0.74	18.4	<1	<1	-	-	-
2023-12-14	171.25	PLAP RM 3 - DISTRIBUTION #3 @ FLUSH INTO PP	WP2332632-004	0.54	1.47	18.4	<1	<1	-	-	-
2023-12-14	171.25	PLAP RM 3 - DISTRIBUTION #3 @ PP RINK	WP2332632-005	0.32	0.66	18.4	<1	<1	-	-	-
2023-12-15	171.25	PLAP RM 3 - DISTRIBUTION #1 @ POP BLUFF IND PARK	WP2332670-001	0.10	0.25	18.5	<1	<1	-	-	-
2023-12-18	171.25	PLAP RM 3 - DISTRIBUTION #1 @ BSF 63/PWR	WP2332855-001	2.03	2.20	6.2	<1	<1	<10	-	-
2023-12-18	171.25	PLAP RM 3 - DISTRIBUTION #4 @ PNF 72/35	WP2332855-002	0.33	0.49	6.2	<1	<1	60	-	-
2023-12-18	171.25	PLAP RM 3 - DISTRIBUTION #6 @ GBF 58/34	WP2332855-003	0.25	0.37	6.2	<1	<1	30	-	-
2023-12-18	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MDF TCH/41	WP2332852-001	0.23	0.29	6.7	-	-	>3000	-	-
2023-12-18	171.25	PLAP RM 3 - DISTRIBUTION #5 @ 1AW-F2	WP2332852-002	0.27	0.56	6.7	-	-	<10	-	-
2024-01-02	171.25	PLAP RM 3 - DISTRIBUTION #2 @ MDF TCH/41	WP2400156-001	0.26	0.60	10.7	-	-	<10	-	-

APPENDIX C
RM of Portage la Prairie
Total Metal Analysis Results

CERTIFICATE OF ANALYSIS

Work Order	: **WP2315292**	Page	: 1 of 4
Client	: **Manitoba Conservation & Climate**	Laboratory	: ALS Environmental - Winnipeg
Contact	: Haley Champagne	Account Manager	: Craig Riddell
Address	: 14 Fultz Boulevard Winnipeg MB Canada R3Y 0L6	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg MB Canada R2J 3T4
Telephone	: 204 901 4947	Telephone	: +1 204 255 9720
Project	: RM OF PORTAGE LA PRAIRIE (CARTIER REGIONAL) - PWS - 157.00	Date Samples Received	: 13-Jul-2023 10:25
PO	: ----	Date Analysis Commenced	: 14-Jul-2023
C-O-C number	: ----	Issue Date	: 19-Jul-2023 08:23
Sampler	: ----		
Site	: Manitoba		
Quote number	: MB Environment , Climate and Parks		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
Rhovee Guevarra		Metals, Winnipeg, Manitoba

General Comments

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

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

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

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

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
µg/L	micrograms per litre

<: less than.

>: greater than.

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

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

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

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	RM OF PORTAGE-CARTIER 3 - DISTRIBUTION MID POINT	----	----	----	----
					Client sampling date / time	12-Jul-2023 10:45	----	----	----	----
						WP2315292-001	--------	--------	--------	--------
						Result	----	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E420/WP	3.0	µg/L		4.6	----	----	----	----
Antimony, total	7440-36-0	E420/WP	0.10	µg/L		0.11	----	----	----	----
Arsenic, total	7440-38-2	E420/WP	0.10	µg/L		0.89	----	----	----	----
Barium, total	7440-39-3	E420/WP	0.10	µg/L		11.6	----	----	----	----
Beryllium, total	7440-41-7	E420/WP	0.100	µg/L		<0.100	----	----	----	----
Bismuth, total	7440-69-9	E420/WP	0.050	µg/L		<0.050	----	----	----	----
Boron, total	7440-42-8	E420/WP	10	µg/L		134	----	----	----	----
Cadmium, total	7440-43-9	E420/WP	0.0050	µg/L		<0.0050	----	----	----	----
Calcium, total	7440-70-2	E420.Ca-L/WP	10	µg/L		11100	----	----	----	----
Cesium, total	7440-46-2	E420/WP	0.010	µg/L		<0.010	----	----	----	----
Chromium, total	7440-47-3	E420/WP	0.50	µg/L		<0.50	----	----	----	----
Cobalt, total	7440-48-4	E420/WP	0.10	µg/L		<0.10	----	----	----	----
Copper, total	7440-50-8	E420/WP	0.50	µg/L		8.20	----	----	----	----
Iron, total	7439-89-6	E420/WP	10	µg/L		36	----	----	----	----
Lead, total	7439-92-1	E420/WP	0.050	µg/L		0.136	----	----	----	----
Lithium, total	7439-93-2	E420.Li-L/WP	0.20	µg/L		19.7	----	----	----	----
Magnesium, total	7439-95-4	E420/WP	5.0	µg/L		7550	----	----	----	----
Manganese, total	7439-96-5	E420/WP	0.10	µg/L		7.98	----	----	----	----
Molybdenum, total	7439-98-7	E420/WP	0.050	µg/L		0.491	----	----	----	----
Nickel, total	7440-02-0	E420/WP	0.50	µg/L		<0.50	----	----	----	----
Phosphorus, total	7723-14-0	E420.P-L/WP	30	µg/L		77	----	----	----	----
Potassium, total	7440-09-7	E420/WP	50	µg/L		4580	----	----	----	----
Rubidium, total	7440-17-7	E420/WP	0.20	µg/L		0.77	----	----	----	----
Selenium, total	7782-49-2	E420/WP	0.050	µg/L		0.158	----	----	----	----
Silicon, total	7440-21-3	E420/WP	100	µg/L		3120	----	----	----	----
Silver, total	7440-22-4	E420/WP	0.010	µg/L		<0.010	----	----	----	----
Sodium, total	7440-23-5	E420/WP	50	µg/L		34500	----	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	RM OF PORTAGE-CARTIER 3 - DISTRIBUTION MID POINT	----	----	----	----
					Client sampling date / time	12-Jul-2023 10:45	----	----	----	----
						WP2315292-001	--------	--------	--------	--------
						Result	----	----	----	----
Total Metals										
Strontium, total	7440-24-6	E420/WP	0.20	µg/L		52.4	----	----	----	----
Sulfur, total	7704-34-9	E420/WP	500	µg/L		15400	----	----	----	----
Tellurium, total	13494-80-9	E420/WP	0.20	µg/L		0.28	----	----	----	----
Thallium, total	7440-28-0	E420/WP	0.010	µg/L		<0.010	----	----	----	----
Thorium, total	7440-29-1	E420/WP	0.10	µg/L		<0.10	----	----	----	----
Tin, total	7440-31-5	E420/WP	0.10	µg/L		<0.10	----	----	----	----
Titanium, total	7440-32-6	E420/WP	0.30	µg/L		<0.30	----	----	----	----
Tungsten, total	7440-33-7	E420/WP	0.10	µg/L		<0.10	----	----	----	----
Uranium, total	7440-61-1	E420/WP	0.010	µg/L		0.381	----	----	----	----
Vanadium, total	7440-62-2	E420/WP	0.50	µg/L		0.64	----	----	----	----
Zinc, total	7440-66-6	E420/WP	3.0	µg/L		<3.0	----	----	----	----
Zirconium, total	7440-67-7	E420/WP	0.20	µg/L		<0.20	----	----	----	----

