



WHITEHEAD ELTON
REGIONAL WATER CO-OP

2022

ANNUAL REPORT

Board of Directors

President:
Ches Bollman

Vice President:
Trevor Tuttosi

Secretary Treasurer:
Shawna Paulsen

Directors:
Danniele Carriere
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

Bo Yeomans

Howard Buffi

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1) Introduction:

The 2022 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 during the course of operations. Full results have been attached in Section 3.

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 784 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 system to remove hardness, iron, manganese, total dissolved solids and turbidity. Following the membrane 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 with Sodium Hydroxide injection and the combined treatment streams are chlorinated prior to entering the 550 cubic meter, six 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 classed as a Small Distribution System.

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 values in excess of the guidelines constitute a health-related issue and require corrective actions. All health-based parameters were within the limits in 2022 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. Monitoring is done daily at both the Alexander Water Treatment Plant and the Forrest Reservoir. Results are recorded and at the end of each month, results are forwarded to our Provincial Drinking Water Officer. Copies of the originals must be kept on file and on hand for **TWO YEARS** at each facility.

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) 2020 General Chemical Analysis

As part of the operating licence for Whitehead Elton Regional Water Co-operative Inc., a general chemical analysis of both the raw water and the treated water in the reservoir has to be done every **Three years**. Water samples were sent to the lab on August 26/20 and we will be required to be sample again in 2023.

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 .The results of the Arsenic test are located after the General Chemical Analysis.



Whitehead Elton Regional Water Co-op
ATTN: RALPH BERG
Whitehead Elton Regional - PWS
Box 107
Alexander MB ROK OAO

Date Received: 27-AUG-20
Report Date: 09-SEP-20 10:42 (MT)
Version: FINAL

Client Phone: 204-729-6116

Certificate of Analysis

Lab Work Order #: L2495096
Project P.O. #: NOT SUBMITTED
Job Reference: WHITEHEAD ELTON REGIONAL - PWS 248.70
C of C Numbers:
Legal Site Desc: 46658

Hua Wo
Chemistry Laboratory Manager

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

		ALS ID		L2495096-1	L2495096-2
		Sampled Date		26-AUG-20	26-AUG-20
		Sampled Time		08:25	08:35
		Sample ID		WHITEHEAD ELTON REGIONAL 1 - RAW	WHITEHEAD ELTON REGIONAL 2 - TREATED
Analyte	Unit	Guide Limit #1	Guide Limit #2		
Colour, True	CU	15	-	<5.0	<5.0
Conductivity	umhos/cm	-	-	1100	294
Hardness (as CaCO3)	mg/L	-	-	629 ^{HTC}	117 ^{HTC}
Langelier Index (4 C)	No Unit	-	-	0.76	-0.18
Langelier Index (60 C)	No Unit	-	-	1.5	0.59
pH	pH units	7.00-10.5	-	7.84	8.02
Total Dissolved Solids	mg/L	500	-	816	200
Transmittance, UV (254 nm)	%T/cm	-	-	90.2	97.3
Turbidity	NTU	-	-	32.0	<0.10

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

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

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

Anions and Nutrients (WATER)

		ALS ID		L2495096-1	L2495096-2
		Sampled Date		26-AUG-20	26-AUG-20
		Sampled Time		08:25	08:35
		Sample ID		WHITEHEAD ELTON REGIONAL 1 - RAW	WHITEHEAD ELTON REGIONAL 2 - TREATED
Analyte	Unit	Guide Limit #1	Guide Limit #2		
Alkalinity, Total (as CaCO3)	mg/L	-	-	327	94.4
Ammonia, Total (as N)	mg/L	-	-	0.237	<0.010
Bicarbonate (HCO3)	mg/L	-	-	399	115
Bromide (Br)	mg/L	-	-	0.076	<0.010
Carbonate (CO3)	mg/L	-	-	<0.60	<0.60
Chloride (Cl)	mg/L	250	-	12.9	5.09
Fluoride (F)	mg/L	-	1.5	0.151	0.032
Hydroxide (OH)	mg/L	-	-	<0.34	<0.34
Nitrate (as N)	mg/L	-	10	<0.010 ^{DLM}	<0.0050
Nitrite (as N)	mg/L	-	1	<0.0020 ^{DLM}	<0.0050 ^{DLM}
Sulfate (SO4)	mg/L	500	-	331	58.3

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

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

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

Organic / Inorganic Carbon (WATER)

		ALS ID		L2495096-1	L2495096-2
		Sampled Date		26-AUG-20	26-AUG-20
		Sampled Time		08:25	08:35
		Sample ID		WHITEHEAD ELTON REGIONAL 1 - RAW	WHITEHEAD ELTON REGIONAL 2 - TREATED
Analyte	Unit	Guide Limit #1	Guide Limit #2		
Dissolved Organic Carbon	mg/L	-	-	2.85	<0.50
Total Organic Carbon	mg/L	-	-	2.59	<0.50

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

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

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

Detection Limit for result exceeds Guide Limit. Assessment against Guide Limit cannot be made.

Analytical result for this parameter exceeds Guide Limit listed on this report.

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

Total Metals (WATER)

Analyte	Unit	ALS ID		L2495096-1	L2495096-2
		Guide Limit #1	Guide Limit #2	Sampled Date Sampled Time Sample ID	Sampled Date Sampled Time Sample ID
				26-AUG-20 08:25 WHITEHEAD ELTON REGIONAL 1 - RAW	26-AUG-20 08:35 WHITEHEAD ELTON REGIONAL 2 - TREATED
Aluminum (Al)-Total	mg/L	0.1	-	<0.0030	<0.0030
Antimony (Sb)-Total	mg/L	-	0.006	<0.00010	<0.00010
Arsenic (As)-Total	mg/L	-	0.01	0.0156	0.00122
Barium (Ba)-Total	mg/L	-	2	0.0203	0.00353
Beryllium (Be)-Total	mg/L	-	-	<0.00010	<0.00010
Bismuth (Bi)-Total	mg/L	-	-	<0.000050	<0.000050
Boron (B)-Total	mg/L	-	5	0.091	0.066
Cadmium (Cd)-Total	mg/L	-	0.005	<0.0000050	<0.0000050
Calcium (Ca)-Total	mg/L	-	-	157	28.8
Cesium (Cs)-Total	mg/L	-	-	<0.000010	<0.000010
Chromium (Cr)-Total	mg/L	-	0.05	<0.00010	<0.00010
Cobalt (Co)-Total	mg/L	-	-	<0.00010	<0.00010
Copper (Cu)-Total	mg/L	1	2	<0.00050	0.00075
Iron (Fe)-Total	mg/L	0.3	-	2.55	0.012
Lead (Pb)-Total	mg/L	-	0.005	<0.000050	0.000167
Lithium (Li)-Total	mg/L	-	-	0.0531	0.0133
Magnesium (Mg)-Total	mg/L	-	-	57.6	11.0
Manganese (Mn)-Total	mg/L	0.02	0.12	0.384	0.00165
Molybdenum (Mo)-Total	mg/L	-	-	0.00488	0.000766
Nickel (Ni)-Total	mg/L	-	-	<0.00050	<0.00050
Phosphorus (P)-Total	mg/L	-	-	0.059	<0.030
Potassium (K)-Total	mg/L	-	-	4.79	1.21
Rubidium (Rb)-Total	mg/L	-	-	0.00175	0.00043
Selenium (Se)-Total	mg/L	-	0.05	<0.000050	<0.000050
Silicon (Si)-Total	mg/L	-	-	13.6	2.76
Silver (Ag)-Total	mg/L	-	-	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	200	-	11.9	18.5
Strontium (Sr)-Total	mg/L	-	7	0.462	0.0809
Sulfur (S)-Total	mg/L	-	-	112	19.8
Tellurium (Te)-Total	mg/L	-	-	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	-	-	<0.000010	<0.000010
Thorium (Th)-Total	mg/L	-	-	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	-	-	<0.00010	<0.00010

