



WHITEHEAD ELTON
REGIONAL WATER CO-OP

2024

ANNUAL REPORT

Board of Directors

President:
Ches Bollman

Vice President:
Trevor Tuttosi

Secretary Treasurer:
Shawna LeBlanc

Directors:
James Maxon
Cam Hales
Jeff Owens

Name of Public Water System:

Whitehead Elton Regional Water Co-operative Inc.

Name of Legal Owner:

Whitehead Elton Regional Water Co-operative Inc.

Contact Person: **Ralph Berg** Manager

(204) 729 6116 Cell

(204) 571 0910 Forrest Reservoir

(204) 752 2378 Water Treatment Plant

Contact Numbers:

Whitehead Elton Regional Water Co-operative Inc.

(204) 729 6116 Cell

(204) 752 2261 R.M. Of Whitehead

(204) 728 7834 R.M. Of Elton

Emergency Numbers:

Whitehead Elton Regional Water Co-operative Inc.

(204) 729 6116 Cell

(204) 730-2867 24 Hour Emergency Line

(204) 752 2261 R.M. Of Whitehead

(204) 728 7834 R.M. Of Elton

Names of Operators:

Ralph Berg (2017 - Current)

Howard Buffi (2022 - Current)

Melanie Bollman (2023 - Current)

Ephrem Tamene (December - Current)

Bo Yeomans (2017 - June)

Savannah Wedgewood (August - September)

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1) Introduction:

The 2024 Whitehead Elton Regional Water Cooperative Inc. Annual Report summarizes the water utility's ability to provide safe economical potable water and comply with provincial standards.

2) Description of the Water System:

The Whitehead Elton Regional Water Cooperative Inc. provides potable water to a population of approximately 2400 residents. Corrective Actions were taken and reported as required throughout the course of operations. Details of these actions can be found in Section 4.

The Whitehead Elton Regional Water Cooperative Inc. water system consists of a network of pressure pipelines, a water treatment plant, a booster station, a pressure reducing station and a water storage reservoir. The Whitehead Elton Regional Water Cooperative Inc. owns the Alexander Water Treatment Plant, Dungannan Pressure Reducing Station, Co-op Booster Station and the Forrest Reservoir.

The R.M. of Elton owns three pressure reducing stations and one booster station located east of #10 Highway and north of #1 Highway.

The R.M. of Whitehead owns the pressure reducing station located south of the #1 Highway down Road 115W.

2.1) Water Supply Source

The Whitehead Elton Regional Water Cooperative Inc. receives its water supply from two wells located in the R.M. Of Whitehead. The wells are situated to draw raw water from a sand and gravel aquifer.

The system provides treated water to the R.M. Of Elton, the villages of Forrest and Douglas, the R.M. Of Whitehead, the villages of Alexander and Kemnay and a few residents of the R.M. Of Riverdale and the R.M. Of Cornwallis.

2.11) Water Treatment Process:

The water treatment process is designed to remove hardness, iron, manganese, total dissolved solids, turbidity and arsenic from the raw water supply to meet the water quality standards outlined in the *Guidelines for Canadian Drinking Water Quality (GCDWQ)*. The plant currently provides virus inactivation through chlorine treated water obtaining adequate contact time within the treated water reservoirs.

Re-Chlorination is available at the Forrest Reservoir, but it is not in use. The average daily flow through the Alexander Water Treatment Plant of raw water is 820 cubic meters per day, with the plant rated at a maximum daily flow of raw water of 1,814.4 cubic meters per day and a yearly raw water total of 387,000 cubic meters.

Raw water is diverted from a sand and gravel aquifer by two wells located approximately 2.5 km NE of the Alexander Water Treatment Plant. The well pumps deliver water to the WTP through a 150 mm HDPE raw water pipeline. Water passes through the reverse osmosis (R.O.) system to remove hardness, iron, manganese, total dissolved solids and turbidity. Following the R.O. unit, permeate water is passed through a membrane contactor to remove carbon dioxide in the permeate water, therefore increasing the pH. Bypass water (raw water) passes through a 1.4 m diameter manganese greensand filter to remove iron and manganese allowing for hardness and pH adjustment in the treated water. A portion of the permeate water is also passed through the greensand filter for arsenic removal. Treated water from the R.O. unit is pH buffered by with Sodium Hydroxide injection. The combined R.O. unit and greensand treatment streams are chlorinated prior to entering the 950 cubic meter, 7 cell reservoir. The distribution pumps send water through a 200 mm pipeline to the distribution system.

Iron and Manganese are metals that cause laundry and plumbing fixture staining problems and can accumulate in the distribution pipes and cause reduced flow. Calcium Carbonate causes hardness in the water which diminishes the ability of the water to react with soap and lather. Hardness also forms scale deposits in kettles, hot water tanks and plumbing fixtures which can reduce their life expectancy.

2.III) Classification and Certification

- The Alexander Water Treatment Plant is a Class 2 water treatment facility.
- The Whitehead Elton Regional Water Co-operative Inc. water distribution system is Class 1.
- The R.M. Of Whitehead's distribution system is Class 1.
- The R.M. Of Elton's distribution system is Class 1

The Facility classifications are used to determine certification requirements for the water system operators. The requirements fall under the Water and Wastewater Facility Operators Regulation under the Environment Act.

3) List of Water Quality Standards

3.1) Water Quality Standards and Monitoring Requirements

The Province of Manitoba has adopted several water quality standards from the Health Canada *Guidelines for Canadian Drinking Water Quality*. The health-based parameters express the *maximum acceptable concentrations, or MAC*, for drinking water. Concentration levels above the recommended guidelines pose a health risk and necessitate corrective measures. All health-based parameters were within the limits in 2024 for Whitehead Elton Regional Water Co-operative Inc. and both R.M.'s.

All public water systems (PWS) are required to monitor chlorine residual levels daily, as well as manganese levels daily at the Water Treatment Plant. Monitoring is conducted daily at both the Alexander Water Treatment Plant and the Forrest Reservoir for chlorine residuals, while manganese testing is only performed at the Water Treatment Plant. Results are documented, and at the end of each month, they are submitted to the Provincial Drinking Water Officer. Original copies of these results must be kept on file at each facility for a period of TWO YEARS.

Bacterial Testing for Total Coliforms and E.coli are done every two weeks, with sample sets being separated by at least 12 days. Chlorine residuals are tested in the distribution system at the same time and location as bacterial samples. All results are kept in the files at the Water Treatment Plant for a period of 2 years.

3.II) 2024 General Chemical Analysis

As part of the operating licence for Whitehead Elton Regional Water Co-operative Inc., a general chemical analysis of the raw water, treated water and midpoint of the distribution system must be done every **Three years**. Water samples were sent to the lab on October 18th, 2023, and we will be required to be sample again in 2026.

It is an extensive test including a physical test, Anions and Nutrients, Organic/Inorganic Carbon, Total Metals and Volatile Organic Compounds tests.

The tests are conducted at ALS Labs in Winnipeg. The results are on the following page. The highlighted areas on the results indicate that the raw water exceeds Aesthetic Objectives or Maximum Acceptable Concentrations cited in the *Guidelines for Canadian Drinking Water Standards*. None of the treated water produced exceeds MAC limits or Aesthetic Objectives.

If there are questions that you may have regarding the lab results, please use one of the contact numbers listed and we can assist in any questions or concerns.

3.III) Arsenic Test

As part of our license with ODW, the Whitehead Elton Regional Water Co-operative Inc. is required to conduct arsenic testing. A metals chemistry analysis is carried out annually, with water samples sent on December 16, 2024, this year. Forrest Reservoir had to be resampled on February 4th, 2025 due to lab error. The arsenic test results are included in the General Chemical Analysis, which is completed every three years, as well as in the annual Metals Chemistry report, which can be viewed in appendix d.

3.IV) Manganese Testing

Manganese testing in water treatment is essential for ensuring water quality and public health. The Aesthetic Objective (AO) level for manganese in drinking water is set at 0.05 mg/L. Whitehead Elton Regional Water Co-operative Inc. current testing method used is colorimetric. The frequency of testing depends on local regulations and water source conditions, with regular testing recommended for municipal systems and private wells. As part of our license, the Whitehead Elton Regional Water Co-operative Inc. is required to test daily the raw, greensand and treated water in the treatment process. Treatment method currently used is oxidation-filtration(greensand), and reverse osmosis to reduce manganese levels. If levels exceed the advisory limit, corrective actions are required. Manganese reports can be viewed in appendix b.



CERTIFICATE OF ANALYSIS

Work Order	: WP2326968	Page	: 1 of 6
Client	: Manitoba Conservation & Climate	Laboratory	: ALS Environmental - Winnipeg
Contact	: RETIRED Melanie Betsill	Account Manager	: Sheriza Rajack-Ahamed
Address	: 14 Fultz Boulevard	Address	: 1329 Niakwa Road East, Unit 12
Telephone	: Winnipeg MB Canada R3Y 0L6	Telephone	: Winnipeg MB Canada R2J 3T4
Project	: whitehead elton regional - PWS- 248.70	Date Samples Received	: +1 204 255 9720
PO	: ----	Date Analysis Commenced	: 19-Oct-2023 10:30
C-O-C number	: ----	Issue Date	: 19-Oct-2023
Sampler	: ----		
Site	: whitehead elton regional - PWS- 248.70 OP ID: 46658		
Quote number	: WTP Chemistry - 248.70 - Whitehead Elton Regional		
No. of samples received	: 3		
No. of samples analysed	: 3		

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
- Surrogate Control Limits

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.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Christopher Chow		Inorganics, Winnipeg, Manitoba
Gerry Vera	Analyst	Organics, Winnipeg, Manitoba
Oleksandr Busel		Inorganics, Winnipeg, Manitoba
Oleksandr Busel		Metals, Winnipeg, Manitoba



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 Work Order : WP2326968
 Client : Manitoba Conservation & Climate
 Project : whitehead elton regional - PWS- 248.70

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
-	no units
%	percent
% T/cm	% transmittance per centimetre
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
AU/cm	absorbance units per centimetre
CU	colour units (1 cu = 1 mg/l pt)
meq/L	milliequivalents per litre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units

<: 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.

Qualifiers

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
HTD	Hold time exceeded for re-analysis or dilution, but initial testing was conducted within hold time.
RRV	Reported result verified by repeat analysis.



Analytical Results

Sub-Matrix: Drinking Water
 (Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Client sampling date / time		Result	WHITEHEAD ELTON REGIONAL 1 - RAW	WHITEHEAD ELTON REGIONAL 2 - TREATED	WHITEHEAD ELTON REGIONAL 3 - DISTRIBUTION MID	Result
				Unit	Unit					
Physical Tests										
Absorbance, UV (@ 254nm)	----	E404/WP	0.0050	AU/cm	18-Oct-2023 08:00	0.0490	0.0130	-----	-----	
Alkalinity, bicarbonate (as CaCO3)	----	E290/WP	1.0	mg/L	18-Oct-2023 08:20	339	110	-----	-----	
Alkalinity, carbonate (as CaCO3)	----	E290/WP	1.0	mg/L		<1.0	<1.0	-----	-----	
Alkalinity, hydroxide (as CaCO3)	----	E290/WP	1.0	mg/L		<1.0	<1.0	-----	-----	
Alkalinity, total (as CaCO3)	----	E290/WP	1.0	mg/L		339	110	-----	-----	
Colour, true	----	E329/WP	5.0	CU		<5.0 ^{MD}	<5.0 ^{MD}	-----	-----	
Conductivity	----	E100/WP	2.0	µS/cm		1160	333	-----	-----	
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/WP	0.50	mg/L		600	105	-----	-----	
Langlier index (@ 4°C)	----	EC105A/WP	0.010	-		0.932	-0.198	-----	-----	
Langlier index (@ 60°C)	----	EC105A/WP	0.010	-		1.68	0.571	-----	-----	
pH	----	E108/WP	0.10	pH units		8.01	7.98	-----	-----	
Solids, total dissolved [TDS]	----	E162-L/WP	3.0	mg/L		816	180	-----	-----	
Turbidity	----	E121/WP	0.10	NTU		23.9	<0.10	-----	-----	
pH, saturation (@ 4°C)	----	EC105A/WP	0.010	pH units		7.08	8.18	-----	-----	
Transmittance, UV (@ 254nm)	----	E404/WP	1.0	% T/cm		89.3	97.0	-----	-----	
pH, saturation (@ 60°C)	----	EC105A/WP	0.010	pH units		6.33	7.41	-----	-----	
Anions and Nutrients										
Bromide	24859-67-9	E235.Br-L/WP	0.050	mg/L		<0.100 ^{ELV}	<0.050	-----	-----	
Chloride	16887-00-6	E235.CH-L/WP	0.10	mg/L		15.3	5.01	-----	-----	
Fluoride	16884-48-8	E235.F/WP	0.020	mg/L		0.146	0.033	-----	-----	
Nitrate (as N)	14797-55-8	E235.NO3-L/WP	0.0050	mg/L		<0.0100 ^{ELV}	<0.0050	-----	-----	
Nitrite (as N)	14797-65-0	E235.NO2-L/WP	0.0010	mg/L		<0.0020 ^{ELV}	<0.0010	-----	-----	
Sulfate (as SO4)	14808-79-8	E235.SO4/WP	0.30	mg/L		331	58.4	-----	-----	
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/WP	0.50	mg/L		3.28	1.37 ^{REV}	-----	-----	