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

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

ALS Canada Ltd.

right solutions.
right partner.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WP2315292**	Page	: 1 of 6
Client	: **Manitoba Conservation & Climate**	Laboratory	: ALS Environmental - Winnipeg
Contact	: Haley Champagne	Account Manager	: Craig Riddell
Address	: 14 Fultz Boulevard Winnipeg MB Canada R3Y 0L6	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 901 4947	Telephone	: +1 204 255 9720
Project	: RM OF PORTAGE LA PRAIRIE (CARTIER REGIONAL) - PWS - 157.00	Date Samples Received	: 13-Jul-2023 10:25
PO	: ----	Issue Date	: 19-Jul-2023 08:23
C-O-C number	: ----		
Sampler	: ----		
Site	: Manitoba		
Quote number	: MB Environment , Climate and Parks		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

Key

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

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

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

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Method Blank (MB) Values								
Total Metals	QC-MRG4-1038485 001	----	Lithium, total	7439-93-2	E420.Li-L	0.00037 B mg/L	0.0002 mg/L	Blank result exceeds permitted value

Result Qualifiers

Qualifier	Description
B	*Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.*

Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

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

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Calcium in Water by CRC ICPMS (Low level)										
HDPE total (nitric acid) RM OF PORTAGE-CARTIER 3 - DISTRIBUTION MID POINT	E420.Ca-L	12-Jul-2023	14-Jul-2023	180 days	2 days	✓	14-Jul-2023	178 days	0 days	✓
Total Metals : Total Lithium in Water by CRC ICPMS (Low Level)										
HDPE total (nitric acid) RM OF PORTAGE-CARTIER 3 - DISTRIBUTION MID POINT	E420.Li-L	12-Jul-2023	14-Jul-2023	180 days	2 days	✓	14-Jul-2023	178 days	0 days	✓
Total Metals : Total metals in Water by CRC ICPMS										
HDPE total (nitric acid) RM OF PORTAGE-CARTIER 3 - DISTRIBUTION MID POINT	E420	12-Jul-2023	14-Jul-2023	180 days	2 days	✓	14-Jul-2023	178 days	0 days	✓
Total Metals : Total Phosphorus in Water by CRC-ICPMS (Low level)										
HDPE total (nitric acid) RM OF PORTAGE-CARTIER 3 - DISTRIBUTION MID POINT	E420.P-L	12-Jul-2023	14-Jul-2023	180 days	2 days	✓	14-Jul-2023	178 days	0 days	✓

Legend & Qualifier Definitions

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

Quality Control Parameter Frequency Compliance

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

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Total Calcium in Water by CRC ICPMS (Low level)	E420.Ca-L	1038485	1	2	50.0	5.0	✓
Total Lithium in Water by CRC ICPMS (Low Level)	E420.Li-L	1038487	1	2	50.0	5.0	✓
Total metals in Water by CRC ICPMS	E420	1038488	1	20	5.0	5.0	✓
Total Phosphorus in Water by CRC-ICPMS (Low level)	E420.P-L	1038486	1	17	5.8	5.0	✓
Laboratory Control Samples (LCS)							
Total Calcium in Water by CRC ICPMS (Low level)	E420.Ca-L	1038485	1	2	50.0	5.0	✓
Total Lithium in Water by CRC ICPMS (Low Level)	E420.Li-L	1038487	1	2	50.0	5.0	✓
Total metals in Water by CRC ICPMS	E420	1038488	1	20	5.0	5.0	✓
Total Phosphorus in Water by CRC-ICPMS (Low level)	E420.P-L	1038486	1	17	5.8	5.0	✓
Method Blanks (MB)							
Total Calcium in Water by CRC ICPMS (Low level)	E420.Ca-L	1038485	1	2	50.0	5.0	✓
Total Lithium in Water by CRC ICPMS (Low Level)	E420.Li-L	1038487	1	2	50.0	5.0	✓
Total metals in Water by CRC ICPMS	E420	1038488	1	20	5.0	5.0	✓
Total Phosphorus in Water by CRC-ICPMS (Low level)	E420.P-L	1038486	1	17	5.8	5.0	✓
Matrix Spikes (MS)							
Total Calcium in Water by CRC ICPMS (Low level)	E420.Ca-L	1038485	1	2	50.0	5.0	✓
Total Lithium in Water by CRC ICPMS (Low Level)	E420.Li-L	1038487	1	2	50.0	5.0	✓
Total metals in Water by CRC ICPMS	E420	1038488	1	20	5.0	5.0	✓
Total Phosphorus in Water by CRC-ICPMS (Low level)	E420.P-L	1038486	1	17	5.8	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total metals in Water by CRC ICPMS	E420 ALS Environmental - Winnipeg	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Calcium in Water by CRC ICPMS (Low level)	E420.Ca-L ALS Environmental - Winnipeg	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.
Total Lithium in Water by CRC ICPMS (Low Level)	E420.Li-L ALS Environmental - Winnipeg	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.
Total Phosphorus in Water by CRC-ICPMS (Low level)	E420.P-L ALS Environmental - Winnipeg	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.