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

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

Total Metals (WATER)

		ALS ID		L2495096-1	L2495096-2
		Sampled Date		26-AUG-20	26-AUG-20
		Sampled Time		08:25	08:35
		Sample ID		WHITEHEAD ELTON REGIONAL 1 - RAW	WHITEHEAD ELTON REGIONAL 2 - TREATED
Analyte	Unit	Guide Limit #1	Guide Limit #2		
Titanium (Ti)-Total	mg/L	-	-	<0.00030	<0.00030
Tungsten (W)-Total	mg/L	-	-	<0.00010	<0.00010
Uranium (U)-Total	mg/L	-	0.02	0.00756	0.00130
Vanadium (V)-Total	mg/L	-	-	<0.00050	<0.00050
Zinc (Zn)-Total	mg/L	5	-	0.0033	<0.0030
Zirconium (Zr)-Total	mg/L	-	-	<0.00020	<0.00020

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

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

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

Volatile Organic Compounds (WATER)

		ALS ID		L2495096-1
		Sampled Date		26-AUG-20
		Sampled Time		08:25
		Sample ID		WHITEHEAD ELTON REGIONAL 1 - RAW
Analyte	Unit	Guide Limit #1	Guide Limit #2	
Benzene	mg/L	-	0.005	<0.00050
1,1-dichloroethene	mg/L	-	0.014	<0.00050
Dichloromethane	mg/L	-	0.05	<0.0050
Ethylbenzene	mg/L	0.0016	0.14	<0.00050
MTBE	mg/L	0.015	-	<0.00050
Tetrachloroethene	mg/L	-	0.01	<0.00050
Toluene	mg/L	0.024	0.06	<0.00050
Trichloroethene	mg/L	-	0.005	<0.00050
o-Xylene	mg/L	-	-	<0.00050
m+p-Xylenes	mg/L	-	-	<0.00040
Xylenes (Total)	mg/L	0.02	0.09	<0.00064
Surrogate: 4-Bromofluorobenzene (SS)	%	-	-	93.1
Surrogate: 1,4-Difluorobenzene (SS) %		-	-	98.3

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

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

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

Detection Limit for result exceeds Guide Limit. Assessment against Guide Limit cannot be made.

Analytical result for this parameter exceeds Guide Limit listed on this report.

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



Whitehead Elton Regional Water Co- op
ATTN: RALPH BERG
Whitehead Elton Regional - PWS
Box 107
Alexander MB R0K 0A0

Date Received: 03- NOV- 22
Report Date: 16- NOV- 22 08:12 (MT)
Version: FINAL

Client Phone: 204- 729- 6116

Certificate of Analysis

Lab Work Order #: L2739221

Project P.O. #: NOT SUBMITTED

Job Reference: WHITEHEAD ELTON REGIONAL - PWS 248.70

C of C Numbers:

Legal Site Desc: 46658

Hua Wo
Chemistry Laboratory Manager

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ANALYTICAL REPORT

Total Metals (WATER)

Analyte	Unit	ALS ID		L2739221-1	L2739221-2	L2739221-3
		Sampled Date		02-NOV-22	02-NOV-22	02-NOV-22
		Sampled Time		11:22	11:30	11:50
Sample ID		Guide Limit #1		Guide Limit #2		
				WHITEHEAD ELTON REGIONAL 1 - RAW	WHITEHEAD ELTON REGIONAL 2 - TREATED	WHITEHEAD ELTON REGIONAL 3 - DISTRIBUTION
Aluminum (Al)-Total	mg/L	0.1	2.9	<0.0030	<0.0030	<0.0030
Antimony (Sb)-Total	mg/L	-	0.006	0.00010	<0.00010	<0.00010
Arsenic (As)-Total	mg/L	-	0.01	0.00310	0.00033	0.00046
Barium (Ba)-Total	mg/L	-	2	0.0200	0.00788	0.00848
Beryllium (Be)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	mg/L	-	-	<0.000050	<0.000050	0.000068
Boron (B)-Total	mg/L	-	5	0.091	0.070	0.069
Cadmium (Cd)-Total	mg/L	-	0.005	<0.0000050	<0.0000050	<0.0000050
Calcium (Ca)-Total	mg/L	-	-	172	68.6	70.2
Cesium (Cs)-Total	mg/L	-	-	<0.000010	<0.000010	<0.000010
Chromium (Cr)-Total	mg/L	-	0.05	<0.00010	<0.00010	<0.00010
Cobalt (Co)-Total	mg/L	-	-	0.00011	<0.00010	<0.00010
Copper (Cu)-Total	mg/L	1	2	0.0116	0.00111	0.0154
Iron (Fe)-Total	mg/L	0.3	-	0.604	<0.010	<0.010
Lead (Pb)-Total	mg/L	-	0.005	0.000409	0.000203	0.000218
Lithium (Li)-Total	mg/L	-	-	0.0544	0.0239	0.0241
Magnesium (Mg)-Total	mg/L	-	-	59.8	24.7	25.0
Manganese (Mn)-Total	mg/L	0.02	0.12	0.441	0.00108	0.00082
Molybdenum (Mo)-Total	mg/L	-	-	0.00471	0.00178	0.00183
Nickel (Ni)-Total	mg/L	-	-	0.00093	<0.00050	0.00059
Phosphorus (P)-Total	mg/L	-	-	<0.030	<0.030	<0.030
Potassium (K)-Total	mg/L	-	-	4.99	2.16	2.17
Rubidium (Rb)-Total	mg/L	-	-	0.00188	0.00090	0.00086
Selenium (Se)-Total	mg/L	-	0.05	0.000093	<0.000050	<0.000050
Silicon (Si)-Total	mg/L	-	-	13.9	5.63	5.63
Silver (Ag)-Total	mg/L	-	-	<0.000010	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	200	-	13.0	15.9	15.8
Strontium (Sr)-Total	mg/L	-	7	0.440	0.178	0.181
Sulfur (S)-Total	mg/L	-	-	122	49.9	49.9
Tellurium (Te)-Total	mg/L	-	-	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	-	-	<0.000010	<0.000010	<0.000010
Thorium (Th)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2021)