Analytical Results

Sub-Matrix: Drinking Water
 (Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sampling date / time			
					WHITEHEAD ELTON REGIONAL 1 - RAW	WHITEHEAD ELTON REGIONAL 2 - TREATED	WHITEHEAD ELTON REGIONAL 3 - DISTRIBUTION MID	Client sample ID
Organic / Inorganic Carbon					18-Oct-2023 08:00	18-Oct-2023 08:20	18-Oct-2023 12:10	
Carbon, total organic [TOC]	---	E355-LWP	0.50	mg/L	3.32	<0.50		
Ion Balance								
Anion sum	---	EC101A/WP	0.10	meq/L	14.1	3.56		
Cation sum (total)	---	EC101A/WP	0.10	meq/L	12.7	3.10		
Ion balance (cations/anions)	---	EC101A/WP	0.01	%	90.1	87.1		
Ion balance (APHA)	---	EC101A/WP	0.010	%	-5.22	-6.91		
Total Metals								
Aluminum, total	7429-90-5	E420/WP	3.0	µg/L	<3.0	<3.0	<3.0	
Antimony, total	7440-36-0	E420/WP	0.10	µg/L	<0.10	<0.10	<0.10	
Arsenic, total	7440-38-2	E420/WP	0.10	µg/L	5.64	0.93	0.80	
Barium, total	7440-39-3	E420/WP	0.10	µg/L	24.4	4.58	4.00	
Beryllium, total	7440-41-7	E420/WP	0.020	µg/L	<0.020	<0.020	<0.020	
Bismuth, total	7440-69-9	E420/WP	0.050	µg/L	<0.050	<0.050	<0.050	
Boron, total	7440-42-8	E420/WP	10	µg/L	70	52	57	
Cadmium, total	7440-43-9	E420/WP	0.0050	µg/L	<0.0050	<0.0050	0.0221	
Calcium, total	7440-70-2	E420/WP	50	µg/L	147000	26000	26600	
Cesium, total	7440-46-2	E420/WP	0.010	µg/L	<0.010	<0.010	<0.010	
Chromium, total	7440-47-3	E420/WP	0.50	µg/L	<0.50	<0.50	<0.50	
Cobalt, total	7440-48-4	E420/WP	0.10	µg/L	<0.10	<0.10	<0.10	
Copper, total	7440-50-8	E420/WP	0.50	µg/L	<0.50	18.4	5.43	
Iron, total	7439-89-6	E420/WP	10	µg/L	1680	<10	<10	
Lead, total	7439-92-1	E420/WP	0.050	µg/L	<0.050	0.112	0.408	
Lithium, total	7439-93-2	E420/WP	1.0	µg/L	43.1	10.3	10.8	
Magnesium, total	7439-95-4	E420/WP	5.0	µg/L	56700	9820	10000	
Manganese, total	7439-96-5	E420/WP	0.10	µg/L	466	0.96	0.60	
Molybdenum, total	7439-98-7	E420/WP	0.050	µg/L	4.74	0.651	0.638	
Nickel, total	7440-02-0	E420/WP	0.50	µg/L	<0.50	<0.50	21.8	



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 Work Order : WP2326968
 Client : Manitoba Conservation & Climate
 Project : whitehead elton regional - PWS- 248.70

Analytical Results

Sub-Matrix: Drinking Water
 (Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sampling date / time		
					WHITEHEAD ELTON REGIONAL 1 - RAW	WHITEHEAD ELTON REGIONAL 2 - TREATED	WHITEHEAD ELTON REGIONAL 3 - DISTRIBUTION MID
					18-Oct-2023 08:00	18-Oct-2023 08:20	18-Oct-2023 12:10
					WP2326968-001	WP2326968-002	WP2326968-003
					Result	Result	Result
Total Metals							
Phosphorus, total	7723-14-0	E420/WP	50	µg/L	<50	<50	<50
Potassium, total	7440-09-7	E420/WP	50	µg/L	4920	1290	1320
Rubidium, total	7440-17-7	E420/WP	0.20	µg/L	1.86	0.51	0.50
Selenium, total	7782-49-2	E420/WP	0.050	µg/L	<0.050	<0.050	<0.050
Silicon, total	7440-21-3	E420/WP	100	µg/L	13400	2360	2470
Silver, total	7440-22-4	E420/WP	0.010	µg/L	<0.010	<0.010	<0.010
Sodium, total	7440-23-5	E420/WP	50	µg/L	11100	22200	21800
Strontium, total	7440-24-6	E420/WP	0.20	µg/L	456	76.2	83.4
Sulfur, total	7704-34-9	E420/WP	500	µg/L	114000	18300	18500
Tellurium, total	13494-80-9	E420/WP	0.20	µg/L	<0.20	<0.20	<0.20
Thallium, total	7440-28-0	E420/WP	0.010	µg/L	<0.010	<0.010	<0.010
Thorium, total	7440-29-1	E420/WP	0.10	µg/L	<0.10	<0.10	<0.10
Tin, total	7440-31-5	E420/WP	0.10	µg/L	<0.10	0.21	<0.10
Titanium, total	7440-32-6	E420/WP	0.30	µg/L	<0.30	<0.30	<0.30
Tungsten, total	7440-33-7	E420/WP	0.10	µg/L	<0.10	<0.10	<0.10
Uranium, total	7440-61-1	E420/WP	0.010	µg/L	7.67	1.23	1.32
Vanadium, total	7440-62-2	E420/WP	0.50	µg/L	<0.50	<0.50	<0.50
Zinc, total	7440-66-6	E420/WP	3.0	µg/L	<3.0	12.9	87.4
Zirconium, total	7440-67-7	E420/WP	0.20	µg/L	<0.20	<0.20	<0.20
Volatile Organic Compounds							
Benzene	71-43-2	E611D/WP	0.00050	mg/L	<0.00050		
Bromodichloromethane	75-27-4	E611D/WP	0.00050	mg/L	<0.00050		
Bromoform	75-25-2	E611D/WP	0.00050	mg/L	<0.00050		
Chloroform	67-66-3	E611D/WP	0.00050	mg/L	<0.00050		
Dibromochloromethane	124-48-1	E611D/WP	0.00050	mg/L	<0.00050		
Dichloromethane	75-09-2	E611D/WP	0.0010	mg/L	<0.0010		
Ethylbenzene	100-41-4	E611D/WP	0.00050	mg/L	<0.00050		



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 Work Order : WP2326968
 Client : Manitoba Conservation & Climate
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Analytical Results

Sub-Matrix: Drinking Water
 (Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID		
					WHITEHEAD ELTON REGIONAL 1 - RAW	WHITEHEAD ELTON REGIONAL 2 - TREATED	WHITEHEAD ELTON REGIONAL 3 - DISTRIBUTION MID
Client sampling date / time					18-Oct-2023 08:00	18-Oct-2023 08:20	18-Oct-2023 12:10
Result					WP2326968-001	WP2326968-002	WP2326968-003
Volatile Organic Compounds							
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D/WP	0.00050	mg/L	<0.00050	-----	-----
Tetrachloroethylene	127-18-4	E611D/WP	0.00050	mg/L	<0.00050	-----	-----
Toluene	108-88-3	E611D/WP	0.00050	mg/L	<0.00050	-----	-----
Trichloroethane, 1,1,1-	71-55-6	E611D/WP	0.00050	mg/L	<0.00050	-----	-----
Trichloroethane, 1,1,2-	79-00-5	E611D/WP	0.00050	mg/L	<0.00050	-----	-----
Trichloroethylene	79-01-6	E611D/WP	0.00050	mg/L	<0.00050	-----	-----
Xylene, m+p-	179601-23-1	E611D/WP	0.00040	mg/L	<0.00040	-----	-----
Xylene, o-	95-47-6	E611D/WP	0.00030	mg/L	<0.00030	-----	-----
Xylenes, total	1330-20-7	E611D/WP	0.00050	mg/L	<0.00050	-----	-----
BTEX, total	----	E611D/WP	0.0010	mg/L	<0.0010	-----	-----
Volatile Organic Compounds Surrogates							
Bromofluorobenzene, 4-	460-00-4	E611D/WP	1.0	%	88.6	-----	-----
Difluorobenzene, 1,4-	540-36-3	E611D/WP	1.0	%	102	-----	-----

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.

4) Water System Incidents and Corrective Actions

There were no incidents or corrective actions needed in 2024.

5) Drinking Water Safety Orders, Warnings and Charges

On January 4th, a boil water advisory was issued after a water line repair took place in a portion of the Whitehead Distribution system, Grand Valley, between Road 114W and Marsden Road. It was rescinded after all bacteriological samples were done and results indicated water was safe for consumption.

On January 31st, a boil water advisory was issued after a water line repair took place in a portion of the Whitehead Distribution system, Dungannon Estates. It was rescinded after all bacteriological samples were done and results indicated water was safe for consumption.

On June 19th, a boil water advisory was issued after a water line repair took place in a portion of the Whitehead Elton Regional Distribution system, between Road 117W east to the Assiniboine River, north of the Trans-Canada Highway. It was rescinded after all bacteriological samples were done and results indicated water was safe for consumption.

6) Major Expenses Incurred

Significant expenses that occurred in 2024, included the investigation and testing of suitable locations for additional raw water wells, the installation of service lines for both municipalities, and flushout repairs in each municipality.

7) *Current/Future System Expansions*

In 2024, ongoing investigations were done to find a suitable location for an additional raw water well with the hope for a 2025 install date.

Expansion of the water treatment plant reverse osmosis (RO) water treatment system to enhance capacity and efficiency.

Appendix A

Appendix A contains all the bacterial test results for all 3 Public Water Systems. Four sets of manganese samples are taken every third year, which were completed in 2023. The next year we will conduct our manganese sampling will be 2026.

Appendix B

Appendix B contains the 2024 Water Use Report that must be sent to the Provincial Government and the Monitoring Well Graph Reports . The Monitoring Wells are checked periodically throughout the year. One well is located at the raw water supply wells and the second is located a quarter of a mile south. These Monitoring Wells are a daily snapshot on the health of the aquifer we draw our water from.

APPENDIX A

2024

BACTERIA SAMPLE RESULTS

2024	Time		PWS #	Location	Tested	Chlorine Free	Chlorine Total	Total Coliforms	Escherichia Coli
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January 10, 2024	9:00:00 AM	HB	248.70	WTP	Raw	0.00	0.00	<1	<1
	9:00:00 AM	HB	248.70	WTP	Treated	0.86	1.04	<1	<1
	11:30:00 AM	HB	248.70	Forrest	Incoming	0.78	0.90	<1	<1
	11:30:00 AM	HB	248.70	Forrest	Outgoing	0.74	0.87	<1	<1
	9:10:00 AM	HB	248.80	Fire Hall	Fire Hall	0.87	0.91	<1	<1
	9:30:00 AM	HB	248.80	Dunganon	Dunganon	0.97	0.99	<1	<1
	10:34:00 AM	HB	63.50	PR#2	PR#2	0.82	0.87	<1	<1
	11:07:00 AM	HB	63.50	Elton Booster	Elton Booster	0.86	0.90	<1	<1

January 24, 2024	1:20:00 PM	MB	248.70	WTP	Raw	0.00	0.00	<1	<1
	1:20:00 PM	MB	248.70	WTP	Treated	0.81	0.90	<1	<1
	9:23:00 AM	MB	248.70	Forrest	Incoming	0.84	0.88	<1	<1
	9:23:00 AM	MB	248.70	Forrest	Outgoing	0.85	0.95	<1	<1
	12:23:00 PM	MB	248.80	Fire Hall	Fire Hall	0.86	0.88	<1	<1
	11:54:00 AM	MB	248.80	Dunganon	Dunganon	0.83	0.90	<1	<1
	10:14:00 AM	MB	63.50	PR#2	PR#2	0.92	0.94	<1	<1
	10:57:00 AM	MB	63.50	Elton Booster	Elton Booster	0.94	1.01	<1	<1

February 7, 2024	12:47:00 PM	MB	248.70	WTP	Raw	0.00	0.00	<1	<1
	12:47:00 PM	MB	248.70	WTP	Treated	0.85	0.96	<1	<1
	8:05:00 AM	MB	248.70	Forrest	Incoming	0.85	0.96	<1	<1
	8:05:00 AM	MB	248.70	Forrest	Outgoing	0.85	0.93	<1	<1
	11:31:00 AM	MB	248.80	Fire Hall	Fire Hall	0.89	0.91	<1	<1
	10:52:00 AM	MB	248.80	Dunganon	Dunganon	0.91	1.02	<1	<1
	9:27:00 AM	MB	63.50	PR#2	PR#2	0.87	0.95	<1	<1
	8:42:00 AM	MB	63.50	Elton Booster	Elton Booster	0.78	0.83	<1	<1