QUALITY CONTROL REPORT

Work Order	: **WP2315292**	Page	: 1 of 10
Client	: Manitoba Conservation & Climate	Laboratory	: ALS Environmental - Winnipeg
Contact	: Haley Champagne	Account Manager	: Craig Riddell
Address	: 14 Fultz Boulevard Winnipeg MB Canada R3Y 0L6	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	:	Telephone	: +1 204 255 9720
Project	: RM OF PORTAGE LA PRAIRIE (CARTIER REGIONAL) - PWS - 157.00	Date Samples Received	: 13-Jul-2023 10:25
PO	: ----	Date Analysis Commenced	: 14-Jul-2023
C-O-C number	: ----	Issue Date	: 19-Jul-2023 08:23
Sampler	: ---- 204 901 4947		
Site	: Manitoba		
Quote number	: MB Environment , Climate and Parks		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
Rhovee Guevarra		Winnipeg Metals, Winnipeg, Manitoba

General Comments

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

Key :

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 1038485)											
WP2315288-001	Anonymous	Calcium, total	7440-70-2	E420.Ca-L	0.010	mg/L	74600 µg/L	72.6	2.64%	20%	----
Total Metals (QC Lot: 1038486)											
WP2315288-001	Anonymous	Phosphorus, total	7723-14-0	E420.P-L	0.030	mg/L	548 µg/L	0.569	3.84%	20%	----
Total Metals (QC Lot: 1038487)											
WP2315288-001	Anonymous	Lithium, total	7439-93-2	E420.Li-L	0.00020	mg/L	74.9 µg/L	0.0709	5.47%	20%	----
Total Metals (QC Lot: 1038488)											
WP2315288-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	8.4 µg/L	0.0106	0.0022	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.41 µg/L	0.00036	0.00005	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.72 µg/L	0.00070	0.00002	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	41.9 µg/L	0.0404	3.68%	20%	----
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.100 µg/L	<0.000100	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.050 µg/L	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	86 µg/L	0.084	0.002	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0050 µg/L	<0.0000050	0	Diff <2x LOR	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.034 µg/L	0.000028	0.000006	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	0.53 µg/L	0.00052	0.00001	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.10 µg/L	<0.00010	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	3.77 µg/L	0.00358	0.00019	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	39 µg/L	0.040	0.001	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	1.78 µg/L	0.00168	5.90%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	8820 µg/L	8.30	6.06%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.88 µg/L	0.00088	0.0000007	Diff <2x LOR	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	3.62 µg/L	0.00334	8.01%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.90 µg/L	0.00088	0.00002	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	16500 µg/L	15.7	5.10%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	3.92 µg/L	0.00394	0.632%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.389 µg/L	0.000465	0.000077	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	2120 µg/L	2.04	4.14%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.010 µg/L	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	111000 µg/L	107	3.51%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1038488) - continued											
WP2315288-001	Anonymous	Strontium, total	7440-24-6	E420	0.00020	mg/L	285 µg/L	0.267	6.79%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	112000 µg/L	107	4.11%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.20 µg/L	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	0.011 µg/L	0.000010	0.0000009	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.10 µg/L	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.10 µg/L	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	<0.30 µg/L	<0.00030	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.10 µg/L	<0.00010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.054 µg/L	0.000049	0.000005	Diff <2x LOR	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	1.11 µg/L	0.00107	0.00004	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	<3.0 µg/L	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.20 µg/L	<0.00020	0	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1038485)						
Calcium, total	7440-70-2	E420.Ca-L	0.01	mg/L	<0.010	----
Total Metals (QCLot: 1038486)						
Phosphorus, total	7723-14-0	E420.P-L	0.03	mg/L	<0.030	----
Total Metals (QCLot: 1038487)						
Lithium, total	7439-93-2	E420.Li-L	0.0002	mg/L	# 0.00037	B
Total Metals (QCLot: 1038488)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1038488) - continued						
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----

Qualifiers

Qualifier	Description
B	*Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.*

Laboratory Control Sample (LCS) Report

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

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1038485)									
Calcium, total	7440-70-2	E420.Ca-L	0.01	mg/L	50 mg/L	110	80.0	120	----
Total Metals (QCLot: 1038486)									
Phosphorus, total	7723-14-0	E420.P-L	0.03	mg/L	10 mg/L	117	80.0	120	----
Total Metals (QCLot: 1038487)									
Lithium, total	7439-93-2	E420.Li-L	0.0002	mg/L	0.25 mg/L	116	80.0	120	----
Total Metals (QCLot: 1038488)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	113	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	116	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	108	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	110	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	110	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	114	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	107	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	108	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	116	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	107	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	106	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	105	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	98.5	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	112	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	115	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	109	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	114	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	105	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	108	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	111	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	103	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	113	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	103	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	109	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	114	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	113	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	108	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1038488) - continued									
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	112	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	108	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	111	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	106	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	110	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	115	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	109	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	105	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	107	80.0	120	----

Matrix Spike (MS) Report

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

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1038485)										
WP2315288-001	Anonymous	Calcium, total	7440-70-2	E420.Ca-L	ND mg/L	4 mg/L	ND	70.0	130	----
Total Metals (QCLot: 1038486)										
WP2315288-001	Anonymous	Phosphorus, total	7723-14-0	E420.P-L	10.9 mg/L	10 mg/L	109	70.0	130	----
Total Metals (QCLot: 1038487)										
WP2315288-001	Anonymous	Lithium, total	7439-93-2	E420.Li-L	0.108 mg/L	0.1 mg/L	108	70.0	130	----
Total Metals (QCLot: 1038488)										
WP2315288-001	Anonymous	Aluminum, total	7429-90-5	E420	0.209 mg/L	0.2 mg/L	105	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0239 mg/L	0.02 mg/L	120	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0204 mg/L	0.02 mg/L	102	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0416 mg/L	0.04 mg/L	104	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00947 mg/L	0.01 mg/L	94.7	70.0	130	----
		Boron, total	7440-42-8	E420	0.110 mg/L	0.1 mg/L	110	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00388 mg/L	0.004 mg/L	97.0	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0107 mg/L	0.01 mg/L	107	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0423 mg/L	0.04 mg/L	106	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		Copper, total	7440-50-8	E420	0.0189 mg/L	0.02 mg/L	94.3	70.0	130	----
		Iron, total	7439-89-6	E420	1.94 mg/L	2 mg/L	97.1	70.0	130	----
		Lead, total	7439-92-1	E420	0.0185 mg/L	0.02 mg/L	92.6	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	1 mg/L	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0206 mg/L	0.02 mg/L	103	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0244 mg/L	0.02 mg/L	122	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0388 mg/L	0.04 mg/L	97.0	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	4 mg/L	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0208 mg/L	0.02 mg/L	104	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0384 mg/L	0.04 mg/L	96.0	70.0	130	----
		Silicon, total	7440-21-3	E420	10.1 mg/L	10 mg/L	101	70.0	130	----
		Silver, total	7440-22-4	E420	0.00388 mg/L	0.004 mg/L	97.1	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	2 mg/L	ND	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1038488) - continued										
WP2315288-001	Anonymous	Strontium, total	7440-24-6	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	20 mg/L	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0441 mg/L	0.04 mg/L	110	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00363 mg/L	0.004 mg/L	90.8	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0200 mg/L	0.02 mg/L	99.9	70.0	130	----
		Tin, total	7440-31-5	E420	0.0235 mg/L	0.02 mg/L	118	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0488 mg/L	0.04 mg/L	122	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0224 mg/L	0.02 mg/L	112	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00401 mg/L	0.004 mg/L	100	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.107 mg/L	0.1 mg/L	107	70.0	130	----
		Zinc, total	7440-66-6	E420	0.367 mg/L	0.4 mg/L	91.8	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0491 mg/L	0.04 mg/L	123	70.0	130	----