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

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

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

ANALYTICAL REPORT

Total Metals (WATER)

Analyte	Unit	ALS ID		L2739221-1	L2739221-2	L2739221-3
		Sampled Date	Sampled Time	Sample ID	Sample ID	Sample ID
		Guide Limit #1	Guide Limit #2	WHITEHEAD ELTON REGIONAL 1 - RAW	WHITEHEAD ELTON REGIONAL 2 - TREATED	WHITEHEAD ELTON REGIONAL 3 - DISTRIBUTION
Titanium (Ti)-Total	mg/L	-	-	<0.00030	<0.00030	<0.00030
Tungsten (W)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	-	0.02	0.00877	0.00364	0.00382
Vanadium (V)-Total	mg/L	-	-	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Total	mg/L	5	-	0.0063	0.0055	0.0184
Zirconium (Zr)-Total	mg/L	-	-	<0.00020	<0.00020	<0.00020

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2021)
#1: GCDWQ - Aesthetic Objective/Other Value (Jan.2020)
#2: GCDWQ - Maximum Acceptable Concentrations (MACs-Jan.2020)

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



RM of Whitehead
ATTN: RALPH BERG
Whitehead (Whitehead Elton Reg) - PWS
Box 107
Alexander MB ROK OAO

Date Received: 03-NOV-22
Report Date: 16-NOV-22 08:12 (MT)
Version: FINAL

Client Phone: 204-729-6116

Certificate of Analysis

Lab Work Order #: L2739234
Project P.O. #: NOT SUBMITTED
Job Reference: WHITEHEAD (WHITEHEAD ELTON REGIONAL) -
PWS - 248.80
C of C Numbers:
Legal Site Desc: 46659

Hua Wo
Chemistry Laboratory Manager

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Total Metals (WATER)

		ALS ID		L2739234-1
		Sampled Date		02-NOV-22
		Sampled Time		12:40
		Sample ID		RM OF
Analyte	Unit	Guide Limit #1	Guide Limit #2	WHITEHEAD 3 - DISTRIBUTION
Aluminum (Al)-Total	mg/L	0.1	2.9	<0.0030
Antimony (Sb)-Total	mg/L	-	0.006	<0.00010
Arsenic (As)-Total	mg/L	-	0.01	0.00038
Barium (Ba)-Total	mg/L	-	2	0.00729
Beryllium (Be)-Total	mg/L	-	-	<0.00010
Bismuth (Bi)-Total	mg/L	-	-	<0.000050
Boron (B)-Total	mg/L	-	5	0.064
Cadmium (Cd)-Total	mg/L	-	0.005	<0.0000050
Calcium (Ca)-Total	mg/L	-	-	52.9
Cesium (Cs)-Total	mg/L	-	-	<0.000010
Chromium (Cr)-Total	mg/L	-	0.05	<0.00010
Cobalt (Co)-Total	mg/L	-	-	<0.00010
Copper (Cu)-Total	mg/L	1	2	0.00571
Iron (Fe)-Total	mg/L	0.3	-	<0.010
Lead (Pb)-Total	mg/L	-	0.005	0.000313
Lithium (Li)-Total	mg/L	-	-	0.0191
Magnesium (Mg)-Total	mg/L	-	-	18.7
Manganese (Mn)-Total	mg/L	0.02	0.12	0.00063
Molybdenum (Mo)-Total	mg/L	-	-	0.00114
Nickel (Ni)-Total	mg/L	-	-	<0.00050
Phosphorus (P)-Total	mg/L	-	-	<0.030
Potassium (K)-Total	mg/L	-	-	1.71
Rubidium (Rb)-Total	mg/L	-	-	0.00067
Selenium (Se)-Total	mg/L	-	0.05	<0.000050
Silicon (Si)-Total	mg/L	-	-	4.31
Silver (Ag)-Total	mg/L	-	-	<0.000010
Sodium (Na)-Total	mg/L	200	-	16.0
Strontium (Sr)-Total	mg/L	-	7	0.136
Sulfur (S)-Total	mg/L	-	-	36.6
Tellurium (Te)-Total	mg/L	-	-	<0.00020
Thallium (Tl)-Total	mg/L	-	-	<0.000010
Thorium (Th)-Total	mg/L	-	-	<0.00010
Tin (Sn)-Total	mg/L	-	-	<0.00010

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2021)

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

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

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

Total Metals (WATER)

		ALS ID		L2739234-1
		Sampled Date		02-NOV-22
		Sampled Time		12:40
		Sample ID		RM OF
				WHITEHEAD 3 - DISTRIBUTION
Analyte	Unit	Guide Limit #1	Guide Limit #2	
Titanium (Ti)-Total	mg/L	-	-	<0.00030
Tungsten (W)-Total	mg/L	-	-	<0.00010
Uranium (U)-Total	mg/L	-	0.02	0.00259
Vanadium (V)-Total	mg/L	-	-	<0.00050
Zinc (Zn)-Total	mg/L	5	-	0.0062
Zirconium (Zr)-Total	mg/L	-	-	<0.00020

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2021)

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

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

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



RM of Elton (Whitehead Elton Regional) -
PWS
ATTN: RALPH BERG
Elton - PWS
General Delivery
Forrest MB ROK OWO

Date Received: 03-NOV-22
Report Date: 16-NOV-22 08:13 (MT)
Version: FINAL

Client Phone: 204-729-6116

Certificate of Analysis

Lab Work Order #: L2739226
Project P.O. #: NOT SUBMITTED
Job Reference: ELTON (WHITEHEAD ELTON REGIONAL) - PWS -
63.50
C of C Numbers:
Legal Site Desc: 46657

Hua Wo
Chemistry Laboratory Manager

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ADDRESS: 1329 Niakwa Road East, Unit 12, Winnipeg, MB R2J 3T4 Canada | Phone: +1 204 255 9720 | Fax: +1 204 255 9721
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

Total Metals (WATER)