February 21, 2024	12:17:00 PM	MB	248.70	WTP	Raw	0.00	0.00	<1	<1
	12:17:00 PM	MB	248.70	WTP	Treated	0.69	0.82	<1	<1
	9:08:00 AM	MB	248.70	Forrest	Incoming	0.81	0.98	<1	<1
	9:08:00 AM	MB	248.70	Forrest	Outgoing	0.81	0.96	<1	<1
	12:04:00 PM	MB	248.80	Fire Hall	Fire Hall	0.73	0.78	<1	<1
	11:34:00 AM	MB	248.80	Dunganon	Dunganon	0.81	0.86	<1	<1
	10:22:00 AM	MB	63.50	PR#2	PR#2	0.82	0.91	<1	<1
	9:36:00 AM	MB	63.50	Elton Booster	Elton Booster	0.85	0.92	<1	<1

March 7, 2024	1:29:00 PM	MB	248.70	WTP	Raw	0.00	0.00	<1	<1
	1:31:00 PM	MB	248.70	WTP	Treated	0.95	1.07	<1	<1
	8:45:00 AM	MB	248.70	Forrest	Incoming	1.08	1.20	<1	<1
	8:48:00 AM	MB	248.70	Forrest	Outgoing	1.06	1.15	<1	<1
	12:29:00 PM	MB	248.80	Fire Hall	Fire Hall	0.97	1.04	<1	<1
	11:56:00 AM	MB	248.80	Dunganon	Dunganon	1.03	1.14	<1	<1
	10:09:00 AM	MB	63.50	PR#2	PR#2	1.04	1.16	<1	<1
	9:20:00 AM	MB	63.50	Elton Booster	Elton Booster	1.12	1.19	<1	<1

2024	Time		PWS #	Location	Tested	Chlorine Free	Chlorine Total	Total Coliforms	Escherichia Coli
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March 20, 2024	12:21:00 PM	MB	248.70	WTP	Raw	0.00	0.00	<1	<1
	12:23:00 PM	MB	248.70	WTP	Treated	0.83	0.96	<1	<1
	3:07:00 PM	MB	248.70	Forrest	Incoming	0.87	0.96	<1	<1
	3:15:00 PM	MB	248.70	Forrest	Outgoing	0.83	0.92	<1	<1
	12:41:00 PM	MB	248.80	Fire Hall	Fire Hall	0.89	0.97	<1	<1
	1:02:00 PM	MB	248.80	Dunganon	Dunganon	0.81	0.88	<1	<1
	1:49:00 PM	MB	63.50	PR#2	PR#2	0.90	0.93	<1	<1
	2:43:00 PM	MB	63.50	Elton Booster	Elton Booster	0.73	0.92	<1	<1

April 3, 2024	11:56:00 AM	MB	248.70	WTP	Raw	0.00	0.00	<1	<1
	12:01:00 PM	MB	248.70	WTP	Treated	0.80	0.92	<1	<1
	3:23:00 PM	MB	248.70	Forrest	Incoming	0.83	0.93	<1	<1
	3:30:00 PM	MB	248.70	Forrest	Outgoing	0.82	0.94	<1	<1
	12:24:00 PM	MB	248.80	Fire Hall	Fire Hall	0.80	0.89	<1	<1
	12:51:00 PM	MB	248.80	Dunganon	Dunganon	0.75	0.92	<1	<1
	1:55:00 PM	MB	63.50	PR#2	PR#2	0.76	0.92	<1	<1
	2:54:00 PM	MB	63.50	Elton Booster	Elton Booster	0.85	0.93	<1	<1

April 17, 2024	12:12:00 PM	MB	248.70	WTP	Raw	0.00	0.00	<1	<1
	12:15:00 PM	MB	248.70	WTP	Treated	0.80	0.82	<1	<1
	3:23:00 PM	MB	248.70	Forrest	Incoming	0.73	0.87	<1	<1
	3:23:00 PM	MB	248.70	Forrest	Outgoing	0.79	0.87	<1	<1
	12:30:00 PM	MB	248.80	Fire Hall	Fire Hall	0.78	0.85	<1	<1
	12:51:00 PM	MB	248.80	Dunganon	Dunganon	0.77	0.86	<1	<1
	2:11:00 PM	MB	63.50	PR#2	PR#2	0.77	0.85	<1	<1
	3:03:00 PM	MB	63.50	Elton Booster	Elton Booster	0.80	0.86	<1	<1

May 1, 2024	10:00:00 AM	BY	248.70	WTP	Raw	0.00	0.00	<1	<1
	10:00:00 AM	BY	248.70	WTP	Treated	0.82	0.96	<1	<1
	12:32:00 PM	BY	248.70	Forrest	Incoming	0.85	0.94	<1	<1
	12:30:00 PM	BY	248.70	Forrest	Outgoing	0.77	0.91	<1	<1
	10:16:00 AM	BY	248.80	Fire Hall	Fire Hall	0.77	0.93	<1	<1
	10:37:00 AM	BY	248.80	Dunganon	Dunganon	0.85	0.97	<1	<1
	12:07:00 PM	BY	63.50	PR#2	PR#2	0.84	0.90	<1	<1
	1:02:00 PM	BY	63.50	Elton Booster	Elton Booster	0.80	0.90	<1	<1

May 15, 2024	10:04:00 AM	BY	248.70	WTP	Raw	0.00	0.00	<1	<1
	10:05:00 AM	BY	248.70	WTP)	Treated	0.87	1.00	<1	<1
	12:21:00 PM	BY	248.70	Forrest	Incoming	0.97	1.90	<1	<1
	12:20:00 PM	BY	248.70	Forrest	Outgoing	0.91	0.99	<1	<1
	10:15:00 AM	BY	248.80	Fire Hall	Fire Hall	0.92	1.03	<1	<1
	10:32:00 AM	BY	248.80	Dunganon	Dunganon	1.01	1.11	<1	<1
May 21, 2024	2:47:00 PM	MB	63.50	PR#2	PR#2	0.77	0.92	<1	<1
	3:24:00 PM	MB	63.50	Elton Booster	Elton Booster	0.89	0.97	<1	<1

2024	Time		PWS #	Location	Tested	Chlorine Free	Chlorine Total	Total Coliforms	Escherichia Coli
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May 29, 2024	12:27:00 PM	MB	248.70	WTP	Raw	0.00	0.00	<1	<1
	12:30:00 PM	MB	248.70	WTP	Treated	0.86	1.01	<1	<1
	3:00:00 PM	MB	248.70	Forrest	Incoming	0.80	0.95	<1	<1
	2:56:00 PM	MB	248.70	Forrest	Outgoing	0.83	0.95	<1	<1
	12:50:00 PM	MB	248.80	Fire Hall	Fire Hall	0.82	0.95	<1	<1
	11:41:00 AM	MB	248.80	Dunganon	Dunganon	0.84	0.90	<1	<1
	1:52:00 PM	MB	63.50	PR#2	PR#2	0.81	0.93	<1	<1
	2:31:00 PM	MB	63.50	Elton Booster	Elton Booster	0.79	0.91	<1	<1

June 12, 2024	10:00:00 AM	HB	248.70	WTP	Raw	0.00	0.00	<1	<1
	10:05:00 AM	HB	248.70	WTP	Treated	0.75	0.84	<1	<1
	12:30:00 PM	HB	248.70	Forrest	Incoming	0.79	0.95	<1	<1
	12:30:00 PM	HB	248.70	Forrest	Outgoing	0.77	0.84	<1	<1
	10:27:00 AM	HB	248.80	Fire Hall	Fire Hall	0.76	0.84	<1	<1
	10:45:00 AM	HB	248.80	Dunganon	Dunganon	0.78	0.89	<1	<1
	11:45:00 AM	HB	63.50	PR#2	PR#2	0.80	0.85	<1	<1
	12:14:00 PM	HB	63.50	Elton Booster	Elton Booster	0.72	0.77	<1	<1

June 26, 2024	9:35:00 AM	HB	248.70	WTP	Raw	0.00	0.00	<1	<1
	9:35:00 AM	HB	248.70	WTP	Treated	0.89	1.01	<1	<1
	12:05:00 PM	HB	248.70	Forrest	Incoming	0.77	0.88	<1	<1
	12:05:00 PM	HB	248.70	Forrest	Outgoing	0.69	0.86	<1	<1
	9:51:00 AM	HB	248.80	Fire Hall	Fire Hall	0.83	0.89	<1	<1
	10:17:00 AM	HB	248.80	Dunganon	Dunganon	0.77	0.83	<1	<1
	11:11:00 AM	HB	63.50	PR#2	PR#2	0.82	0.88	<1	<1
	11:45:00 AM	HB	63.50	Elton Booster	Elton Booster	0.79	0.91	<1	<1

July 10, 2024	10:55:00 AM	MB	248.70	WTP	Raw	0.00	0.00	<1	<1
	10:58:00 AM	MB	248.70	WTP	Treated	0.81	0.91	<1	<1
	2:17:00 PM	MB	248.70	Forrest	Incoming	0.73	0.83	<1	<1
	2:19:00 PM	MB	248.70	Forrest	Outgoing	0.76	0.84	<1	<1
	11:32:00 AM	MB	248.80	Fire Hall	Fire Hall	0.78	0.82	<1	<1
	12:01:00 PM	MB	248.80	Dunganon	Dunganon	0.79	0.87	<1	<1
	12:57:00 PM	MB	63.50	PR#2	PR#2	0.83	0.93	<1	<1
	1:33:00 PM	MB	63.50	Elton Booster	Elton Booster	0.74	0.80	<1	<1

July 24, 2024	9:10:00 AM	HB	248.70	WTP	Raw	0.00	0.00	<1	<1
	9:20:00 AM	HB	248.70	WTP	Treated	0.79	0.86	<1	<1
	11:50:00 AM	HB	248.70	Forrest	Incoming	0.83	0.90	<1	<1
	11:45:00 AM	HB	248.70	Forrest	Outgoing	0.77	0.88	<1	<1
	9:31:00 AM	HB	248.80	Fire Hall	Fire Hall	0.72	0.76	<1	<1
	10:00:00 AM	HB	248.80	Dunganon	Dunganon	0.83	0.86	<1	<1
	11:00:00 AM	HB	63.50	PR#2	PR#2	0.80	0.91	<1	<1
	11:30:00 AM	HB	63.50	Elton Booster	Elton Booster	0.81	0.85	<1	<1

2024	Time		PWS #	Location	Tested	Chlorine Free	Chlorine Total	Total Coliforms	Escherichia Coli
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August 7, 2024	12:30:00 PM	SW	248.70	WTP	Raw	0.00	0.00	<1	<1
	12:30:00 PM	SW	248.70	WTP	Treated	0.81	0.89	<1	<1
	1:30:00 AM	SW	248.70	Forrest	Incoming	0.82	0.91	<1	<1
	1:30:00 AM	SW	248.70	Forrest	Outgoing	0.74	0.87	<1	<1
	12:00:00 PM	SW	248.80	Fire Hall	Fire Hall	0.74	0.79	<1	<1
	11:35:00 AM	SW	248.80	Dunganon	Dunganon	0.80	0.85	<1	<1
	10:00:00 AM	SW	63.50	PR#2	PR#2	0.78	0.90	<1	<1
	10:50:00 AM	SW	63.50	Elton Booster	Elton Booster	0.79	0.87	<1	<1

August 21, 2024	11:15:00 AM	MB	248.70	WTP	Raw	0.00	0.00	<1	<1
	11:17:00 AM	MB	248.70	WTP	Treated	0.77	0.80	<1	<1
	9:30:00 AM	MB	248.70	Forrest	Incoming	0.76	0.81	<1	<1
	9:35:00 AM	MB	248.70	Forrest	Outgoing	0.77	0.90	<1	<1
	11:09:00 AM	MB	248.80	Fire Hall	Fire Hall	0.79	0.82	<1	<1
	10:38:00 AM	MB	248.80	Dunganon	Dunganon	0.84	0.88	<1	<1
	11:58:00 AM	MB	63.50	PR#2	PR#2	0.71	0.78	<1	<1
	1:02:00 PM	MB	63.50	Elton Booster	Elton Booster	0.85	0.92	<1	<1

September 4, 2024	10:00AM	HB	248.70	WTP	Raw	0.00	0.00	<1	<1
	10:05AM	HB	248.70	WTP	Treated	1.12	1.15	<1	<1
	11:15AM	HB	248.70	Forrest	Incoming	1.10	1.17	<1	<1
	11:10AM	HB	248.70	Forrest	Outgoing	1.09	1.13	<1	<1
	11:09AM	HB	248.80	Fire Hall	Fire Hall	1.08	1.27	<1	<1
	11:27AM	HB	248.80	Dunganon	Dunganon	1.10	1.17	<1	<1
	12:23PM	HB	63.50	PR#2	PR#2	1.10	1.13	<1	<1
	12:57PM	HB	63.50	Elton Booster	Elton Booster	1.11	1.23	<1	<1