Manitoba

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

Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

ALS Environmental
1329 Niakwa Rd E, Unit 12, Winnipeg, MB R2J 3T4
(204) 255-9720 or 1-800-607-7555

Report to:	
Name:	Haley Champagne
Office Address:	14 Fultz Boulevard, Winnipeg, MB R3Y0L6
Email:	Haley.Champagne@gov.mb.ca
Phone:	(204) 901-4947

Additional Copy of Report sent to:
Office of Drinking Water
14 Fultz Boulevard, Winnipeg, MB R3Y 0L6
Phone: 204-945-5776
Joern.Muenster@gov.mb.ca; Melanie.Betsill@gov.mb.ca

☑ Regular Service ☐ Other
Other Service Types

ALS Contact: Craig Riddell
Contract #: 7039

Client / Project Information:		**Account: W10477**
Operation Name:	RURAL MUNICIPALITY OF PORTAGE LA PRAIRIE (CARTIER REGIONAL) - PWS	**Agency Code: 382**
Operation Code:	157.00	**Report Type: ODW - UTIL**
Operation ID:	28115	**Project: DWQ-A**
Sampled by:	Haley Champagne	

Sample Number	Station Number	Sample Identification	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Sample Date	Sample Time	Sample Matrix	Sample Type	MET-T-CCMS-WP (Total Metals)	Number of Containers
2307HC0005	MB05OGD103	RM of Portage-Cartier 3 - Distribution (mid)			2023-07-12	10:45 am	9	1	X	1

Environmental Division
Winnipeg
Work Order Reference
WP2315292

Telephone : +1 204 255 9720

15292

Special Instructions / Hazardous Details

Sample Matrix: 6-Raw Water, 9-Distributed Water, 10-Treated Water, 11-Drinking Water Undisinfected
Sample Type: 1-Grab Sample, 33-Resample, 3-Duplicate Sample, 22-Field Blank

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the adjacent worksheet.

Relinquished By:	Haley Champagne	Date & Time	July 12, 2023 4:40 PM	Validated By (lab use only):	Date & Time:
				Sample Condition (lab use only)	
Received By:		Date & Time	JUL 13 2023 8:25	Temperature 9.6	Samples Received in Good Condition? Y / N

CERTIFICATE OF ANALYSIS

Work Order	: **WP2315288**	Page	: 1 of 4
Client	: **Manitoba Conservation & Climate**	Laboratory	: ALS Environmental - Winnipeg
Contact	: Haley Champagne	Account Manager	: Craig Riddell
Address	: 14 Fultz Boulevard Winnipeg MB Canada R3Y 0L6	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg MB Canada R2J 3T4
Telephone	: 204 901 4947	Telephone	: +1 204 255 9720
Project	: RM OF PORTAGE LA PRAIRIE - PWS - 171.25	Date Samples Received	: 13-Jul-2023 08:26
PO	: ----	Date Analysis Commenced	: 14-Jul-2023
C-O-C number	: ----	Issue Date	: 19-Jul-2023 08:22
Sampler	: ----		
Site	: Manitoba		
Quote number	: MB Environment , Climate and Parks		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
Rhovee Guevarra		Metals, Winnipeg, Manitoba

General Comments

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

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

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

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

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
µg/L	micrograms per litre

<: less than.

>: greater than.