		ALS ID		L2739226-1
		Sampled Date		02-NOV-22
		Sampled Time		13:30
		Sample ID		RM OF ELTON 3
Analyte	Unit	Guide Limit #1	Guide Limit #2	- DISTRIBUTION @ ELTON BOOSTER
Aluminum (Al)-Total	mg/L	0.1	2.9	<0.0030
Antimony (Sb)-Total	mg/L	-	0.006	<0.00010
Arsenic (As)-Total	mg/L	-	0.01	0.00051
Barium (Ba)-Total	mg/L	-	2	0.00906
Beryllium (Be)-Total	mg/L	-	-	<0.00010
Bismuth (Bi)-Total	mg/L	-	-	<0.000050
Boron (B)-Total	mg/L	-	5	0.068
Cadmium (Cd)-Total	mg/L	-	0.005	<0.0000050
Calcium (Ca)-Total	mg/L	-	-	59.0
Cesium (Cs)-Total	mg/L	-	-	<0.000010
Chromium (Cr)-Total	mg/L	-	0.05	0.00013
Cobalt (Co)-Total	mg/L	-	-	<0.00010
Copper (Cu)-Total	mg/L	1	2	0.00852
Iron (Fe)-Total	mg/L	0.3	-	<0.010
Lead (Pb)-Total	mg/L	-	0.005	0.000210
Lithium (Li)-Total	mg/L	-	-	0.0213
Magnesium (Mg)-Total	mg/L	-	-	21.0
Manganese (Mn)-Total	mg/L	0.02	0.12	0.00051
Molybdenum (Mo)-Total	mg/L	-	-	0.00137
Nickel (Ni)-Total	mg/L	-	-	<0.00050
Phosphorus (P)-Total	mg/L	-	-	<0.030
Potassium (K)-Total	mg/L	-	-	1.90
Rubidium (Rb)-Total	mg/L	-	-	0.00072
Selenium (Se)-Total	mg/L	-	0.05	<0.000050
Silicon (Si)-Total	mg/L	-	-	4.79
Silver (Ag)-Total	mg/L	-	-	<0.000010
Sodium (Na)-Total	mg/L	200	-	16.4
Strontium (Sr)-Total	mg/L	-	7	0.154
Sulfur (S)-Total	mg/L	-	-	41.6
Tellurium (Te)-Total	mg/L	-	-	<0.00020
Thallium (Tl)-Total	mg/L	-	-	<0.000010
Thorium (Th)-Total	mg/L	-	-	<0.00010
Tin (Sn)-Total	mg/L	-	-	<0.00010

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2021)

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

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

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

Total Metals (WATER)

		ALS ID		L2739226-1
		Sampled Date		02-NOV-22
		Sampled Time		13:30
		Sample ID		
				RM OF ELTON 3 - DISTRIBUTION @ ELTON BOOSTER
Analyte	Unit	Guide Limit #1	Guide Limit #2	
Titanium (Ti)-Total	mg/L	-	-	<0.00030
Tungsten (W)-Total	mg/L	-	-	<0.00010
Uranium (U)-Total	mg/L	-	0.02	0.00291
Vanadium (V)-Total	mg/L	-	-	<0.00050
Zinc (Zn)-Total	mg/L	5	-	0.0051
Zirconium (Zr)-Total	mg/L	-	-	<0.00020

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2021)

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

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

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

4) Water System Incidents and Corrective Actions

There were no incidents or corrective actions needed in 2022.

5) Drinking Water Safety Orders, Warnings and Charges

On April 26, a boil water advisory was enacted for everyone east of Elton PR #1 and south of Road 65N due to a water break that needed to be depressurized to fix.

On November 7th, a maintenance advisory was issued for a water break that occurred on road 117W just north of the Trans-Canada Highway that disrupted service while being repaired.

6) Major Expenses Incurred

All membranes were replaced in both RO trains, with the exception of stage 2 on Train 1.

Both variable frequency drives (VFD) were replaced at the raw water site. A third VFD was bought to have on hand as a spare.

7) *Current/Future System Expansions*

Phase 1 of the Water Treatment Plant upgrade project was completed in the summer of 2022.

The new Grand Valley River crossing was started and completed in 2022.

In 2022, we completed a raw water study with the plan to install a third well for redundancy in 2023.

Appendix A

Appendix A contains all the bacterial test results for all 3 Public Water Systems.

Appendix B

Appendix B contains the 2022 Water Use Report that has to 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 away. These Monitoring Wells are a daily snapshot on the health of the aquifer we draw our water from.

APPENDIX A

2022

BACTERIAL SAMPLE RESULTS

Bacteriological Test Results

Community Code	Collection Date	System	Location	Total Coliforms	E.Coli	Free Chlorine	Total Chlorine
248.70	Jan-12-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Jan-12-22	Whitehead/Elton	Treated	0	0	0.85	0.94
248.70	Jan-12-22	Whitehead/Elton	Incoming	0	0	0.95	1.00
248.70	Jan-12-22	Whitehead/Elton	Outgoing	0	0	0.87	0.94
248.80	Jan-12-22	Whitehead Dist.	Firehall	0	0	0.82	0.93
248.80	Jan-12-22	Whitehead Dist.	Dungannon	0	0	0.94	1.00
63.50	Jan-12-22	Elton Dist.	PR #2	0	0	0.73	0.76
63.50	Jan-12-22	Elton Dist.	Elton Booster	0	0	0.72	0.79
248.70	Jan-26-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Jan-26-22	Whitehead/Elton	Treated	0	0	0.76	0.85
248.70	Jan-26-22	Whitehead/Elton	Incoming	0	0	0.82	0.91
248.70	Jan-26-22	Whitehead/Elton	Outgoing	0	0	0.80	0.85
248.80	Jan-26-22	Whitehead Dist.	Firehall	0	0	0.78	0.81
248.80	Jan-26-22	Whitehead Dist.	Dungannon	0	0	0.85	0.90
63.50	Jan-26-22	Elton Dist.	PR #2	0	0	0.77	0.82
63.50	Jan-26-22	Elton Dist.	Elton Booster	0	0	0.75	0.77
248.70	Feb-09-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Feb-09-22	Whitehead/Elton	Treated	0	0	0.73	0.79
248.70	Feb-09-22	Whitehead/Elton	Incoming	0	0	0.68	0.76
248.70	Feb-09-22	Whitehead/Elton	Outgoing	0	0	0.74	0.76
248.80	Feb-09-22	Whitehead Dist.	Firehall	0	0	0.72	0.79
248.80	Feb-09-22	Whitehead Dist.	Dungannon	0	0	0.75	0.85
63.50	Feb-09-22	Elton Dist.	PR #2	0	0	0.78	0.81
63.50	Feb-09-22	Elton Dist.	Elton Booster	0	0	0.73	0.76
248.70	Feb-23-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Feb-23-22	Whitehead/Elton	Treated	0	0	0.83	0.93
248.70	Feb-23-22	Whitehead/Elton	Incoming	0	0	0.75	0.84
248.70	Feb-23-22	Whitehead/Elton	Outgoing	0	0	0.64	0.74
248.80	Feb-23-22	Whitehead Dist.	Firehall	0	0	0.80	0.90
248.80	Feb-23-22	Whitehead Dist.	Dungannon	0	0	0.72	0.82
63.50	Feb-23-22	Elton Dist.	PR #2	0	0	0.64	0.67
63.50	Feb-23-22	Elton Dist.	Elton Booster	0	0	0.60	0.67
248.70	Mar-09-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Mar-09-22	Whitehead/Elton	Treated	0	0	0.97	1.11
248.70	Mar-09-22	Whitehead/Elton	Incoming	0	0	0.84	0.95
248.70	Mar-09-22	Whitehead/Elton	Outgoing	0	0	0.84	0.93
248.80	Mar-09-22	Whitehead Dist.	Firehall	0	0	0.96	1.11
248.80	Mar-09-22	Whitehead Dist.	Dungannon	0	0	0.90	0.96
63.50	Mar-09-22	Elton Dist.	PR #2	0	0	0.79	0.86
63.50	Mar-09-22	Elton Dist.	Elton Booster	0	0	0.92	1.01
248.70	Mar-24-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Mar-24-22	Whitehead/Elton	Treated	0	0	0.90	0.95
248.70	Mar-24-22	Whitehead/Elton	Incoming	0	0	0.89	1.00
248.70	Mar-24-22	Whitehead/Elton	Outgoing	0	0	0.84	0.92
248.80	Mar-24-22	Whitehead Dist.	Firehall	0	0	0.89	0.94
248.80	Mar-24-22	Whitehead Dist.	Dungannon	0	0	0.98	1.03