September 18, 2024	9:00:00 AM	HB	248.70	WTP	Raw	0.00	0.00	<1	<1
	9:05:00 AM	HB	248.70	WTP	Treated	0.97	1.07	<1	<1
	12:30:00 PM	HB	248.70	Forrest	Incoming	0.94	1.03	<1	<1
	12:26:00 PM	HB	248.70	Forrest	Outgoing	0.91	1.00	<1	<1
	9:30:00 AM	HB	248.80	Fire Hall	Fire Hall	0.83	0.90	<1	<1
	9:50:00 AM	HB	248.80	Dunganon	Dunganon	0.89	0.94	<1	<1
	11:05:00 AM	HB	63.50	PR#2	PR#2	0.96	1.15	<1	<1
	11:30:00 AM	HB	63.50	Elton Booster	Elton Booster	1.00	1.09	<1	<1

October 2, 2024	9:00:00 AM	HB	248.70	WTP	Raw	0.00	0.00	<1	<1
	9:05:00 AM	HB	248.70	WTP	Treated	0.88	0.98	<1	<1
	12:00:00 PM	HB	248.70	Forrest	Incoming	0.87	0.93	<1	<1
	12:00:00 PM	HB	248.70	Forrest	Outgoing	0.82	0.90	<1	<1
	9:26:00 AM	HB	248.80	Fire Hall	Fire Hall	0.77	0.86	<1	<1
	9:50:00 AM	HB	248.80	Dunganon	Dunganon	0.88	0.94	<1	<1
	10:50:00 AM	HB	63.50	PR#2	PR#2	0.90	0.97	<1	<1
	11:33:00 AM	HB	63.50	Elton Booster	Elton Booster	0.77	0.83	<1	<1

2024	Time		PWS #	Location	Tested	Chlorine Free	Chlorine Total	Total Coliforms	Escherichia Coli
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October 16, 2024	10:30:00 AM	HB	248.70	WTP	Raw	0.00	0.00	<1	<1
	10:35:00 AM	HB	248.70	WTP	Treated	0.92	1.12	<1	<1
	12:35:00 PM	HB	248.70	Forrest	Incoming	0.96	1.03	<1	<1
	12:30:00 PM	HB	248.70	Forrest	Outgoing	0.83	0.91	<1	<1
	10:38:00 AM	HB	248.80	Fire Hall	Fire Hall	0.97	1.03	<1	<1
	10:59:00 AM	HB	248.80	Dunganon	Dunganon	1.03	1.08	<1	<1
	12:02:00 PM	HB	63.50	PR#2	PR#2	0.83	0.89	<1	<1
	12:22:00 PM	HB	63.50	Elton Booster	Elton Booster	0.84	0.88	<1	<1

October 30, 2024	9:30:00 AM	HB	248.70	WTP	Raw	0.00	0.00	<1	<1
	9:31:00 AM	HB	248.70	WTP	Treated	0.91	1.03	<1	<1
	11:45:00 AM	HB	248.70	Forrest	Incoming	0.93	1.01	<1	<1
	11:50:00 AM	HB	248.70	Forrest	Outgoing	0.89	1.01	<1	<1
	9:40:00 AM	HB	248.80	Fire Hall	Fire Hall	0.98	1.02	<1	<1
	10:00:00 AM	HB	248.80	Dunganon	Dunganon	0.95	1.05	<1	<1
	9:53:00 AM	HB	63.50	PR#2	PR#2	0.95	0.98	<1	<1
	11:20:00 AM	HB	63.50	Elton Booster	Elton Booster	0.92	0.98	<1	<1

November 18, 2024	9:33:00 AM	RB	248.70	WTP	Raw	0.00	0.00	<1	<1
	9:33:00 AM	RB	248.70	WTP	Treated	0.84	0.96	<1	<1
	7:10:00 AM	RB	248.70	Forrest	Incoming	0.80	0.83	<1	<1
	7:10:00 AM	RB	248.70	Forrest	Outgoing	0.71	0.75	<1	<1
	9:30:00 AM	RB	248.80	Fire Hall	Fire Hall	0.62	0.68	<1	<1
	9:04:00 AM	RB	248.80	Dunganon	Dunganon	0.81	0.91	<1	<1
	8:24:00 AM	RB	63.50	PR#2	PR#2	0.75	0.83	<1	<1
	7:50:00 AM	RB	63.50	Elton Booster	Elton Booster	0.73	0.84	<1	<1

November 27, 2024	10:58:00 AM	RB	248.70	WTP	Raw	0.00	0.00	<1	<1
	10:58:00 AM	RB	248.70	WTP	Treated	0.79	0.89	<1	<1
	2:30:00 PM	RB	248.70	Forrest	Incoming	0.79	0.84	<1	<1
	2:30:00 PM	RB	248.70	Forrest	Outgoing	0.77	0.83	<1	<1
	11:25:00 AM	RB	248.80	Fire Hall	Fire Hall	0.78	0.86	<1	<1
	11:58:00 AM	RB	248.80	Dunganon	Dunganon	0.73	0.84	<1	<1
	1:33:00 PM	RB	63.50	PR#2	PR#2	0.78	0.86	<1	<1
	12:57:00 PM	RB	63.50	Elton Booster	Elton Booster	0.77	0.82	<1	<1

December 11, 2024	8:10:00 AM	HB	248.70	WTP	Raw	0.00	0.00	<1	<1
	8:15:00 AM	HB	248.70	WTP	Treated	0.76	0.84	<1	<1
	8:30:00 AM	MB	248.70	Forrest	Incoming	0.70	0.76	<1	<1
	8:15:00 AM	MB	248.70	Forrest	Outgoing	0.73	0.74	<1	<1
	8:30:00 AM	HB	248.80	Fire Hall	Fire Hall	0.74	0.84	<1	<1
	8:47:00 AM	HB	248.80	Dunganon	Dunganon	0.79	0.84	<1	<1
	9:23:00 AM	RB	63.50	PR#2	PR#2	0.74	0.77	<1	<1
	8:45:00 AM	RB	63.50	Elton Booster	Elton Booster	0.73	0.76	<1	<1

2024	Time		PWS #	Location	Tested	Chlorine Free	Chlorine Total	Total Coliforms	Escherichia Coli
Dec 19 2024	8:00:00 AM	HB	248.70	WTP	Raw	0.00	0.00	<1	<1
	8:10:00 AM	HB	248.70	WTP	Treated	0.79	0.85	<1	<1
	8:09:00 AM	MB	248.70	Forrest	Incoming	0.72	0.81	<1	<1
	7:58:00 AM	MB	248.70	Forrest	Outgoing	0.70	0.75	<1	<1
	8:11:00 AM	HB	248.80	Fire Hall	Fire Hall	0.71	0.81	<1	<1
	8:30:00 AM	HB	248.80	Dunganon	Dunganon	0.78	0.82	<1	<1
	9:10:00 AM	RB	63.50	PR#2	PR#2	0.71	0.78	<1	<1
	8:39:00 AM	RB	63.50	Elton Booster	Elton Booster	0.72	0.76	<1	<1

APPENDIX B

2024 Manganese Reports

Monthly Distribution System Manganese Report



Water System Name: WERWC

Water System Code: 248.70

Month: Jan Year: 2024

Type of Measurement Device: HACH DR 900

Operator in Charge: Ralph Berg

Other Operators: Bo Yeomans, Howard Buffi, Melanie Bollman

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
1	06:19	BY	0.490	0.028	0.012
2	09:32	MB	0.484	0.035	0.015
3	07:41	BY	0.492	0.054	0.020
4	07:52	BY	0.477	0.046	0.013
5	07:58	BY	0.468	0.044	0.015
6	09:42	HB	0.491	0.032	0.008
7	07:48	HB	0.452	0.029	0.007
8	08:04	HB	0.501	0.031	0.016
9	07:58	BY	0.499	0.030	0.014
10	08:32	BY	0.522	0.050	0.014
11	07:58	BY	0.487	0.043	0.009
12	08:30	HB	0.479	0.024	0.012
13	09:30	RB	0.494	0.021	0.000
14	10:44	RB	0.489	0.019	0.000
15	09:04	BY	0.526	0.041	0.012
16	08:06	BY	0.493	0.044	0.018

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
17	08:20	HB	0.527	0.041	0.009
18	08:28	HB	0.477	0.044	0.015
19	08:05	BY	0.503	0.038	0.017
20	09:01	BY	0.488	0.042	0.021
21	09:36	BY	0.503	0.039	0.023
22	08:30	HB	0.499	0.037	0.015
23	08:00	BY	0.495	0.046	0.020
24	08:10	HB	0.494	0.029	0.015
25	07:56	BY	0.506	0.034	0.016
26	09:14	BY	0.511	0.046	0.015
27	08:38	HB	0.470	0.026	0.018
28	07:55	HB	0.482	0.029	0.020
29	08:10	HB	0.500	0.034	0.025
30	08:15	MB	0.482	0.038	0.012
31	09:45	HB	0.480	0.037	0.014

Distribution Locations - Manganese

Date	Location

Submitted By: Bo Yeomans

Signature: 

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Monthly Distribution System Manganese Report



Water System Name: WERWC

Water System Code: 248.70

Month: Feb Year: 2024

Type of Measurement Device: HACH DR 900

Operator in Charge: Ralph Berg

Other Operators: Bo Yeomans, Howard Buffi, Melanie Bollman

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
1	08:10	MB	0.506	0.042	0.012
2	08:23	MB	0.484	0.043	0.016
3	09:59	MB	0.471	0.032	0.018
4	09:45	MB	0.515	0.036	0.018
5	08:00	BY	0.476	0.041	0.022
6	08:20	HB	0.489	0.029	0.010
7	08:14	BY	0.494	0.047	0.018
8	08:05	HB	0.472	0.034	0.014
9	08:02	BY	0.555	0.049	0.018
10	09:31	BY	0.538	0.051	0.014
11	09:37	BY	0.512	0.048	0.013
12	08:06	BY	0.533	0.044	0.015
13	07:56	BY	0.477	0.033	0.010
14	08:04	BY	0.498	0.034	0.014
15	08:17	BY	0.501	0.033	0.023
16	09:56	MB	0.518	0.047	0.012

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
17	09:57	HB	0.543	0.030	0.007
18	08:46	HB	0.483	0.041	0.011
19	10:08	HB	0.511	0.031	0.014
20	08:10	HB	0.475	0.027	0.003
21	08:06	BY	0.503	0.024	0.004
22	08:04	BY	0.498	0.035	0.012
23	07:57	BY	0.478	0.030	0.011
24	10:15	MB	0.498	0.024	0.003
25	09:40	MB	0.533	0.028	0.003
26	07:46	BY	0.505	0.030	0.011
27	07:37	BY	0.517	0.034	0.018
28	07:29	BY	0.553	0.036	0.016
29	07:51	BY	0.486	0.031	0.014

Distribution Locations - Manganese

Date	Location

Submitted By: _____

Signature: _____

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Monthly Distribution System Manganese Report



Water System Name: WERWC

Water System Code: 248.70

Month: Mar Year: 2024

Type of Measurement Device: HACH DR 900

Operator in Charge: Ralph Berg

Other Operators: Bo Yeomans, Howard Buffi, Melanie Bollman

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
1	09:36	MB	0.467	0.034	0.014
2	08:16	BY	0.492	0.038	0.013
3	08:29	BY	0.493	0.018	0.005
4	08:02	BY	0.481	0.032	0.004
5	07:53	BY	0.506	0.031	0.007
6	07:59	BY	0.515	0.029	0.005
7	08:39	HB	0.484	0.026	0.009
8	08:03	BY	0.506	0.022	0.003
9	09:36	HB	0.455	0.026	0.006
10	06:57	HB	0.476	0.022	0.008
11	08:05	HB	0.468	0.029	0.009
12	08:50	HB	0.477	0.030	0.009
13	08:17	HB	0.548	0.034	0.011
14	08:10	BY	0.535	0.041	0.010
15	08:12	BY	0.477	0.028	0.015
16	10:23	MB	0.538	0.045	0.010

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
17	11:18	MB	0.509	0.027	0.012
18	08:03	BY	0.531	0.030	0.012
19	07:58	BY	0.517	0.038	0.009
20	08:09	BY	0.519	0.037	0.017
21	08:01	BY	0.520	0.043	0.018
22	08:17	BY	0.498	0.033	0.010
23	10:36	RB	0.467	0.027	0.006
24	12:00	RB	0.518	0.025	0.007
25	08:18	HB	0.491	0.023	0.005
26	07:58	BY	0.476	0.027	0.012
27	07:59	BY	0.502	0.042	0.017
28	07:54	BY	0.485	0.038	0.013
29	08:52	BY	0.486	0.032	0.019
30	08:49	BY	0.503	0.029	0.011
31	07:57	BY	0.480	0.029	0.015