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

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

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

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	RM OF PORTAGE LA PRAIRIE 3 -DISTRIBUTION MID POINT	----	----	----	----
					Client sampling date / time	13-Jul-2023 00:00	----	----	----	----
						WP2315288-001	--------	--------	--------	--------
						Result	----	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E420/WP	3.0	µg/L		8.4	----	----	----	----
Antimony, total	7440-36-0	E420/WP	0.10	µg/L		0.41	----	----	----	----
Arsenic, total	7440-38-2	E420/WP	0.10	µg/L		0.72	----	----	----	----
Barium, total	7440-39-3	E420/WP	0.10	µg/L		41.9	----	----	----	----
Beryllium, total	7440-41-7	E420/WP	0.100	µg/L		<0.100	----	----	----	----
Bismuth, total	7440-69-9	E420/WP	0.050	µg/L		<0.050	----	----	----	----
Boron, total	7440-42-8	E420/WP	10	µg/L		86	----	----	----	----
Cadmium, total	7440-43-9	E420/WP	0.0050	µg/L		<0.0050	----	----	----	----
Calcium, total	7440-70-2	E420.Ca-L/WP	10	µg/L		74600	----	----	----	----
Cesium, total	7440-46-2	E420/WP	0.010	µg/L		0.034	----	----	----	----
Chromium, total	7440-47-3	E420/WP	0.50	µg/L		0.53	----	----	----	----
Cobalt, total	7440-48-4	E420/WP	0.10	µg/L		<0.10	----	----	----	----
Copper, total	7440-50-8	E420/WP	0.50	µg/L		3.77	----	----	----	----
Iron, total	7439-89-6	E420/WP	10	µg/L		39	----	----	----	----
Lead, total	7439-92-1	E420/WP	0.050	µg/L		1.78	----	----	----	----
Lithium, total	7439-93-2	E420.Li-L/WP	0.20	µg/L		74.9	----	----	----	----
Magnesium, total	7439-95-4	E420/WP	5.0	µg/L		8820	----	----	----	----
Manganese, total	7439-96-5	E420/WP	0.10	µg/L		0.88	----	----	----	----
Molybdenum, total	7439-98-7	E420/WP	0.050	µg/L		3.62	----	----	----	----
Nickel, total	7440-02-0	E420/WP	0.50	µg/L		0.90	----	----	----	----
Phosphorus, total	7723-14-0	E420.P-L/WP	30	µg/L		548	----	----	----	----
Potassium, total	7440-09-7	E420/WP	50	µg/L		16500	----	----	----	----
Rubidium, total	7440-17-7	E420/WP	0.20	µg/L		3.92	----	----	----	----
Selenium, total	7782-49-2	E420/WP	0.050	µg/L		0.389	----	----	----	----
Silicon, total	7440-21-3	E420/WP	100	µg/L		2120	----	----	----	----
Silver, total	7440-22-4	E420/WP	0.010	µg/L		<0.010	----	----	----	----
Sodium, total	7440-23-5	E420/WP	50	µg/L		111000	----	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	RM OF PORTAGE LA PRAIRIE 3 -DISTRIBUTION MID POINT	----	----	----	----
					Client sampling date / time	13-Jul-2023 00:00	----	----	----	----
						WP2315288-001	--------	--------	--------	--------
						Result	----	----	----	----
Total Metals										
Strontium, total	7440-24-6	E420/WP	0.20	µg/L		285	----	----	----	----
Sulfur, total	7704-34-9	E420/WP	500	µg/L		112000	----	----	----	----
Tellurium, total	13494-80-9	E420/WP	0.20	µg/L		<0.20	----	----	----	----
Thallium, total	7440-28-0	E420/WP	0.010	µg/L		0.011	----	----	----	----
Thorium, total	7440-29-1	E420/WP	0.10	µg/L		<0.10	----	----	----	----
Tin, total	7440-31-5	E420/WP	0.10	µg/L		<0.10	----	----	----	----
Titanium, total	7440-32-6	E420/WP	0.30	µg/L		<0.30	----	----	----	----
Tungsten, total	7440-33-7	E420/WP	0.10	µg/L		<0.10	----	----	----	----
Uranium, total	7440-61-1	E420/WP	0.010	µg/L		0.054	----	----	----	----
Vanadium, total	7440-62-2	E420/WP	0.50	µg/L		1.11	----	----	----	----
Zinc, total	7440-66-6	E420/WP	3.0	µg/L		<3.0	----	----	----	----
Zirconium, total	7440-67-7	E420/WP	0.20	µg/L		<0.20	----	----	----	----

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

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

ALS Canada Ltd.

right solutions.
right partner.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WP2315288**	Page	: 1 of 6
Client	: **Manitoba Conservation & Climate**	Laboratory	: ALS Environmental - Winnipeg
Contact	: Haley Champagne	Account Manager	: Craig Riddell
Address	: 14 Fultz Boulevard Winnipeg MB Canada R3Y 0L6	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 901 4947	Telephone	: +1 204 255 9720
Project	: RM OF PORTAGE LA PRAIRIE - PWS - 171.25	Date Samples Received	: 13-Jul-2023 08:26
PO	: ----	Issue Date	: 19-Jul-2023 08:22
C-O-C number	: ----		
Sampler	: ----		
Site	: Manitoba		
Quote number	: MB Environment , Climate and Parks		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

Key

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

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

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

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Method Blank (MB) Values								
Total Metals	QC-MRG4-1038485 001	----	Lithium, total	7439-93-2	E420.Li-L	0.00037 B mg/L	0.0002 mg/L	Blank result exceeds permitted value

Result Qualifiers

Qualifier	Description
B	*Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.*

Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

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

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Calcium in Water by CRC ICPMS (Low level)										
HDPE total (nitric acid) RM OF PORTAGE LA PRAIRIE 3 -DISTRIBUTION MID POINT	E420.Ca-L	13-Jul-2023	14-Jul-2023	180 days	1 days	✓	14-Jul-2023	179 days	0 days	✓
Total Metals : Total Lithium in Water by CRC ICPMS (Low Level)										
HDPE total (nitric acid) RM OF PORTAGE LA PRAIRIE 3 -DISTRIBUTION MID POINT	E420.Li-L	13-Jul-2023	14-Jul-2023	180 days	1 days	✓	14-Jul-2023	179 days	0 days	✓
Total Metals : Total metals in Water by CRC ICPMS										
HDPE total (nitric acid) RM OF PORTAGE LA PRAIRIE 3 -DISTRIBUTION MID POINT	E420	13-Jul-2023	14-Jul-2023	180 days	1 days	✓	14-Jul-2023	179 days	0 days	✓
Total Metals : Total Phosphorus in Water by CRC-ICPMS (Low level)										
HDPE total (nitric acid) RM OF PORTAGE LA PRAIRIE 3 -DISTRIBUTION MID POINT	E420.P-L	13-Jul-2023	14-Jul-2023	180 days	1 days	✓	14-Jul-2023	179 days	0 days	✓