Bacteriological Test Results

Community Code	Collection Date	System	Location	Total Coliforms	E.Coli	Free Chlorine	Total Chlorine
63.50	Mar-24-22	Elton Dist.	PR #2	0	0	0.83	0.87
63.50	Mar-24-22	Elton Dist.	Elton Booster	0	0	0.83	0.90
248.70	Apr-06-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Apr-06-22	Whitehead/Elton	Treated	0	0	0.79	0.86
248.70	Apr-06-22	Whitehead/Elton	Incoming	0	0	0.76	0.82
248.70	Apr-06-22	Whitehead/Elton	Outgoing	0	0	0.76	0.85
248.80	Apr-06-22	Whitehead Dist.	Firehall	0	0	0.82	0.86
248.80	Apr-06-22	Whitehead Dist.	Dungannon	0	0	0.81	0.88
63.50	Apr-06-22	Elton Dist.	PR #2	0	0	0.80	0.87
63.50	Apr-06-22	Elton Dist.	Elton Booster	0	0	0.83	0.85
248.70	Apr-20-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Apr-20-22	Whitehead/Elton	Treated	0	0	0.90	0.95
248.70	Apr-20-22	Whitehead/Elton	Incoming	0	0	0.93	0.99
248.70	Apr-20-22	Whitehead/Elton	Outgoing	0	0	0.98	1.03
248.80	Apr-20-22	Whitehead Dist.	Firehall	0	0	0.92	0.99
248.80	Apr-20-22	Whitehead Dist.	Dungannon	0	0	0.98	1.03
63.50	Apr-20-22	Elton Dist.	PR #2	0	0	1.00	1.06
63.50	Apr-20-22	Elton Dist.	Elton Booster	0	0	1.01	1.06
248.70	May-04-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	May-04-22	Whitehead/Elton	Treated	0	0	0.85	0.93
248.70	May-04-22	Whitehead/Elton	Incoming	0	0	0.89	0.95
248.70	May-04-22	Whitehead/Elton	Outgoing	0	0	0.95	1.03
248.80	May-04-22	Whitehead Dist.	Firehall	0	0	0.80	0.99
248.80	May-04-22	Whitehead Dist.	Dungannon	0	0	0.81	0.96
63.50	May-04-22	Elton Dist.	PR #2	0	0	1.09	1.15
63.50	May-04-22	Elton Dist.	Elton Booster	0	0	0.87	0.93
248.70	May-18-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	May-18-22	Whitehead/Elton	Treated	0	0	0.90	0.99
248.70	May-18-22	Whitehead/Elton	Incoming	0	0	0.73	0.77
248.70	May-18-22	Whitehead/Elton	Outgoing	0	0	0.73	0.79
248.80	May-18-22	Whitehead Dist.	Firehall	0	0	0.91	0.99
248.80	May-18-22	Whitehead Dist.	Dungannon	0	0	0.81	0.88
63.50	May-18-22	Elton Dist.	PR #2	0	0	0.78	0.79
63.50	May-18-22	Elton Dist.	Elton Booster	0	0	0.83	0.87
248.70	Jun-01-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Jun-01-22	Whitehead/Elton	Treated	0	0	0.90	0.91
248.70	Jun-01-22	Whitehead/Elton	Incoming	0	0	0.91	1.07
248.70	Jun-01-22	Whitehead/Elton	Outgoing	0	0	0.84	0.95
248.80	Jun-01-22	Whitehead Dist.	Firehall	0	0	0.83	0.95
248.80	Jun-01-22	Whitehead Dist.	Dungannon	0	0	0.91	1.00
63.50	Jun-01-22	Elton Dist.	PR #2	0	0	0.81	0.87
63.50	Jun-01-22	Elton Dist.	Elton Booster	0	0	0.73	0.76
248.70	Jun-15-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Jun-15-22	Whitehead/Elton	Treated	0	0	0.87	0.97
248.70	Jun-15-22	Whitehead/Elton	Incoming	0	0	0.93	1.02
248.70	Jun-15-22	Whitehead/Elton	Outgoing	0	0	0.85	0.96