Distribution Locations - Manganese

Date	Location

Submitted By: Bo Yeomans

Signature: [Signature]

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Monthly Distribution System Manganese Report



Water System Name: WERWC

Water System Code: 248.70

Month: Apr Year: 2024

Type of Measurement Device: HACH DR 900

Operator in Charge: Ralph Berg

Other Operators: Bo Yeomans, Howard Buffi, Melanie Bollman

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
1	08:45	BY	0.509	0.035	0.011
2	07:56	BY	0.519	0.033	0.014
3	07:55	BY	0.492	0.025	0.019
4	08:02	HB	0.497	0.019	0.004
5	08:13	HB	0.515	0.027	0.014
6	11:13	HB	0.520	0.035	0.011
7	07:41	HB	0.505	0.037	0.014
8	08:55	HB	0.511	0.045	0.015
9	08:05	BY	0.481	0.037	0.015
10	08:35	BY	0.521	0.037	0.013
11	08:15	HB	0.479	0.030	0.016
12	08:09	HB	0.485	0.029	0.009
13	09:02	MB	0.504	0.035	0.008
14	11:11	MB	0.455	0.040	0.011
15	08:13	HB	0.500	0.039	0.013
16	08:22	BY	0.495	0.036	0.012

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
17	08:01	BY	0.506	0.021	0.011
18	08:01	HB	0.525	0.031	0.008
19	08:13	HB	0.515	0.036	0.007
20	08:35	RB	0.527	0.026	0.009
21	09:14	RB	0.482	0.042	0.014
22	08:11	HB	0.512	0.029	0.009
23	08:00	BY	0.510	0.029	0.012
24	08:15	HB	0.496	0.025	0.009
25	11:27	BY	0.526	0.044	0.014
26	07:54	BY	0.494	0.027	0.014
27	07:58	BY	0.493	0.029	0.006
28	08:25	BY	0.516	0.029	0.012
29	07:58	BY	0.518	0.017	0.016
30	07:50	HB	0.502	0.024	0.012

Distribution Locations - Manganese

Date	Location

Submitted By: Bo Yeomans

Signature: 

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
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Monthly Distribution System Manganese Report



Water System Name: WERWC

Water System Code: 248.70

Month: May Year: 2024

Type of Measurement Device: HACH DR 900

Operator in Charge: Ralph Berg

Other Operators: Bo Yeomans, Howard Buffi, Melanie Bollman

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
1	08:01	BY	0.483	0.024	0.007
2	08:01	BY	0.496	0.023	0.004
3	07:55	BY	0.503	0.030	0.012
4	11:21	MB	0.495	0.028	0.012
5	10:42	MB	0.533	0.028	0.011
6	07:56	BY	0.508	0.028	0.010
7	10:22	HB	0.508	0.026	0.018
8	07:48	BY	0.485	0.032	0.013
9	07:47	BY	0.501	0.023	0.014
10	08:30	HB	0.488	0.029	0.008
11	11:05	HB	0.528	0.027	0.008
12	10:10	HB	0.485	0.039	0.010
13	08:00	HB	0.481	0.025	0.005
14	08:17	HB	0.519	0.038	0.010
15	08:07	BY	0.508	0.031	0.012
16	09:20	BY	0.508	0.021	0.011

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
17	09:07	HB	0.501	0.018	0.000
18	10:14	HB	0.518	0.032	0.016
19	11:20	RB	0.540	0.034	0.018
20	10:51	RB	0.525	0.030	0.012
21	08:14	HB	0.549	0.024	0.007
22	08:08	HB	0.495	0.028	0.013
23	08:09	HB	0.512	0.029	0.014
24	07:48	BY	0.503	0.027	0.015
25	07:10	BY	0.486	0.029	0.012
26	10:58	BY	0.474	0.018	0.005
27	07:58	BY	0.523	0.030	0.012
28	08:49	BY	0.522	0.029	0.014
29	08:45	HB	0.530	0.016	0.002
30	08:00	BY	0.512	0.028	0.015
31	08:10	HB	0.483	0.021	0.004

Distribution Locations - Manganese

Date	Location

Submitted By: Bo Yeomans

Signature: 

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
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Monthly Distribution System Manganese Report



Water System Name: WERWC

Water System Code: 248.70

Month: Jun Year: 2024

Type of Measurement Device: HACH DR 900

Operator in Charge: Ralph Berg

Other Operators: Bo Yeomans, Howard Buffi, Melanie Bollman

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
1	10:59	MB	0.524	0.026	0.010
2	11:01	MB	0.471	0.028	0.011
3	07:54	BY	0.485	0.027	0.009
4	08:14	HB	0.519	0.020	0.006
5	08:15	HB	0.490	0.023	0.011
6	08:16	HB	0.514	0.020	0.012
7	08:52	BY	0.521	0.023	0.015
8	09:52	HB	0.493	0.025	0.009
9	08:28	HB	0.527	0.027	0.015
10	08:05	HB	0.522	0.026	0.012
11	08:15	HB	0.512	0.026	0.013
12	08:22	HB	0.523	0.028	0.013
13	08:25	HB	0.509	0.026	0.014
14	03:50	HB	0.524	0.027	0.012
15	08:25	RB	0.513	0.039	0.014
16	11:23	RB	0.532	0.028	0.018

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
17	08:54	HB	0.506	0.027	0.010
18	08:34	HB	0.519	0.039	0.000
19	08:14	HB	0.531	0.036	0.006
20	08:20	HB	0.524	0.036	0.012
21	08:15	BY	0.507	0.029	0.007
22	08:00	BY	0.487	0.032	0.012
23	06:54	BY	0.515	0.020	0.007
24	08:27	HB	0.476	0.025	0.012
25	08:25	HB	0.506	0.019	0.007
26	08:45	HB	0.532	0.024	0.013
27	08:10	HB	0.522	0.033	0.012
28	08:16	HB	0.510	0.015	0.005
29	12:07	MB	0.525	0.033	0.014
30	13:28	MB	0.519	0.023	0.014

Distribution Locations - Manganese

Date	Location

Submitted By: Bo Yeomans

Signature: 

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Monthly Distribution System Manganese Report



Water System Name: WERWC

Water System Code: 248.70

Month: Jul Year: 2024

Type of Measurement Device: HACH DR 900

Operator in Charge: Ralph Berg

Other Operators: Bo Yeomans, Howard Buffi, Melanie Bollman

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
1	14:14	MB	0.551	0.033	0.008
2	08:17	HB	0.518	0.019	0.011
3	08:10	HB	0.520	0.035	0.014
4	08:00	HB	0.521	0.029	0.011
5	08:33	HB	0.494	0.020	0.014
6	09:17	HB	0.500	0.037	0.013
7	08:46	HB	0.520	0.024	0.020
8	10:50	MB	0.522	0.024	0.011
9	08:10	HB	0.521	0.025	0.012
10	09:36	HB	0.526	0.032	0.015
11	10:48	MB	0.516	0.030	0.012
12	11:35	MB	0.519	0.029	0.011
13	10:37	RB	0.526	0.028	0.012
14	11:33	RB	0.511	0.026	0.007
15	12:03	MB	0.527	0.024	0.009
16	08:24	HB	0.498	0.026	0.013

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
17	10:20	HB	0.533	0.027	0.011
18	09:00	HB	0.530	0.037	0.011
19	09:50	HB	0.525	0.028	0.008
20	09:59	HB	0.514	0.039	0.016
21	14:10	HB	0.554	0.028	0.013
22	09:00	HB	0.560	0.023	0.013
23	09:50	HB	0.547	0.031	0.011
24	08:45	HB	0.560	0.037	0.019
25	08:46	HB	0.484	0.026	0.017
26	09:54	MB	0.549	0.025	0.014
27	13:03	MB	0.529	0.027	0.014
28	13:52	MB	0.525	0.030	0.011
29	08:55	HB	0.532	0.033	0.011
30	10:18	HB	0.506	0.025	0.011
31	11:05	HB	0.533	0.030	0.015

Distribution Locations - Manganese

Date	Location

Submitted By: Howard Buffi

Signature: 

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
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Monthly Distribution System Manganese Report



Water System Name: WERWC

Water System Code: 248.70

Month: Aug Year: 2024

Type of Measurement Device: HACH DR 900

Operator in Charge: Ralph Berg

Other Operators: Howard Buffi, Melanie Bollman, Savannah Wedgewood

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
1	08:00	HB	0.544	0.019	0.010
2	09:57	HB	0.535	0.030	0.008
3	09:47	MB	0.509	0.023	0.006
4	12:39	MB	0.546	0.033	0.014
5	13:41	MB	0.517	0.025	0.009
6	08:45	HB	0.503	0.023	0.013
7	08:46	HB	0.481	0.026	0.016
8	09:42	HB	0.495	0.017	0.011
9	08:14	HB	0.486	0.022	0.004
10	10:44	RB	0.504	0.023	0.000
11	12:00	RB	0.489	0.026	0.007
12	08:36	HB	0.489	0.018	0.007
13	08:29	HB	0.497	0.028	0.009
14	08:34	SW	0.469	0.022	0.008
15	10:37	SW	0.484	0.035	0.011
16	08:13	SW	0.531	0.042	0.021

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
17	10:07	HB	0.509	0.022	0.013
18	08:19	HB	0.493	0.038	0.016
19	08:15	SW	0.497	0.034	0.014
20	08:30	SW	0.495	0.045	0.011
21	08:18	SW	0.538	0.029	0.007
22	08:25	SW	0.494	0.057	0.009
23	08:17	HB	0.504	0.041	0.000
24	02:31	MB	0.484	0.045	0.009
25	11:39	MB	0.482	0.021	0.012
26	07:57	SW	0.507	0.044	0.009
27	08:13	SW	0.473	0.058	0.046
28	09:37	SW	0.510	0.037	0.006
29	08:38	HB	0.513	0.033	0.006
30	08:06	HB	0.481	0.043	0.002
31	00:00	RB	0.530	0.047	0.016

Distribution Locations - Manganese

Date	Location

Submitted By: Ralph Berg

Signature: *Ralph Berg*

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Monthly Distribution System Manganese Report



Water System Name: WERWC

Water System Code: 248.70

Month: Sep Year: 2024

Type of Measurement Device: HACH DR 900

Operator in Charge: Ralph Berg

Other Operators: Howard Buffi, Melanie Bollman, Savannah Wedgewood

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
1	10:40	RB	0.503	0.043	0.009
2	10:51	RB	0.503	0.047	0.007
3	08:11	HB	0.533	0.005	0.010
4	08:02	SW	0.494	0.004	0.006
5	08:09	HB	0.496	0.028	0.007
6	08:15	HB	0.500	0.034	0.012
7	09:13	SW	0.522	0.016	0.011
8	08:15	SW	0.502	0.029	0.014
9	08:07	SW	0.495	0.023	0.011
10	07:57	HB	0.493	0.033	0.013
11	08:17	HB	0.495	0.031	0.010
12	08:22	HB	0.484	0.030	0.013
13	08:42	HB	0.496	0.029	0.014
14	08:11	RB	0.510	0.033	0.009
15	09:21	RB	0.507	0.032	0.009
16	08:32	HB	0.504	0.028	0.013

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
17	08:17	HB	0.475	0.032	0.011
18	08:17	HB	0.480	0.027	0.009
19	10:58	MB	0.485	0.019	0.007
20	09:00	HB	0.515	0.022	0.010
21	10:37	SW	0.488	0.025	0.012
22	11:48	SW	0.498	0.031	0.010
23	10:07	RB	0.494	0.028	0.010
24	08:15	HB	0.498	0.024	0.004
25	08:19	HB	0.546	0.025	0.005
26	08:10	HB	0.495	0.036	0.006
27	08:38	HB	0.501	0.033	0.009
28	11:48	MB	0.496	0.024	0.005
29	11:41	MB	0.495	0.017	0.006
30	13:22	MB	0.485	0.023	0.009

Distribution Locations - Manganese

Date	Location

Submitted By: Ralph Berg

Signature: *Ralph Berg*

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Monthly Distribution System Manganese Report



Water System Name: WERWC

Water System Code: 248.70

Month: Oct Year: 2024

Type of Measurement Device: HACH DR 900

Operator in Charge: Ralph Berg

Other Operators: Howard Buffi, Melanie Bollman

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
1	08:24	HB	0.501	0.021	0.009
2	08:09	HB	0.493	0.025	0.012
3	08:14	HB	0.479	0.025	0.007
4	08:32	HB	0.477	0.034	0.014
5	09:45	HB	0.507	0.027	0.010
6	09:20	HB	0.478	0.027	0.012
7	09:23	HB	0.490	0.024	0.008
8	08:02	HB	0.479	0.026	0.005
9	08:13	HB	0.475	0.032	0.013
10	08:18	HB	0.473	0.020	0.005
11	8:10	HB	0.496	0.020	0.009
12	11:33	RB	0.496	0.035	0.012
13	11:54	RB	0.527	0.034	0.013
14	08:52	RB	0.490	0.007	0.002
15	08:14	HB	0.492	0.021	0.006
16	08:16	HB	0.507	0.028	0.006