Legend & Qualifier Definitions

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

Quality Control Parameter Frequency Compliance

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

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Total Calcium in Water by CRC ICPMS (Low level)	E420.Ca-L	1038485	1	2	50.0	5.0	✓
Total Lithium in Water by CRC ICPMS (Low Level)	E420.Li-L	1038487	1	2	50.0	5.0	✓
Total metals in Water by CRC ICPMS	E420	1038488	1	20	5.0	5.0	✓
Total Phosphorus in Water by CRC-ICPMS (Low level)	E420.P-L	1038486	1	17	5.8	5.0	✓
Laboratory Control Samples (LCS)							
Total Calcium in Water by CRC ICPMS (Low level)	E420.Ca-L	1038485	1	2	50.0	5.0	✓
Total Lithium in Water by CRC ICPMS (Low Level)	E420.Li-L	1038487	1	2	50.0	5.0	✓
Total metals in Water by CRC ICPMS	E420	1038488	1	20	5.0	5.0	✓
Total Phosphorus in Water by CRC-ICPMS (Low level)	E420.P-L	1038486	1	17	5.8	5.0	✓
Method Blanks (MB)							
Total Calcium in Water by CRC ICPMS (Low level)	E420.Ca-L	1038485	1	2	50.0	5.0	✓
Total Lithium in Water by CRC ICPMS (Low Level)	E420.Li-L	1038487	1	2	50.0	5.0	✓
Total metals in Water by CRC ICPMS	E420	1038488	1	20	5.0	5.0	✓
Total Phosphorus in Water by CRC-ICPMS (Low level)	E420.P-L	1038486	1	17	5.8	5.0	✓
Matrix Spikes (MS)							
Total Calcium in Water by CRC ICPMS (Low level)	E420.Ca-L	1038485	1	2	50.0	5.0	✓
Total Lithium in Water by CRC ICPMS (Low Level)	E420.Li-L	1038487	1	2	50.0	5.0	✓
Total metals in Water by CRC ICPMS	E420	1038488	1	20	5.0	5.0	✓
Total Phosphorus in Water by CRC-ICPMS (Low level)	E420.P-L	1038486	1	17	5.8	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total metals in Water by CRC ICPMS	E420 ALS Environmental - Winnipeg	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Calcium in Water by CRC ICPMS (Low level)	E420.Ca-L ALS Environmental - Winnipeg	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.
Total Lithium in Water by CRC ICPMS (Low Level)	E420.Li-L ALS Environmental - Winnipeg	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.
Total Phosphorus in Water by CRC-ICPMS (Low level)	E420.P-L ALS Environmental - Winnipeg	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.

QUALITY CONTROL REPORT

Work Order	: **WP2315288**	Page	: 1 of 10
Client	: Manitoba Conservation & Climate	Laboratory	: ALS Environmental - Winnipeg
Contact	: Haley Champagne	Account Manager	: Craig Riddell
Address	: 14 Fultz Boulevard Winnipeg MB Canada R3Y 0L6	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	:	Telephone	: +1 204 255 9720
Project	: RM OF PORTAGE LA PRAIRIE - PWS - 171.25	Date Samples Received	: 13-Jul-2023 08:26
PO	: ----	Date Analysis Commenced	: 14-Jul-2023
C-O-C number	: ----	Issue Date	: 19-Jul-2023 08:23
Sampler	: ---- 204 901 4947		
Site	: Manitoba		
Quote number	: MB Environment , Climate and Parks		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
Rhovee Guevarra		Winnipeg Metals, Winnipeg, Manitoba

General Comments

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

Key :

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1038485)											
WP2315288-001	RM OF PORTAGE LA PRAIRIE 3 -DISTRIBUTION MID POINT	Calcium, total	7440-70-2	E420.Ca-L	0.010	mg/L	74600 µg/L	72.6	2.64%	20%	----
Total Metals (QC Lot: 1038486)											
WP2315288-001	RM OF PORTAGE LA PRAIRIE 3 -DISTRIBUTION MID POINT	Phosphorus, total	7723-14-0	E420.P-L	0.030	mg/L	548 µg/L	0.569	3.84%	20%	----
Total Metals (QC Lot: 1038487)											
WP2315288-001	RM OF PORTAGE LA PRAIRIE 3 -DISTRIBUTION MID POINT	Lithium, total	7439-93-2	E420.Li-L	0.00020	mg/L	74.9 µg/L	0.0709	5.47%	20%	----
Total Metals (QC Lot: 1038488)											
WP2315288-001	RM OF PORTAGE LA PRAIRIE 3 -DISTRIBUTION MID POINT	Aluminum, total	7429-90-5	E420	0.0030	mg/L	8.4 µg/L	0.0106	0.0022	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.41 µg/L	0.00036	0.00005	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.72 µg/L	0.00070	0.00002	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	41.9 µg/L	0.0404	3.68%	20%	----
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.100 µg/L	<0.000100	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.050 µg/L	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	86 µg/L	0.084	0.002	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0050 µg/L	<0.0000050	0	Diff <2x LOR	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.034 µg/L	0.000028	0.000006	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	0.53 µg/L	0.00052	0.00001	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.10 µg/L	<0.00010	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	3.77 µg/L	0.00358	0.00019	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	39 µg/L	0.040	0.001	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	1.78 µg/L	0.00168	5.90%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	8820 µg/L	8.30	6.06%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.88 µg/L	0.00088	0.0000007	Diff <2x LOR	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	3.62 µg/L	0.00334	8.01%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1038488) - continued											
WP2315288-001	RM OF PORTAGE LA PRAIRIE 3 -DISTRIBUTION MID POINT	Nickel, total	7440-02-0	E420	0.00050	mg/L	0.90 µg/L	0.00088	0.00002	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	16500 µg/L	15.7	5.10%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	3.92 µg/L	0.00394	0.632%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.389 µg/L	0.000465	0.000077	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	2120 µg/L	2.04	4.14%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.010 µg/L	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	111000 µg/L	107	3.51%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	285 µg/L	0.267	6.79%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	112000 µg/L	107	4.11%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.20 µg/L	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	0.011 µg/L	0.000010	0.0000009	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.10 µg/L	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.10 µg/L	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	<0.30 µg/L	<0.00030	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.10 µg/L	<0.00010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.054 µg/L	0.000049	0.000005	Diff <2x LOR	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	1.11 µg/L	0.00107	0.00004	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	<3.0 µg/L	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.20 µg/L	<0.00020	0	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1038485)						
Calcium, total	7440-70-2	E420.Ca-L	0.01	mg/L	<0.010	----
Total Metals (QCLot: 1038486)						
Phosphorus, total	7723-14-0	E420.P-L	0.03	mg/L	<0.030	----
Total Metals (QCLot: 1038487)						
Lithium, total	7439-93-2	E420.Li-L	0.0002	mg/L	# 0.00037	B
Total Metals (QCLot: 1038488)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1038488) - continued						
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----