Bacteriological Test Results

Community Code	Collection Date	System	Location	Total Coliforms	E.Coli	Free Chlorine	Total Chlorine
248.80	Jun-15-22	Whitehead Dist.	Firehall	0	0	0.90	0.97
248.80	Jun-15-22	Whitehead Dist.	Dungannon	0	0	0.90	0.99
63.50	Jun-15-22	Elton Dist.	PR #2	0	0	0.92	1.01
63.50	Jun-15-22	Elton Dist.	Elton Booster	0	0	0.93	1.00
248.70	Jun-29-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Jun-29-22	Whitehead/Elton	Treated	0	0	1.06	1.19
248.70	Jun-29-22	Whitehead/Elton	Incoming	0	0	1.11	1.28
248.70	Jun-29-22	Whitehead/Elton	Outgoing	0	0	0.91	1.06
248.80	Jun-29-22	Whitehead Dist.	Firehall	0	0	1.06	1.15
248.80	Jun-29-22	Whitehead Dist.	Dungannon	0	0	1.24	1.37
63.50	Jun-29-22	Elton Dist.	PR #2	0	0	0.87	0.99
63.50	Jun-29-22	Elton Dist.	Elton Booster	0	0	0.92	0.99
248.70	Jul-13-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Jul-13-22	Whitehead/Elton	Treated	0	0	0.87	1.04
248.70	Jul-13-22	Whitehead/Elton	Incoming	0	0	0.86	0.98
248.70	Jul-13-22	Whitehead/Elton	Outgoing	0	0	0.81	0.88
248.80	Jul-13-22	Whitehead Dist.	Firehall	0	0	0.84	1.02
248.80	Jul-13-22	Whitehead Dist.	Dungannon	0	0	0.89	0.97
63.50	Jul-13-22	Elton Dist.	PR #2	0	0	0.74	0.83
63.50	Jul-13-22	Elton Dist.	Elton Booster	0	0	0.76	0.87
248.70	Jul-27-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Jul-27-22	Whitehead/Elton	Treated	0	0	0.81	0.92
248.70	Jul-27-22	Whitehead/Elton	Incoming	0	0	0.85	0.92
248.70	Jul-27-22	Whitehead/Elton	Outgoing	0	0	0.68	0.78
248.80	Jul-27-22	Whitehead Dist.	Firehall	0	0	0.83	0.90
248.80	Jul-27-22	Whitehead Dist.	Dungannon	0	0	0.86	0.93
63.50	Jul-27-22	Elton Dist.	PR #2	0	0	0.77	0.89
63.50	Jul-27-22	Elton Dist.	Elton Booster	0	0	0.67	0.75
248.70	Aug-10-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Aug-10-22	Whitehead/Elton	Treated	0	0	0.90	1.07
248.70	Aug-10-22	Whitehead/Elton	Incoming	0	0	1.00	1.10
248.70	Aug-10-22	Whitehead/Elton	Outgoing	0	0	0.89	0.98
248.80	Aug-10-22	Whitehead Dist.	Firehall	0	0	1.01	1.12
248.80	Aug-10-22	Whitehead Dist.	Dungannon	0	0	1.04	1.16
63.50	Aug-10-22	Elton Dist.	PR #2	0	0	0.86	0.93
63.50	Aug-10-22	Elton Dist.	Elton Booster	0	0	0.83	0.91
248.70	Aug-24-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Aug-24-22	Whitehead/Elton	Treated	0	0	0.95	1.13
248.70	Aug-24-22	Whitehead/Elton	Incoming	0	0	0.97	1.08
248.70	Aug-24-22	Whitehead/Elton	Outgoing	0	0	0.83	0.92
248.80	Aug-24-22	Whitehead Dist.	Firehall	0	0	1.01	1.08
248.80	Aug-24-22	Whitehead Dist.	Dungannon	0	0	1.02	1.11
63.50	Aug-24-22	Elton Dist.	PR #2	0	0	0.77	0.84
63.50	Aug-24-22	Elton Dist.	Elton Booster	0	0	0.82	0.91
248.70	Sep-07-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Sep-07-22	Whitehead/Elton	Treated	0	0	0.93	1.13

Bacteriological Test Results

Community Code	Collection Date	System	Location	Total Coliforms	E.Coli	Free Chlorine	Total Chlorine
248.70	Sep-07-22	Whitehead/Elton	Incoming	0	0	1.02	1.12
248.70	Sep-07-22	Whitehead/Elton	Outgoing	0	0	0.99	1.11
248.80	Sep-07-22	Whitehead Dist.	Firehall	0	0	0.99	1.09
248.80	Sep-07-22	Whitehead Dist.	Dungannon	0	0	1.02	1.13
63.50	Sep-07-22	Elton Dist.	PR #2	0	0	0.98	1.05
63.50	Sep-07-22	Elton Dist.	Elton Booster	0	0	1.00	1.06
248.70	Sep-21-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Sep-21-22	Whitehead/Elton	Treated	0	0	0.85	1.11
248.70	Sep-21-22	Whitehead/Elton	Incoming	0	0	0.59	0.74
248.70	Sep-21-22	Whitehead/Elton	Outgoing	0	0	0.72	0.83
248.80	Sep-21-22	Whitehead Dist.	Firehall	0	0	0.89	1.05
248.80	Sep-21-22	Whitehead Dist.	Dungannon	0	0	0.88	1.04
63.50	Sep-21-22	Elton Dist.	PR #2	0	0	0.77	0.86
63.50	Sep-21-22	Elton Dist.	Elton Booster	0	0	0.89	0.99
248.70	Oct-05-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Oct-05-22	Whitehead/Elton	Treated	0	0	1.23	1.54
248.70	Oct-05-22	Whitehead/Elton	Incoming	0	0	0.66	0.83
248.70	Oct-05-22	Whitehead/Elton	Outgoing	0	0	0.67	0.80
248.80	Oct-05-22	Whitehead Dist.	Firehall	0	0	0.69	0.87
248.80	Oct-05-22	Whitehead Dist.	Dungannon	0	0	1.15	1.53
63.50	Oct-05-22	Elton Dist.	PR #2	0	0	0.72	0.82
63.50	Oct-05-22	Elton Dist.	Elton Booster	0	0	0.71	0.85
248.70	Oct-19-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Oct-19-22	Whitehead/Elton	Treated	0	0	0.93	1.20
248.70	Oct-19-22	Whitehead/Elton	Incoming	0	0	1.02	1.24
248.70	Oct-19-22	Whitehead/Elton	Outgoing	0	0	0.91	1.08
248.80	Oct-19-22	Whitehead Dist.	Firehall	0	0	0.90	1.10
248.80	Oct-19-22	Whitehead Dist.	Dungannon	0	0	0.98	1.10
63.50	Oct-19-22	Elton Dist.	PR #2	0	0	0.91	1.03
63.50	Oct-19-22	Elton Dist.	Elton Booster	0	0	0.88	0.98
248.70	Nov-02-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Nov-02-22	Whitehead/Elton	Treated	0	0	0.63	0.79
248.70	Nov-02-22	Whitehead/Elton	Incoming	0	0	0.93	1.15
248.70	Nov-02-22	Whitehead/Elton	Outgoing	0	0	0.97	1.08
248.80	Nov-02-22	Whitehead Dist.	Firehall	0	0	1.01	1.16
248.80	Nov-02-22	Whitehead Dist.	Dungannon	0	0	0.67	0.82
63.50	Nov-02-22	Elton Dist.	PR #2	0	0	1.08	1.27
63.50	Nov-02-22	Elton Dist.	Elton Booster	0	0	0.68	1.00
248.70	Nov-16-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Nov-16-22	Whitehead/Elton	Treated	0	0	0.66	0.84
248.70	Nov-16-22	Whitehead/Elton	Incoming	0	0	0.88	1.01
248.70	Nov-16-22	Whitehead/Elton	Outgoing	0	0	0.75	0.89
248.80	Nov-16-22	Whitehead Dist.	Firehall	0	0	0.72	0.85
248.80	Nov-16-22	Whitehead Dist.	Dungannon	0	0	0.83	0.98
63.50	Nov-16-22	Elton Dist.	PR #2	0	0	0.66	0.79
63.50	Nov-16-22	Elton Dist.	Elton Booster	0	0	0.79	0.87