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
17	08:09	HB	0.461	0.033	0.012
18	08:08	HB	0.496	0.036	0.011
19	12:40	MB	0.485	0.044	0.009
20	13:16	MB	0.488	0.019	0.006
21	11:08	RB	0.515	0.032	0.011
22	08:08	HB	0.466	0.018	0.009
23	08:13	HB	0.493	0.029	0.007
24	12:53	HB	0.495	0.028	0.011
25	08:30	HB	0.497	0.027	0.010
26	09:55	HB	0.513	0.037	0.005
27	08:15	HB	0.483	0.019	0.005
28	09:54	HB	0.493	0.026	0.004
29	08:07	HB	0.500	0.023	0.009
30	08:18	HB	0.459	0.020	0.009
31	08:04	HB	0.507	0.022	0.005

Distribution Locations - Manganese

Date	Location

Submitted By: RALPH BERG

Signature: *Ralph Berg*

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Monthly Distribution System Manganese Report



Water System Name: WERWC

Water System Code: 248.70

Month: Nov Year: 2024

Type of Measurement Device: HACH DR 900

Operator in Charge: Ralph Berg

Other Operators: Howard Buffi, Melanie Bollman

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
1	08:41	HB	0.501	0.023	0.012
2	12:00	RB	0.507	0.020	0.008
3	08:10	RB	0.501	0.026	0.007
4	08:21	HB	0.503	0.029	0.012
5	08:12	HB	0.478	0.027	0.009
6	08:15	HB	0.484	0.026	0.012
7	08:23	HB	0.476	0.026	0.009
8	08:11	HB	0.494	0.034	0.007
9	09:46	RB	0.486	0.032	0.019
10	11:09	RB	0.508	0.022	0.004
11	08:56	RB	0.487	0.030	0.006
12	08:23	HB	0.492	0.014	0.000
13	08:07	HB	0.515	0.027	0.010
14	08:15	HB	0.523	0.022	0.007
15	08:12	HB	0.499	0.025	0.010
16	09:26	HB	0.504	0.020	0.011

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
17	13:22	HB	0.512	0.029	0.004
18	08:29	HB	0.498	0.030	0.009
19	09:35	HB	0.504	0.017	0.002
20	08:40	HB	0.481	0.029	0.011
21	08:19	HB	0.497	0.025	0.005
22	08:36	HB	0.498	0.024	0.007
23	10:30	RB	0.514	0.025	0.007
24	09:33	RB	0.496	0.027	0.006
25	08:10	HB	0.477	0.018	0.004
26	08:16	HB	0.496	0.024	0.003
27	10:58	RB	0.500	0.016	0.007
28	08:08	HB	0.526	0.027	0.003
29	08:34	HB	0.469	0.023	0.004
30	12:54	MB	0.505	0.024	0.010

Distribution Locations - Manganese

Date	Location

Submitted By: Howard Buffi

Signature:

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

Monthly Distribution System Manganese Report



Water System Name: WERWC

Water System Code: 248.70

Month: Dec Year: 2024

Type of Measurement Device: HACH DR 900

Operator in Charge: Ralph Berg

Other Operators: Howard Buffi, Melanie Bollman, Ephreme Tamene

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
1	12:33	MB	0.492	0.021	0.005
2	08:32	HB	0.444	0.030	0.009
3	08:14	HB	0.471	0.033	0.005
4	08:15	HB	0.525	0.030	0.009
5	08:08	HB	0.478	0.025	0.002
6	11:31	MB	0.506	0.019	0.005
7	09:21	RB	0.506	0.019	0.007
8	07:18	RB	0.511	0.022	0.010
9	08:09	HB	0.485	0.024	0.005
10	08:17	HB	0.521	0.028	0.012
11	08:09	HB	0.502	0.023	0.009
12	08:14	HB	0.492	0.024	0.011
13	08:22	HB	0.506	0.030	0.013
14	09:14	HB	0.501	0.023	0.008
15	14:18	HB	0.464	0.032	0.015
16	08:38	HB	0.482	0.023	0.013

Date	Time	Initials	Mn Residuals (mg/L)		
			Raw	Treated	Distribution
17	08:05	HB	0.512	0.033	0.008
18	08:10	HB	0.496	0.019	0.005
19	10:05	HB	0.495	0.020	0.005
20	08:06	HB	0.502	0.029	0.011
21	13:54	MB	0.515	0.026	0.012
22	11:17	MB	0.499	0.029	0.006
23	10:30	MB	0.499	0.028	0.012
24	10:56	MB	0.495	0.027	0.011
25	10:31	HB	0.493	0.018	0.001
26	09:37	HB	0.517	0.031	0.012
27	10:24	MB	0.497	0.033	0.009
28	09:42	RB	0.524	0.030	0.009
29	11:11	RB	0.513	0.026	0.012
30	07:59	HB	0.484	0.028	0.006
31	08:07	HB	0.517	0.027	0.010

Distribution Locations - Manganese

Date	Location

Submitted By: Ralph BERG

Signature: *Ralph Berg*

PLEASE REFER TO OPERATING LICENCE FOR APPLICABLE TREATMENT STANDARDS AND MONITORING REQUIREMENTS.
PLEASE CONTACT YOUR DRINKING WATER OFFICER WITH ANY COMMENTS, QUESTIONS OR CONCERNS.

APPENDIX C

2024 Water Use Report

Monitoring Well Graph Report

Annual Water Use Report For 2024

Pursuant to *The Water Rights Act*

LICENSEE'S NAME: Whitehead Elton Regional Water Co-operative Inc.	LICENSE NO.: PWS-11-487
POST OFFICE ADDRESS: General Delivery, Forrest MB R0K 0A0	PHONE NO.: 204-728-7834
SOURCE OF WATER SUPPLY (CHECK ONE):	
<input checked="" type="checkbox"/> WELL	
<input type="checkbox"/> SURFACE WATER	(Name of River, Creek, Etc.)

LOCATION OF PUMP (OR WELL):

QUARTER	SECTION	TOWNSHIP	RANGE	OR OTHER (SPECIFY)
SE	21	10	21	W1

DESIGN PUMPING RATE: LITRES PER SECOND 22.7 OR OTHER (SPECIFY) _____

NOTE 1:

QUANTITIES OF WATER IN TABLE BELOW EXPRESSED IN (CHECK ONE)

- LITRES DECAMETRES
 OTHER (SPECIFY): Cubic Meters

METER READING DECEMBER 31/2023: 153849.33

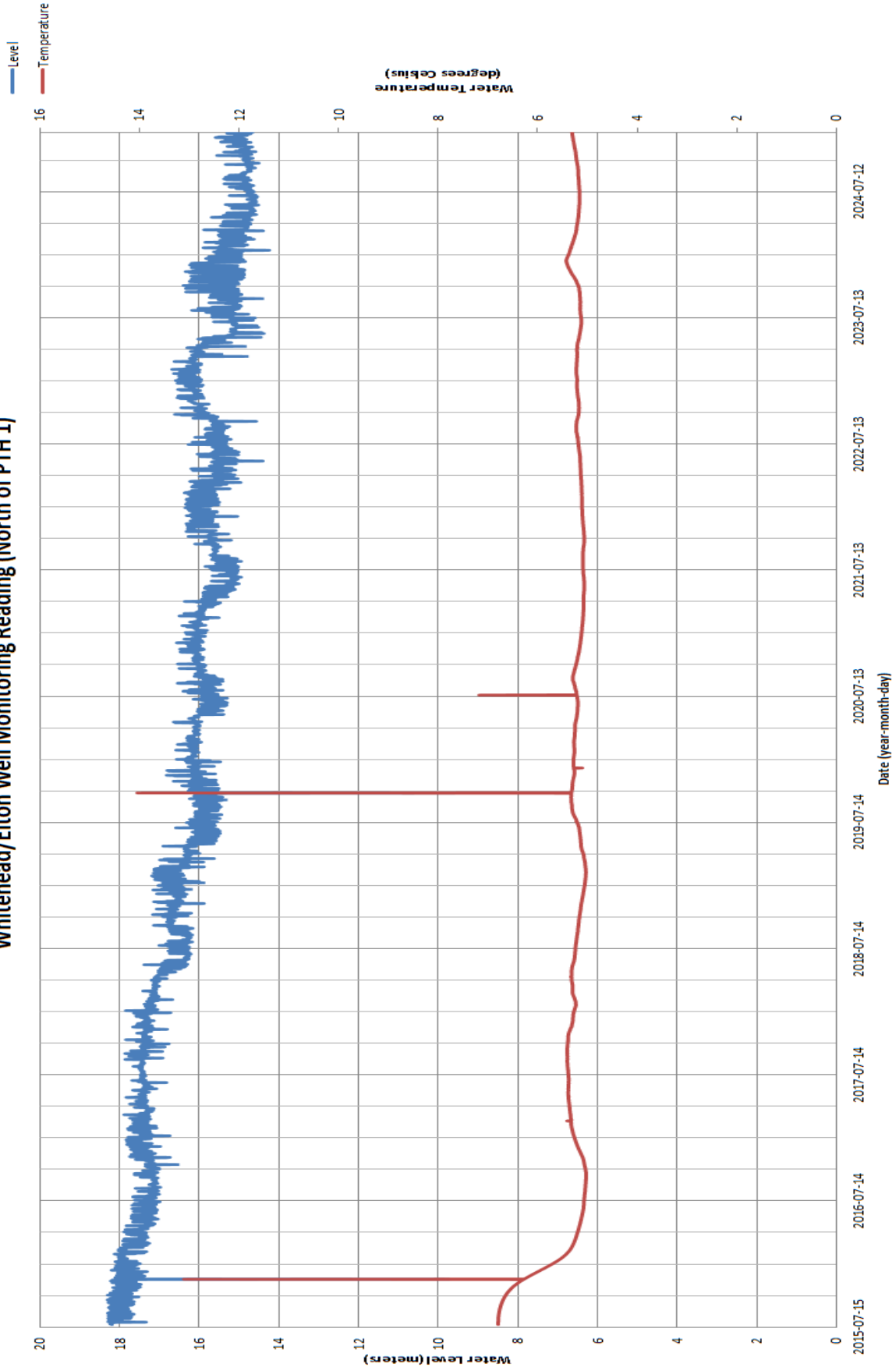
Day of Month	JANUARY		FEBRUARY		MARCH		APRIL	
	Meter Reading	Daily Consumption	Meter Reading	Daily Consumption	Meter Reading	Daily Consumption	Meter Reading	Daily Consumption
1	154504.53	655.20	175881.38	665.94	196001.38	781.82	218404.72	945.80
2	155179.83	675.30	176571.77	690.39	196625.09	623.71	219226.97	822.25
3	155823.84	644.01	177217.05	645.28	197405.81	780.72	219960.38	733.41
4	156431.78	607.94	177892.19	675.14	198111.17	705.36	220643.88	683.50
5	157155.84	724.06	178591.05	698.86	198790.31	679.14	221313.44	669.56
6	157822.56	666.72	179287.75	696.70	199458.27	667.96	222215.61	902.17
7	158479.55	656.99	179929.41	641.66	200179.17	720.90	222889.00	673.39
8	159184.97	705.42	180551.67	622.26	200918.03	738.86	223856.64	967.64
9	159821.91	636.94	181185.17	633.50	201667.83	749.80	224663.80	807.16
10	160601.53	779.62	181852.00	666.83	202387.50	719.67	225559.66	895.86
11	161257.13	655.60	182501.44	649.44	203204.38	816.88	226347.91	788.25
12	161941.89	684.76	183229.30	727.86	203901.55	697.17	227029.64	681.73
13	162602.23	660.34	183886.16	656.86	204581.23	679.68	227868.64	839.00
14	163364.61	762.38	184552.92	666.76	205239.66	658.43	228884.06	1015.42
15	163995.08	630.47	185223.83	670.91	205932.17	692.51	229714.17	830.11
16	164641.92	646.84	185923.08	699.25	206663.44	731.27	230604.70	890.53
17	165314.94	673.02	186681.69	758.61	207377.31	713.87	231484.39	879.69
18	166026.36	711.42	187230.61	548.92	207993.88	616.57	232303.97	819.58
19	166703.03	676.67	187954.47	723.86	208673.80	679.92	233070.72	766.75
20	167404.83	701.80	188774.58	820.11	209430.22	756.42	233854.67	783.95
21	168105.81	700.98	189336.98	562.40	210047.17	616.95	234683.50	828.83
22	168833.28	727.47	190115.45	778.47	210831.00	783.83	235550.34	866.84
23	169550.14	716.86	190811.78	696.33	211534.22	703.22	236354.56	804.22
24	170245.50	695.36	191635.58	823.80	212251.86	717.64	237197.88	843.32
25	170958.09	712.59	192403.86	768.28	212949.73	697.87	238013.86	815.98
26	171639.80	681.71	193088.70	684.84	213611.95	662.22	238909.64	895.78
27	172304.00	664.20	193794.22	705.52	214290.64	678.69	239706.81	797.17
28	173005.02	701.02	194479.31	685.09	214993.95	703.31	240574.13	867.32
29	173751.20	746.18	195219.56	740.25	215794.27	800.32	241506.67	932.54
30	174428.27	677.07			216626.83	832.56	242416.59	909.92
31	175215.44	787.17			217458.92	832.09		
TOTAL	21366.11		20004.12		22239.36		24957.67	