Qualifiers

Qualifier	Description
B	*Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.*

Laboratory Control Sample (LCS) Report

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

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1038485)									
Calcium, total	7440-70-2	E420.Ca-L	0.01	mg/L	50 mg/L	110	80.0	120	----
Total Metals (QCLot: 1038486)									
Phosphorus, total	7723-14-0	E420.P-L	0.03	mg/L	10 mg/L	117	80.0	120	----
Total Metals (QCLot: 1038487)									
Lithium, total	7439-93-2	E420.Li-L	0.0002	mg/L	0.25 mg/L	116	80.0	120	----
Total Metals (QCLot: 1038488)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	113	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	116	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	108	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	110	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	110	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	114	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	107	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	108	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	116	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	107	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	106	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	105	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	98.5	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	112	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	115	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	109	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	114	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	105	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	108	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	111	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	103	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	113	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	103	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	109	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	114	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	113	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	108	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1038488) - continued									
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	112	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	108	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	111	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	106	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	110	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	115	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	109	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	105	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	107	80.0	120	----

Matrix Spike (MS) Report

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

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1038485)										
WP2315288-001	RM OF PORTAGE LA PRAIRIE 3 -DISTRIBUTION MID POINT	Calcium, total	7440-70-2	E420.Ca-L	ND mg/L	4 mg/L	ND	70.0	130	----
Total Metals (QCLot: 1038486)										
WP2315288-001	RM OF PORTAGE LA PRAIRIE 3 -DISTRIBUTION MID POINT	Phosphorus, total	7723-14-0	E420.P-L	10.9 mg/L	10 mg/L	109	70.0	130	----
Total Metals (QCLot: 1038487)										
WP2315288-001	RM OF PORTAGE LA PRAIRIE 3 -DISTRIBUTION MID POINT	Lithium, total	7439-93-2	E420.Li-L	0.108 mg/L	0.1 mg/L	108	70.0	130	----
Total Metals (QCLot: 1038488)										
WP2315288-001	RM OF PORTAGE LA PRAIRIE 3 -DISTRIBUTION MID POINT	Aluminum, total	7429-90-5	E420	0.209 mg/L	0.2 mg/L	105	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0239 mg/L	0.02 mg/L	120	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0204 mg/L	0.02 mg/L	102	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0416 mg/L	0.04 mg/L	104	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00947 mg/L	0.01 mg/L	94.7	70.0	130	----
		Boron, total	7440-42-8	E420	0.110 mg/L	0.1 mg/L	110	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00388 mg/L	0.004 mg/L	97.0	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0107 mg/L	0.01 mg/L	107	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0423 mg/L	0.04 mg/L	106	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		Copper, total	7440-50-8	E420	0.0189 mg/L	0.02 mg/L	94.3	70.0	130	----
		Iron, total	7439-89-6	E420	1.94 mg/L	2 mg/L	97.1	70.0	130	----
		Lead, total	7439-92-1	E420	0.0185 mg/L	0.02 mg/L	92.6	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	1 mg/L	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0206 mg/L	0.02 mg/L	103	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0244 mg/L	0.02 mg/L	122	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0388 mg/L	0.04 mg/L	97.0	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	4 mg/L	ND	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1038488) - continued										
WP2315288-001	RM OF PORTAGE LA PRAIRIE 3 -DISTRIBUTION MID POINT	Rubidium, total	7440-17-7	E420	0.0208 mg/L	0.02 mg/L	104	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0384 mg/L	0.04 mg/L	96.0	70.0	130	----
		Silicon, total	7440-21-3	E420	10.1 mg/L	10 mg/L	101	70.0	130	----
		Silver, total	7440-22-4	E420	0.00388 mg/L	0.004 mg/L	97.1	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	2 mg/L	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	20 mg/L	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0441 mg/L	0.04 mg/L	110	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00363 mg/L	0.004 mg/L	90.8	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0200 mg/L	0.02 mg/L	99.9	70.0	130	----
		Tin, total	7440-31-5	E420	0.0235 mg/L	0.02 mg/L	118	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0488 mg/L	0.04 mg/L	122	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0224 mg/L	0.02 mg/L	112	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00401 mg/L	0.004 mg/L	100	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.107 mg/L	0.1 mg/L	107	70.0	130	----
		Zinc, total	7440-66-6	E420	0.367 mg/L	0.4 mg/L	91.8	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0491 mg/L	0.04 mg/L	123	70.0	130	----

Manitoba

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

Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

ALS Environmental
1329 Niakwa Rd E, Unit 12, Winnipeg, MB R2J 3T4
(204) 255-9720 or 1-800-607-7555

Report to:	
Name:	Haley Champagne
Office Address:	14 Fultz Boulevard, Winnipeg, MB R3Y0L6
Email:	Haley.Champagne@gov.mb.ca
Phone:	(204) 901-4947

Additional Copy of Report sent to:
Office of Drinking Water
14 Fultz Boulevard, Winnipeg, MB R3Y 0L6
Phone: 204-945-5776
Joern.Muenster@gov.mb.ca; Melanie.Betsill@gov.mb.ca

☑ Regular Service ☐ Other
Other Service Types
ALS Contact: Craig Riddell
Contract #: 7039

Client / Project Information:		**Account: W10477**
Operation Name:	RURAL MUNICIPALITY OF PORTAGE LA PRAIRIE (PORTAGE LA PRAIRIE) - PWS	**Agency Code: 382**
Operation Code:	171.25	**Report Type: ODW - UTIL**
Operation ID:	28565	**Project: DWQ-A**
Sampled by:	Haley Champagne	

Sample Number	Station Number	Sample Identification	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Sample Date	Sample Time	Sample Matrix	Sample Type	MET-T-CCMS-WP (Total Metals)	Number of Containers
2307HC0006	MB05MJD203	RM of Portage la Prairie 3 - Distribution (mid)			2023-07-12	11:30 am	9	1	X	1

Environmental Division
Winnipeg
Work Order Reference
WP2315288

Telephone : +1 204 255 9720

5288

Special Instructions / Hazardous Details

Sample Matrix: 6-Raw Water, 9-Distributed Water, 10-Treated Water, 11-Drinking Water Undisinfected
Sample Type: 1-Grab Sample, 33-Resample, 3-Duplicate Sample, 22-Field Blank

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the adjacent worksheet.