Bacteriological Test Results

Community Code	Collection Date	System	Location	Total Coliforms	E.Coli	Free Chlorine	Total Chlorine
248.70	Nov-30-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Nov-30-22	Whitehead/Elton	Treated	0	0	0.69	0.91
248.70	Nov-30-22	Whitehead/Elton	Incoming	0	0	0.72	0.90
248.70	Nov-30-22	Whitehead/Elton	Outgoing	0	0	0.59	0.71
248.80	Nov-30-22	Whitehead Dist.	Firehall	0	0	0.75	0.97
248.80	Nov-30-22	Whitehead Dist.	Dungannon	0	0	0.74	0.92
63.50	Nov-30-22	Elton Dist.	PR #2	0	0	0.63	0.78
63.50	Nov-30-22	Elton Dist.	Elton Booster	0	0	0.62	0.76
248.70	Dec-14-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Dec-14-22	Whitehead/Elton	Treated	0	0	0.64	0.80
248.70	Dec-14-22	Whitehead/Elton	Incoming	0	0	0.72	0.83
248.70	Dec-14-22	Whitehead/Elton	Outgoing	0	0	0.77	0.87
248.80	Dec-14-22	Whitehead Dist.	Firehall	0	0	0.68	0.82
248.80	Dec-14-22	Whitehead Dist.	Dungannon	0	0	0.61	0.79
63.50	Dec-14-22	Elton Dist.	PR #2	0	0	0.79	0.88
63.50	Dec-14-22	Elton Dist.	Elton Booster	0	0	1.00	1.14
248.70	Dec-28-22	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Dec-28-22	Whitehead/Elton	Treated	0	0	0.93	0.68
248.70	Dec-28-22	Whitehead/Elton	Incoming	0	0	0.70	0.79
248.70	Dec-28-22	Whitehead/Elton	Outgoing	0	0	0.64	0.79
248.80	Dec-28-22	Whitehead Dist.	Firehall	0	0	0.46	0.56
248.80	Dec-28-22	Whitehead Dist.	Dungannon	0	0	0.66	0.67
63.50	Dec-28-22	Elton Dist.	PR #2	0	0	0.73	0.82
63.50	Dec-28-22	Elton Dist.	Elton Booster	0	0	0.73	0.96
248.70	Jan-03-23	Whitehead/Elton	Raw	0	0	0.00	0.00
248.70	Jan-03-23	Whitehead/Elton	Treated	0	0	0.64	0.82
248.70	Jan-03-23	Whitehead/Elton	Incoming	0	0	0.74	0.82
248.70	Jan-03-23	Whitehead/Elton	Outgoing	0	0	0.50	0.63
248.80	Jan-03-23	Whitehead Dist.	Firehall	0	0	0.74	0.84
248.80	Jan-03-23	Whitehead Dist.	Dungannon	0	0	0.76	0.83
63.50	Jan-03-23	Elton Dist.	PR #2	0	0	0.54	0.57
63.50	Jan-03-23	Elton Dist.	Elton Booster	0	0	0.67	0.73

APPENDIX B

2022 Water Use Report

Monitoring Well Graph Report

Annual Water Use Report for 2022

Pursuant to **The Water Rights Act**

LICENSÉE'S NAME: Whitehead Elton Regional Water Co-operative Inc.		LICENCE NO. PWS-11-487
POST OFFICE ADDRESS General Delivery, Forrest MB R0K 0W0		PHONE NO. 204 728 7834
SOURCE OF WATER SUPPLY (CHECK ONE) <input checked="" type="checkbox"/> WELL <input type="checkbox"/> SURFACE WATER _____ <small>(Name of River, Creek, etc.)</small>		
LOCATION OF PUMP (OR WELL):		
QUARTER	SECTION	TOWNSHIP
SE	21	10
RANGE		OR OTHER (SPECIFY)
21		W1
DESIGN PUMPING RATE: LITRES PER SECOND <u>22.7</u> OR OTHER (SPECIFY) _____		
NOTE 1: QUANTITIES OF WATER IN TABLE BELOW EXPRESSED IN (CHECK ONE)		
<input type="checkbox"/> LITRES <input type="checkbox"/> DECAMETRES		
<input checked="" type="checkbox"/> OTHER (SPECIFY): <u>Cubic Meters</u>		

METER READING DECEMBER 31/20 21 375770

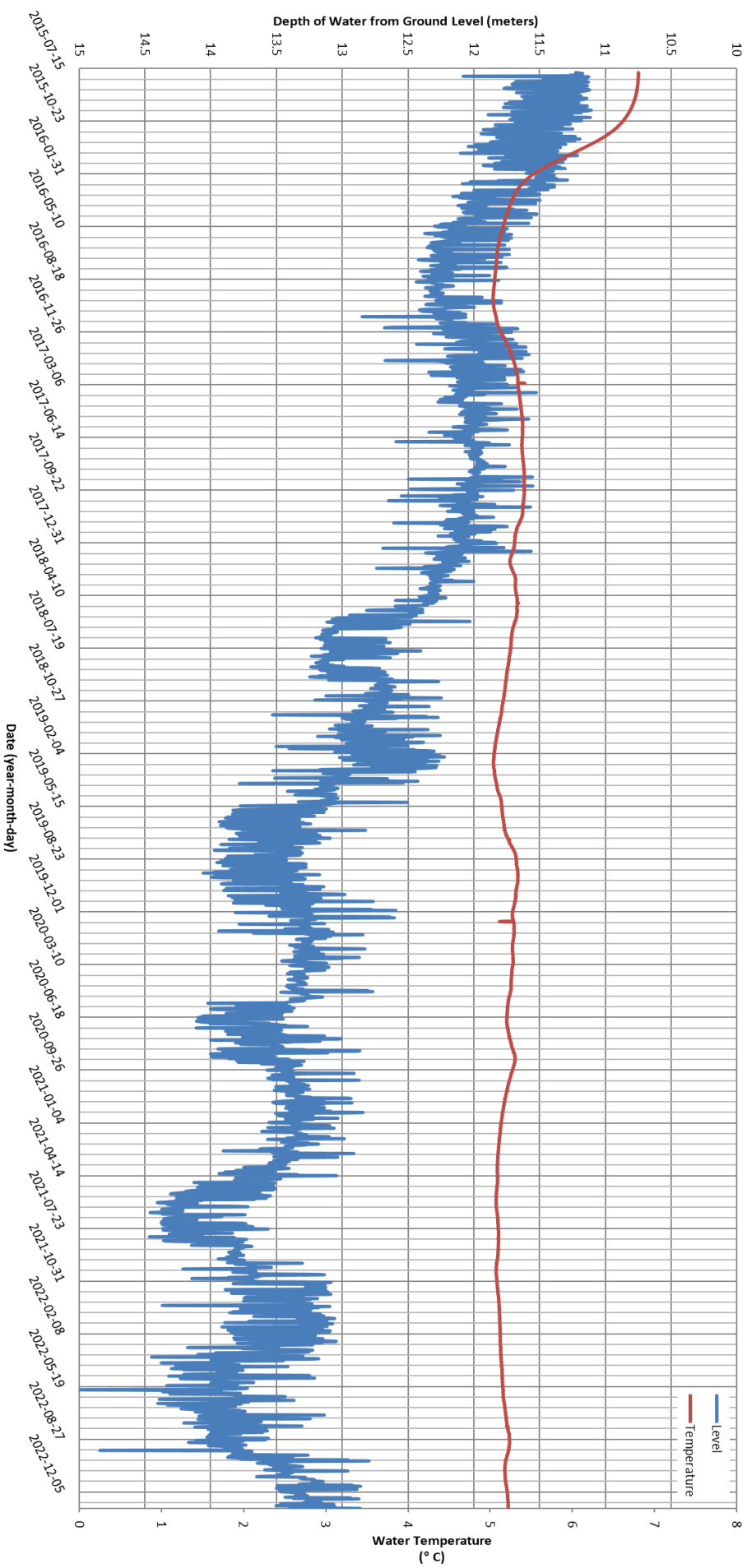
DAY OF MONTH	JANUARY		FEBRUARY		MARCH		APRIL	
	METER READING	DAILY CONSUMPTION	METER READING	DAILY CONSUMPTION	METER READING	DAILY CONSUMPTION	METER READING	DAILY CONSUMPTION
1	376332	562	396544	639	414606	675	437625	722
2	376959	627	397190	646	415335	729	438441	816
3	377570	611	397791	601	416051	716	439235	794
4	378226	656	398441	650	416693	642	439875	640
5	378937	711	399147	706	417334	641	440644	769
6	379565	628	399690	543	418097	763	441332	688
7	380206	641	400315	625	419031	934	442018	686
8	380796	590	401029	714	419883	852	442754	736
9	381435	639	401636	607	420740	857	443422	668
10	382174	739	402315	679	421506	766	444113	691
11	382861	687	402916	601	422206	700	444838	725
12	383557	696	403573	657	422884	678	445447	609
13	384177	620	404270	697	423533	649	446151	704
14	384853	676	404867	597	424287	754	446849	698
15	385623	770	405574	707	425045	758	447499	650
16	386144	521	406141	567	425635	590	448243	744
17	386786	642	406829	688	426406	771	448922	679
18	387435	649	407394	565	427073	667	449653	731
19	388123	688	408113	719	427901	828	450333	680
20	388726	603	408687	574	428575	674	450895	562
21	389379	653	409302	615	429258	683	451627	732
22	389954	575	409950	648	430086	828	452308	681
23	390634	680	410547	597	430649	563	452963	655
24	391290	656	411245	698	431497	848	453465	502
25	391974	684	411934	689	432223	726	454085	620
26	392621	647	412602	668	432993	770	454901	816
27	393274	653	413303	701	433708	715	456166	1,265
28	393878	604	413931	628	434375	667	456718	552
29	394527	649	-	-	435199	824	457254	536
30	395248	721	-	-	435837	638	458104	850
31	395905	657	-	-	436903	1066	-	-
TOTAL	20135	20135	18026	18026	22972	22972	21,201	21,201