NOTE 2:

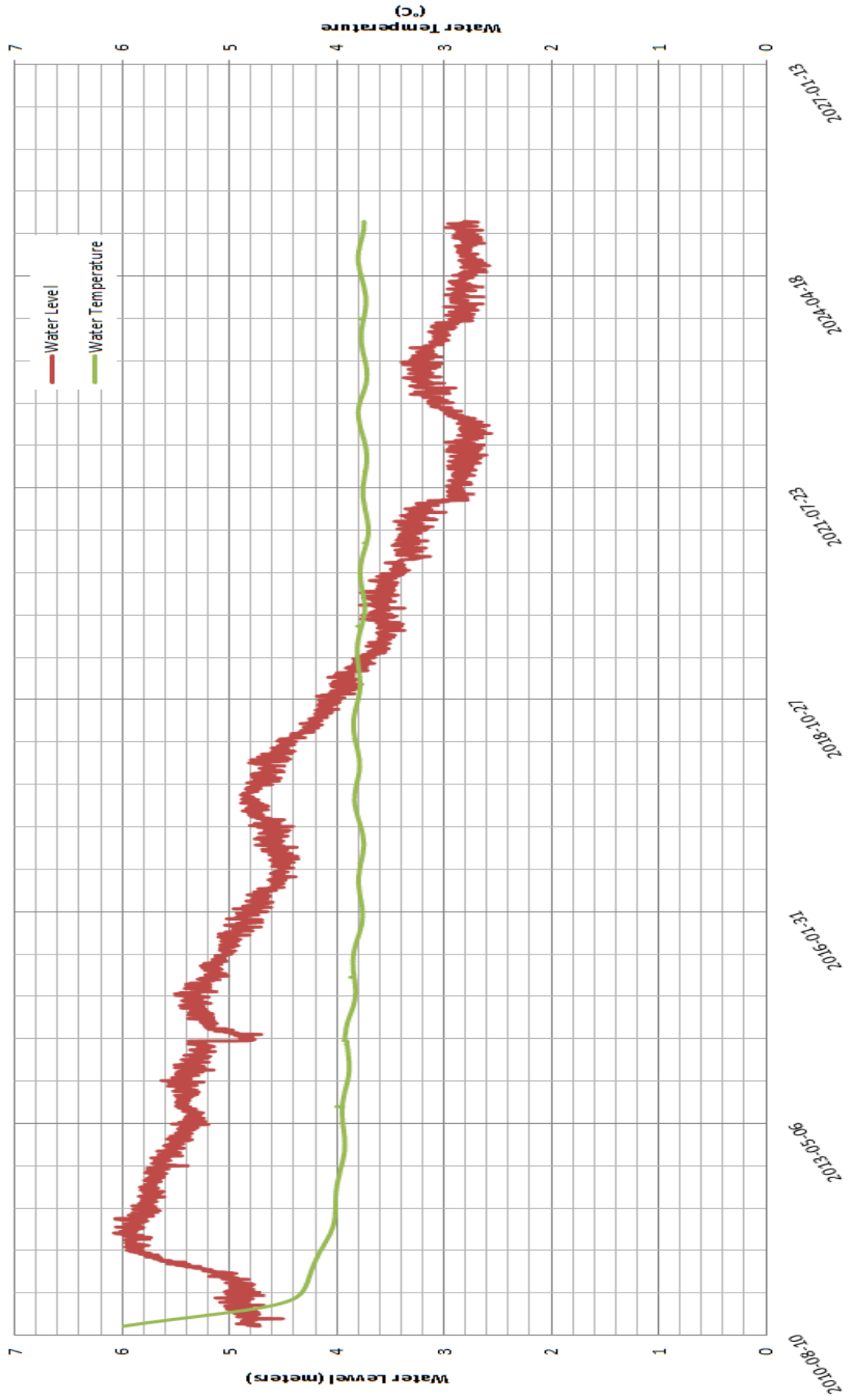
LISCENSEE MUST COMPLETE "ANNUAL WATER USE REPORT" FOR EACH CALENDER YEAR AND FORWARD THE REPORT TO THE WATER LICENSING SECTION AT THE ABOVE ADDRESS NOT LATER THAN FEB. 1 OF THE FOLLOWING YEAR.

Day of Month	MAY		JUNE		JULY		AUGUST	
	Meter Reading	Daily Consumption	Meter Reading	Daily Consumption	Meter Reading	Daily Consumption	Meter Reading	Daily Consumption
1	243283.81	867.22	276838.44	1134.28	310643.06	912.84	340795.00	1236.78
2	244085.27	801.46	277948.97	1110.53	311265.75	622.69	341840.75	1045.75
3	244908.65	823.38	278786.81	837.84	312181.63	915.88	343010.50	1169.75
4	245893.97	985.32	279951.72	1164.91	313212.63	1031.00	343747.03	736.53
5	246816.98	923.01	281062.09	1110.37	314373.31	1160.68	344499.19	752.16
6	247744.02	927.04	282177.72	1115.63	315153.66	780.35	345042.47	543.28
7	249008.28	1264.26	283346.78	1169.06	316261.25	1107.59	346013.66	971.19
8	249838.42	830.14	284537.06	1190.28	317168.97	907.72	346870.55	856.89
9	250925.45	1087.03	285637.19	1100.13	318058.97	890.00	347650.00	779.45
10	252234.11	1308.66	286938.53	1301.34	319302.66	1243.69	348584.47	934.47
11	253588.86	1354.75	288028.09	1089.56	320680.63	1377.97	349377.03	792.56
12	254568.06	979.20	289174.72	1146.63	321992.50	1311.87	350096.72	719.69
13	255580.59	1012.53	290424.56	1249.84	323029.60	1037.10	351156.88	1060.16
14	256775.22	1194.63	291616.81	1192.25	323895.63	866.03	352209.29	1052.41
15	257861.16	1085.94	292969.00	1352.19	324922.53	1026.90	353142.19	932.90
16	259144.34	1283.18	294313.69	1344.69	325727.63	805.10	354050.09	907.90
17	260530.52	1386.18	295272.06	958.37	326938.16	1210.53	354905.94	855.85
18	261691.53	1161.01	296443.31	1171.25	327922.66	984.50	355590.59	684.65
19	262597.38	905.85	297441.28	997.97	329026.41	1103.75	356410.78	820.19
20	263538.00	940.62	298553.13	1111.85	330006.94	980.53	357507.00	1096.22
21	264550.88	1012.88	299826.94	1273.81	330988.53	981.59	358672.09	1165.09
22	265836.25	1285.37	300982.34	1155.40	331545.28	556.75	359817.94	1145.85
23	267236.34	1400.09	301956.91	974.57	332482.75	937.47	360795.41	977.47
24	268437.84	1201.50	303096.38	1139.47	333245.81	763.06	362002.41	1207.00
25	269246.03	808.19	304063.53	967.15	334061.41	815.60	362682.59	680.18
26	270238.72	992.69	305248.81	1185.28	335210.19	1148.78	363394.84	712.25
27	271143.75	905.03	306541.69	1292.88	336187.56	977.37	364314.16	919.32
28	272274.97	1131.22	307747.53	1205.84	337041.97	854.41	365416.50	1102.34
29	273455.18	1180.21	308715.41	967.88	337666.28	624.31	366280.94	864.44
30	274546.97	1091.79	309730.22	1014.81	338614.56	948.28	367002.31	721.37
31	275704.16	1157.19			339558.22	943.66	368077.59	1075.28
TOTAL	33287.57		34026.06		29828.00		28519.37	
Day of Month	SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Meter Reading	Daily Consumption	Meter Reading	Daily Consumption	Meter Reading	Daily Consumption	Meter Reading	Daily Consumption
1	368751.75	674.16	393352.28	481.53	415276.81	694.59	434394.91	605.38
2	369695.31	943.56	393968.66	616.38	416031.91	755.10	434861.84	466.93
3	370423.31	728.00	394691.38	722.72	416443.63	411.72	435539.03	677.19
4	371390.69	967.38	395421.31	729.93	417132.75	689.12	436199.59	660.56
5	372342.59	951.90	396214.09	792.78	417793.50	660.75	436874.60	675.01
6	373308.97	966.38	396792.84	578.75	418402.34	608.84	437316.88	442.28
7	374202.75	893.78	397523.47	730.63	419019.69	617.35	438093.34	776.46
8	374977.28	774.53	398365.63	842.16	419602.88	583.19	438716.97	623.63
9	375991.31	1014.03	399198.09	832.46	420090.16	487.28	439366.22	649.25
10	376882.88	891.57	399987.47	789.38	420998.41	908.25	439998.38	632.16
11	377817.09	934.21	400836.75	849.28	421439.56	441.15	440647.84	649.46
12	378627.06	809.97	401786.25	949.50	422113.31	673.75	441264.00	616.16
13	379455.88	828.82	402483.44	697.19	422735.63	622.32	441928.63	664.63
14	380186.84	730.96	403070.13	586.69	423370.38	634.75	442525.52	596.89
15	381240.63	1053.79	403784.19	714.06	423982.59	612.21	443486.97	961.45
16	381800.94	560.31	404520.97	736.78	424692.56	709.97	443923.72	436.75
17	382564.63	763.69	405260.11	739.14	425544.44	851.88	444674.22	750.50
18	383460.91	896.28	406017.75	757.64	425949.94	405.50	445347.06	672.84
19	384399.53	938.62	406926.00	908.25	426595.38	645.44	446136.97	789.91
20	385133.00	733.47	407620.47	694.47	427166.66	571.28	446666.72	529.75
21	385980.28	847.28	408264.59	644.12	427794.78	628.12	447597.84	931.12
22	386767.69	787.41	408824.59	560.00	428411.00	616.22	448108.00	510.16
23	387588.31	820.62	409477.94	653.35	429089.14	678.14	448658.97	550.97
24	388194.31	606.00	410418.50	940.56	429643.13	553.99	449398.75	739.78
25	388978.34	784.03	410758.13	339.63	430296.94	653.81	450016.88	618.13
26	389706.06	727.72	411367.84	609.71	430982.84	685.90	450656.06	639.18
27	390441.24	735.18	411953.44	585.60	431667.03	684.19	451351.72	695.66
28	391375.00	933.76	412734.19	780.75	432267.38	600.35	451952.59	600.87
29	391967.00	592.00	413314.06	579.87	432893.56	626.18	452633.69	681.10
30	392870.75	903.75	413958.47	644.41	433789.53	895.97	453206.94	573.25
31			414582.22	623.75			453853.53	646.59
TOTAL	24793.16		21711.47		19207.31		20064.00	

Whitehead/Elton Well Monitoring Reading (North of PTH 1)



Alexander Levellogger Well Reading (South of PTH 1)



APPENDIX D

2024 Metals Chemistry Report



CERTIFICATE OF ANALYSIS

Work Order	: WP2427463	Laboratory	: ALS Environmental - Winnipeg
Client	: Rural Municipality of Whitehead	Account Manager	: Sheriza Rajack-Ahamed
Contact	: Ralph Berg	Address	: 1329 Niakwa Road East, Unit 12
Address	: 14 Fultz Boulevard		: Winnipeg MB Canada R2J 3T4
Telephone	: Winnipeg Manitoba Canada R3Y 0L6	Telephone	: +1 204 255 9720
Project	: 204 945 5776	Date Samples Received	: 17-Dec-2024 15:35
PO	: Whitehead Elton Regional - PWS 248.70	Date Analysis Commenced	: 18-Dec-2024
C-O-C number	: -----	Issue Date	: 24-Dec-2024 10:43
Sampler	: -----		
Site	: -----		
Quote number	: 2024 WTP Chemistry - 248.70 - Whitehead Elton Regional		
No. of samples received	: 3		
No. of samples analysed	: 3		

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
Oleksandr Busel	Laboratory Department
	Metals, Winnipeg, Manitoba

Work Order : WP2427463
 Client : Rural Municipality of Whitehead
 Project : Whitehead Elton Regional - PWS 248.70