Relinquished By:	Haley Champagne	Date & Time	July 12, 2023 4:40pm	Validated By (lab use only):	Date & Time:
				Sample Condition (lab use only)	
Received By:		Date & Time	JUL 13 2023 8:26	Temperature 9.6	Samples Received in Good Condition? Y / N

Manitoba

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

Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

ALS Environmental
1329 Niakwa Rd E, Unit 12, Winnipeg, MB R2J 3T4
(204) 255-9720 or 1-800-607-7555

Report to:	
Name:	Haley Champagne
Office Address:	14 Fultz Boulevard, Winnipeg, MB R3Y0L6
Email:	Haley.Champagne@gov.mb.ca
Phone:	(204) 901-4947

Additional Copy of Report sent to:
Office of Drinking Water
14 Fultz Boulevard, Winnipeg, MB R3Y 0L6
Phone: 204-945-5776
Joern.Muenster@gov.mb.ca; Melanie.Betsill@gov.mb.ca

☑ Regular Service ☐ Other
Other Service Types

ALS Contact: Craig Riddell
Contract #: 7039

Client / Project Information:		**Account: W10477**
Operation Name:	RURAL MUNICIPALITY OF PORTAGE LA PRAIRIE (PORTAGE LA PRAIRIE) - PWS	**Agency Code: 382**
Operation Code:	171.25	**Report Type: ODW - UTIL**
Operation ID:	28565	**Project: DWQ-A**
Sampled by:	Haley Champagne	

Sample Number	Station Number	Sample Identification	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Sample Date	Sample Time	Sample Matrix	Sample Type	MET-T-CCMS-WP (Total Metals)	Number of Containers
2307HC0006	MB05MJD203	RM of Portage la Prairie 3 - Distribution (mid)			2023-07-12	11:30 am	9	1	X	1

Environmental Division
Winnipeg
Work Order Reference
WP2315288

Telephone : +1 204 255 9720

15288

Special Instructions / Hazardous Details

Sample Matrix: 6-Raw Water, 9-Distributed Water, 10-Treated Water, 11-Drinking Water Undisinfected
Sample Type: 1-Grab Sample, 33-Resample, 3-Duplicate Sample, 22-Field Blank

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the adjacent worksheet.

Relinquished By:	Haley Champagne	Date & Time	July 12, 2023 4:40pm	Validated By (lab use only):	Date & Time:
				Sample Condition (lab use only)	
Received By:		Date & Time	JUL 13 2023 8:26	Temperature 9.6	Samples Received in Good Condition? Y / N

APPENDIX D
RM of Portage la Prairie
Inspection Results

Environment and Climate
Office of Drinking Water
Box 19, 14 Fultz Blvd.
Winnipeg, MB R3Y 0L6
T 204-901-4947
http://www.manitoba.ca/drinkingwater

July 26, 2023 Code: 157.00

Kyle Hamilton, CAO
R.M. of Portage la Prairie
35 Tupper St. S.
Portage la Prairie MB R1N 1W7

Kyle Hamilton:

This letter is in follow-up to the July 12, 2023 inspection of the RM of Portage la Prairie (Cartier Regional) public water system. The primary focus of the inspection was to confirm compliance with the terms and conditions of RM of Portage la Prairie (Cartier Regional) Public Water System Operating Licence PWS-16-592-02.

Water System Overview:
The RM of Portage la Prairie water distribution system under community code 157.00 receives its treated water via the Cartier Regional Water Cooperative and Oakville Reservoir. Water is distributed throughout the rural pipeline network and pressurized by the Oakville Reservoir.

Required Actions:
- None required; the water system is currently meeting the terms and conditions of its Operating Licence

Recommended Actions:
- None required

Important Information:
The Office of Drinking Water participates in the Federal-Provincial-Territorial Committee on Drinking Water that approves the *Guidelines for Canadian Drinking Water Quality*. Drinking water quality standards applied in Manitoba regulations must be consistent with current Health Canada guidelines, and the Office therefore monitors the potential impact of proposed changes to Manitoba water systems.

Health Canada published new technical guidelines on cyanobacteria (algae), manganese, copper, and lead. The guidelines are posted on their website at: https://www.canada.ca/en/health-canada/services/environmental-workplace-health/water-quality/drinking-water/canadian-drinking-water-guidelines.html. Owners and operators are encouraged to review this information and to determine what impact they may have on the water supply.

If you have any questions, please do not hesitate to contact me at 204-901-4947.

Sincerely,

Haley Champagne
Regional Drinking Water Officer

cc. Blaine Page – Water distribution system Operator

Environment and Climate
Office of Drinking Water
Box 19, 14 Fultz Blvd.
Winnipeg, MB R3Y 0L6
T 204-901-4947
http://www.manitoba.ca/drinkingwater

July 26, 2023 Code: 171.25

Kyle Hamilton, CAO
R.M. of Portage la Prairie
35 Tupper St. S.
Portage la Prairie MB R1N 1W7

Kyle Hamilton:

This letter is in follow-up to the July 12, 2023 inspection of the RM of Portage la Prairie (Portage la Prairie) public water system. The primary focus of the inspection was to confirm compliance with the terms and conditions of RM of Portage la Prairie (Portage la Prairie) Public Water System Operating Licence PWS-08-199-03.

Water System Overview:
The RM of Portage la Prairie water distribution system under community code 171.25 receives its treated water via the Portage la Prairie water treatment plant. Water is distributed throughout the rural pipeline network and pressurized by the Portage la Prairie water treatment plant, Peony Farm Reservoir and various booster stations throughout the municipality.

Required Actions:
- None required; the water system is currently meeting the terms and conditions of its Operating Licence

Recommended Actions:
- None required

Important Information:
The Office of Drinking Water participates in the Federal-Provincial-Territorial Committee on Drinking Water that approves the *Guidelines for Canadian Drinking Water Quality*. Drinking water quality standards applied in Manitoba regulations must be consistent with current Health Canada guidelines, and the Office therefore monitors the potential impact of proposed changes to Manitoba water systems.

Health Canada published new technical guidelines on cyanobacteria (algae), manganese, copper, and lead. The guidelines are posted on their website at: https://www.canada.ca/en/health-canada/services/environmental-workplace-health/water-quality/drinking-water/canadian-drinking-water-guidelines.html. Owners and operators are encouraged to review this information and to determine what impact they may have on the water supply.

If you have any questions, please do not hesitate to contact me at 204-901-4947.

Sincerely,

Haley Champagne
Regional Drinking Water Officer

cc. Blaine Page – Water distribution system Operator