NOTE2:/

LICENSEE MUST COMPLETE "ANNUAL WATER USE REPORT" FOR EACH CALENDAR 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	458689	585	481706	707	510257	1190	538598	741
2	459430	741	482568	862	511319	1062	539457	859
3	460038	608	483464	896	512346	1027	540252	795
4	460286	248	484353	889	513203	857	541205	953
5	461232	946	485361	1,008	513897	694	542161	956
6	461947	715	486208	847	514617	720	542950	789
7	462689	742	487237	1,029	515596	979	543823	873
8	463477	788	488304	1,067	516620	1024	544823	1000
9	464258	781	489147	843	517606	986	545818	995
10	464847	589	490064	917	518695	1089	546752	934
11	465515	668	490971	907	519429	734	547901	1149
12	466265	750	491869	898	520343	914	548831	930
13	466850	585	492820	951	521415	1072	549741	910
14	467527	677	493604	784	522532	1117	550676	935
15	468298	771	494254	650	523387	855	551626	950
16	469025	727	495017	763	524294	907	552597	971
17	469810	785	495796	779	525258	964	553610	1013
18	470489	679	496718	922	526402	1144	554577	967
19	471281	792	497501	783	527345	943	555417	840
20	472079	798	498749	1,248	527739	394	556606	1189
21	472795	716	500043	1,294	528877	1138	557219	613
22	473493	698	500816	773	529860	983	558230	1011
23	474267	774	501886	1,070	531006	1146	559186	956
24	474961	694	503162	1,276	531946	940	560105	919
25	475973	1012	503950	788	532727	781	561152	1047
26	476618	645	504629	679	533524	797	562028	876
27	477916	1298	505690	1,061	534332	808	563133	1105
28	478804	888	506788	1,098	535120	788	563901	768
29	479563	759	508136	1,348	536025	905	564642	741
30	480295	732	509067	931	536993	968	565760	1118
31	480999	704	-	-	537857	864	567023	1263
TOTAL	22895	22895	28,068	28,068	28790	28790	29166	29166
DAY OF MONTH	SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	METER READING	DAILY CONSUMPTION	METER READING	DAILY CONSUMPTION	METER READING	DAILY CONSUMPTION	METER READING	DAILY CONSUMPTION
1	568014	991	596270	1093	621458	766	642452	709
2	568997	983	597194	924	622228	770	643145	693
3	569939	942	598202	1008	623060	832	643902	757
4	570988	1,049	599101	899	623828	768	644594	692
5	571974	986	599946	845	624597	769	645149	555
6	573147	1,173	600752	806	625439	842	645746	597
7	574216	1,069	601596	844	626193	754	646362	616
8	574998	782	602428	832	626826	633	646892	530
9	576169	1,171	603282	854	627450	624	647652	760
10	577501	1,332	604161	879	628036	586	648404	752
11	578660	1,159	604915	754	628624	588	649066	662
12	579650	990	605774	859	629348	724	649712	646
13	580639	989	606538	764	629977	629	650432	720
14	581562	923	607392	854	630586	609	651020	588
15	582426	864	607986	594	631199	613	651620	600
16	583032	606	608761	775	631905	706	652260	640
17	583916	884	609379	618	632542	637	652868	608
18	584769	853	610156	777	633173	631	653497	629
19	585656	887	610902	746	633955	782	654049	552
20	586496	840	611668	766	634655	700	654752	703
21	587344	848	612400	732	635504	849	655362	610
22	588208	864	613213	813	636272	768	655961	599
23	588987	779	614001	788	637006	734	656615	654
24	589894	907	614813	812	637668	862	657394	779
25	590543	649	615623	810	638171	503	658005	611
26	591421	878	616458	835	639112	941	658724	719
27	592220	799	617254	796	639630	518	659503	779
28	593402	1,182	618013	759	640155	525	660032	529
29	594294	892	618792	779	641041	886	660687	655
30	595177	883	619827	1035	641743	702	661392	705
31	-	-	620692	865	-	-	662083	691
TOTAL	28,154	28,154	25515	25515	21,051	21,051	20340	20340

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



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