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

Analyte	CAS Number	Method/Lab	Client sampling date / time		Client sample ID		
			LOR	Unit	Whitehead Elton Regional 1 - Raw	Whitehead Elton Regional 2 - Treated	Whitehead Elton Regional 3 - Distribution
Total Metals					Result	Result	Result
Aluminum, total	7429-90-5	E420WP	3.0	µg/L	1.3	2.7	1.8
Antimony, total	7440-36-0	E420WP	0.10	µg/L	Not Detected	Not Detected	0.010
Arsenic, total	7440-38-2	E420WP	0.10	µg/L	7.01	1.42	1.26
Barium, total	7440-39-3	E420WP	0.10	µg/L	23.9	4.19	3.98
Beryllium, total	7440-41-7	E420WP	0.020	µg/L	Not Detected	Not Detected	Not Detected
Bismuth, total	7440-69-9	E420WP	0.050	µg/L	Not Detected	Not Detected	0.0062
Boron, total	7440-42-8	E420WP	10	µg/L	67	68	72
Cadmium, total	7440-43-9	E420WP	0.0050	µg/L	0.0010	Not Detected	0.0058
Calcium, total	7440-70-2	E420WP	50	µg/L	138000	31200	31300
Cesium, total	7440-46-2	E420WP	0.010	µg/L	0.0017	Not Detected	0.0013
Chromium, total	7440-47-3	E420WP	0.50	µg/L	Not Detected	0.073	0.11
Cobalt, total	7440-48-4	E420WP	0.10	µg/L	0.016	Not Detected	Not Detected
Copper, total	7440-50-8	E420WP	0.50	µg/L	0.059	0.83	4.68
Iron, total	7439-89-6	E420WP	10	µg/L	2060	14	16
Lead, total	7439-92-1	E420WP	0.050	µg/L	0.0078	0.224	0.727
Lithium, total	7439-93-2	E420WP	1.0	µg/L	45.8	15.0	15.1
Magnesium, total	7439-95-4	E420WP	5.0	µg/L	55300	12600	12200
Manganese, total	7439-96-5	E420WP	0.10	µg/L	483	1.96	1.95
Molybdenum, total	7439-98-7	E420WP	0.050	µg/L	4.37	0.726	0.714
Nickel, total	7440-02-0	E420WP	0.50	µg/L	0.12	0.11	0.43

Work Order : WP2427463
 Client : Rural Municipality of Whitehead
 Project : Whitehead Elton Regional - PWS 248.70



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

Analyte	CAS Number	Method/Lab	Client sample ID		Whitehead Elton Regional 1 - Raw	Whitehead Elton Regional 2 - Treated	Whitehead Elton Regional 3 - Distribution
			LOR	Unit			
Total Metals							
Phosphorus, total	7723-14-0	E420WP	50	µg/L	59	9.1	10
Potassium, total	7440-09-7	E420WP	50	µg/L	4490	1310	1330
Rubidium, total	7440-17-7	E420WP	0.20	µg/L	1.61	0.50	0.51
Selenium, total	7782-49-2	E420WP	0.050	µg/L	0.016	0.012	0.0058
Silicon, total	7440-21-3	E420WP	100	µg/L	14200	2850	2770
Silver, total	7440-22-4	E420WP	0.010	µg/L	Not Detected	Not Detected	Not Detected
Sodium, total	7440-23-5	E420WP	50	µg/L	8710	20000	20000
Strontium, total	7440-24-6	E420WP	0.20	µg/L	368	86.0	84.5
Sulfur, total	7704-34-9	E420WP	500	µg/L	86800	23500	22600
Tellurium, total	13494-80-9	E420WP	0.20	µg/L	Not Detected	Not Detected	Not Detected
Thallium, total	7440-28-0	E420WP	0.010	µg/L	Not Detected	Not Detected	Not Detected
Thorium, total	7440-29-1	E420WP	0.10	µg/L	Not Detected	Not Detected	Not Detected
Tin, total	7440-31-5	E420WP	0.10	µg/L	Not Detected	0.017	0.026
Titanium, total	7440-32-6	E420WP	0.30	µg/L	Not Detected	Not Detected	Not Detected
Tungsten, total	7440-33-7	E420WP	0.10	µg/L	0.011	Not Detected	Not Detected
Uranium, total	7440-61-1	E420WP	0.010	µg/L	6.32	1.52	1.42
Vanadium, total	7440-62-2	E420WP	0.50	µg/L	0.070	0.071	0.060
Zinc, total	7440-66-6	E420WP	3.0	µg/L	1.8	0.80	7.3
Zirconium, total	7440-67-7	E420WP	0.20	µg/L	Not Detected	Not Detected	Not Detected

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



CERTIFICATE OF ANALYSIS

Work Order	: WP 2427467	Laboratory	: ALS Environmental - Winnipeg
Client	: Rural Municipality of Elton	Account Manager	: Kelsey Krempasky
Contact	: Ralph Berg	Address	: 1329 Niakwa Road East, Unit 12
Address	: General Delivery		: Winnipeg MB Canada R2J 3T4
	: Forrest Manitoba Canada R0K 0W0	Telephone	: +1 204 255 9720
Telephone	: -----	Date Samples Received	: 17-Dec-2024 15:33
Project	: -----	Date Analysis Commenced	: 20-Dec-2024
PO	: -----	Issue Date	: 24-Dec-2024 12:40
C-O-C number	: -----		
Sampler	: -----		
Site	: -----		
Quote number	: 2024 Analytical Testing		
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

Oleksandr Busel

Position

Laboratory Department

Metals, Winnipeg, Manitoba

Work Order : WP2427467
 Client : Rural Municipality of Elton
 Project : -----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

Analyte	CAS Number	Method/Lab	Client sampling date / time		Whitehead (Whitehead Elton Regional 3 - Distribution Fire Hall	Result	Unit	LOR	Client sample ID			
			16-Dec-2024 11:28	16-Dec-2024 11:28					-----	-----	-----	-----
Total Metals												
Aluminum, total	7429-90-5	E420/WP	0.0030		0.0092	mg/L	0.0030	-----	-----	-----	-----	-----
Antimony, total	7440-36-0	E420/WP	0.00010		0.00038	mg/L	0.00010	-----	-----	-----	-----	-----
Arsenic, total	7440-38-2	E420/WP	0.00010		0.00090	mg/L	0.00010	-----	-----	-----	-----	-----
Barium, total	7440-39-3	E420/WP	0.00010		0.00423	mg/L	0.00010	-----	-----	-----	-----	-----
Beryllium, total	7440-41-7	E420/WP	0.000020		0.0000070	mg/L	0.000020	-----	-----	-----	-----	-----
Bismuth, total	7440-69-9	E420/WP	0.000050		0.000077	mg/L	0.000050	-----	-----	-----	-----	-----
Boron, total	7440-42-8	E420/WP	0.010		0.073	mg/L	0.010	-----	-----	-----	-----	-----
Cadmium, total	7440-43-9	E420/WP	0.0000050		0.0000048	mg/L	0.0000050	-----	-----	-----	-----	-----
Calcium, total	7440-70-2	E420/WP	0.050		34.2	mg/L	0.050	-----	-----	-----	-----	-----
Cesium, total	7440-46-2	E420/WP	0.000010		0.0000030	mg/L	0.000010	-----	-----	-----	-----	-----
Chromium, total	7440-47-3	E420/WP	0.00050		0.00138	mg/L	0.00050	-----	-----	-----	-----	-----
Cobalt, total	7440-48-4	E420/WP	0.00010		0.000012	mg/L	0.00010	-----	-----	-----	-----	-----
Copper, total	7440-50-8	E420/WP	0.00050		0.0152	mg/L	0.00050	-----	-----	-----	-----	-----
Iron, total	7439-89-6	E420/WP	0.010		0.024	mg/L	0.010	-----	-----	-----	-----	-----
Lead, total	7439-92-1	E420/WP	0.000050		0.000277	mg/L	0.000050	-----	-----	-----	-----	-----
Lithium, total	7439-93-2	E420/WP	0.0010		0.0141	mg/L	0.0010	-----	-----	-----	-----	-----
Magnesium, total	7439-95-4	E420/WP	0.0050		12.0	mg/L	0.0050	-----	-----	-----	-----	-----
Manganese, total	7439-96-5	E420/WP	0.00010		0.00196	mg/L	0.00010	-----	-----	-----	-----	-----
Molybdenum, total	7439-98-7	E420/WP	0.000050		0.000807	mg/L	0.000050	-----	-----	-----	-----	-----
Nickel, total	7440-02-0	E420/WP	0.00050		0.00096	mg/L	0.00050	-----	-----	-----	-----	-----

Work Order : WP2427467
 Client : Rural Municipality of Elton
 Project : ----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

Analyte	CAS Number	Method/Lab	Client sampling date / time		Whitehead (Whitehead Elton Regional 3 - Distribution Fire Hall)	Client sample ID	Result	Unit	LOR
			16-Dec-2024 11:28	WP2427467-001					
Total Metals									
Phosphorus, total	7723-14-0	E420/WP	0.050		0.0063		mg/L		
Potassium, total	7440-09-7	E420/WP	0.050		1.31		mg/L		
Rubidium, total	7440-17-7	E420/WP	0.00020		0.00050		mg/L		
Selenium, total	7782-49-2	E420/WP	0.000050		0.000116		mg/L		
Silicon, total	7440-21-3	E420/WP	0.10		2.76		mg/L		
Silver, total	7440-22-4	E420/WP	0.000010		0.0000040		mg/L		
Sodium, total	7440-23-5	E420/WP	0.050		19.2		mg/L		
Strontium, total	7440-24-6	E420/WP	0.00020		0.0905		mg/L		
Sulfur, total	7704-34-9	E420/WP	0.50		23.0		mg/L		
Tellurium, total	13494-80-9	E420/WP	0.00020		0.00034		mg/L		
Thallium, total	7440-28-0	E420/WP	0.000010		Not Detected		mg/L		
Thorium, total	7440-29-1	E420/WP	0.00010		Not Detected		mg/L		
Tin, total	7440-31-5	E420/WP	0.00010		0.000033		mg/L		
Titanium, total	7440-32-5	E420/WP	0.00030		0.00013		mg/L		
Tungsten, total	7440-33-7	E420/WP	0.00010		0.000014		mg/L		
Uranium, total	7440-61-1	E420/WP	0.000010		0.00144		mg/L		
Vanadium, total	7440-62-2	E420/WP	0.00050		0.00010		mg/L		
Zinc, total	7440-66-6	E420/WP	0.0030		0.0232		mg/L		
Zirconium, total	7440-67-7	E420/WP	0.00020		Not Detected		mg/L		

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



CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order : **WP2501511** Page : 1 of 6

Client : **Manitoba Conservation & Climate** Laboratory : **ALS Environmental - Winnipeg**

Contact : **Christine Gerardy** Account Manager : **Janani Muciyanselage**

Address : **14 Fultz Boulevard** Address : **1329 Niakwa Road East, Unit 12**
Winnipeg MB Canada R3Y 0L6
Winnipeg, Manitoba Canada R2J 3T4

Telephone : **---** Telephone : **+1 204 255 9720**

Project : **DWQ-A** Date Samples Received : **05-Feb-2025 08:58**

PO : **Contract#: 7039 (MICROCHEM)** Date Analysis Commenced : **05-Feb-2025**

C-O-C number : **---** Issue Date : **07-Feb-2025 11:08**

Sampler : **---**

Site : **---**

Quote number : **Water System Chemistry (DWQ-A)**

No. of samples received : **1**

No. of samples analysed : **1**

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

Signatories

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

Signatories _____ Position

Lee McTavish _____ Laboratory Department
Metals, Winnipeg, Manitoba



Analytical Results Evaluation

Analyte	Client sample ID		Elton (Whitehead Elton Regional) 3 - Distribution	Method/Lab	Unit	Sampling date/time	Sub-Matrix	Water	Water	Water	Water	Water	Water
	CAS Number	Method/Lab											
Total Metals													
Sodium, total	7440-23-5	E420WP	16500		µg/L	04-Feb-2025 13:30	Water						
Strontium, total	7440-24-6	E420WP	93.9		µg/L								
Sulfur, total	7704-34-9	E420WP	21800		µg/L								
Tellurium, total	13494-80-9	E420WP	Not Detected		µg/L								
Thallium, total	7440-28-0	E420WP	Not Detected		µg/L								
Thorium, total	7440-29-1	E420WP	Not Detected		µg/L								
Tin, total	7440-31-5	E420WP	Not Detected		µg/L								
Titanium, total	7440-32-6	E420WP	Not Detected		µg/L								
Tungsten, total	7440-33-7	E420WP	Not Detected		µg/L								
Uranium, total	7440-61-1	E420WP	1.49		µg/L								
Vanadium, total	7440-62-2	E420WP	<0.50		µg/L								
Zinc, total	7440-66-6	E420WP	4.7		µg/L								
Zirconium, total	7440-67-7	E420WP	Not Detected		µg/L								

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.