

October 17, 2016

Report To: Mayor & Council

From: Travis Rob, Manager of Operations & Facilities

SUBJECT: August 2016 Drinking Water Systems Monthly Summary Report

Please find attached the August 2016 Summary Report on the drinking water systems, prepared by Randy White, Senior WTP Operator.

Your Administration recommends that Operations & Facilities Executive Committee accept the August 2016 report as presented.

Respectfully submitted,
Operations & Facilities Division

Travis Rob, E.I.T.
Manager of Operations & Facilities

Council approval of this report will accept the August 2016 Drinking Water Systems Monthly Summary Report and approve the report prior to it being made available to the general public.

c.c. – Doug Herr, Environmental & Facilities Supt.
Randy White, Senior WTP Operator

03CouncilwaterreportMarch 2015

August, 2016

**Monthly Summary Report
Water Systems**

**Prepared by: Randy White, ORO
Senior Water Treatment Plant Operator**

Dated: September 26, 2016

1) **Introduction:**

This report contains the major maintenance activities and operational events that occurred during the month of August 2016 at the Water Treatment Plant - Water Works # 220000978 and the Airport Groundwater Well Water Works # 26002736. This information report has been prepared for Council to better understand how the water systems they own and operate are maintained on a monthly basis. Also, this report will assist Council as Directors of the Corporation in exercising its obligation to meet a reasonable Standard of Care as outlined in Section 19 of the Safe Drinking Water Act.

2) **Flow Data:**

Water Treatment Plant: See attached spreadsheet. No flow data for Airport groundwater well.

3) **Microbiological (Health Related) Water Analysis – Main Water System # 220000978:**

Water Treatment Plant (treated): 4 samples taken no adverse results

Water Treatment Plant (raw): 4 samples taken no adverse results

Water Distribution System: 16 samples taken where 25% of samples were tested for heterotrophic plate count HPC no adverse results

We take microbiological samples on a weekly basis, which includes 1 raw sample, 1 treated sample and 4 distribution samples. The 4 distribution samples are taken at different locations throughout the distribution system.

Water distribution samples taken at the following locations:

1. 720 Scott St.	2. 901 Wright Ave.	3. 810 King's Hwy.	4. W. Tower
5. 720 Scott St.	6. 104 Scott St.	7. 1050 Portage Ave.	8. W. Tower
9. 1111 First St.	10. 1104 Church St.	11. 1324 King's Hwy.	12. W. Tower
13. 1036 Victoria Ave.	14. 740 Sixth St. W.	15. 901 Wright Ave.	16. W. Tower

4) **Microbiological (Health Related) Water Analysis - Airport Groundwater Well # 26002736:**

No samples taken.

The Airport has signs posted in the men's and women's washroom stating that the water has not been tested or treated for drinking purpose in accordance with the Health Protection and Promotion Act – Section 7 of the Small Drinking Water Systems Regulation, O. Reg. 318/08 (*Amended to Safe Drinking Water Act, 2002 - Section 6 of Ontario Regulation 252/05*). The operators do a visual inspection of

the warning notices at a minimum of once per week to ensure that they are legible and comply with Ontario Regulation 318/08, Section 7(5).

5) Free Available Chlorine Residual (FAC) - Main Water System - # 220000978:

FAC residuals are taken at a minimum daily at both the Water Treatment Plant and within the Water Distribution System.

6) Free Available Chlorine residual (FAC) – Airport Groundwater Well System # 26002736:

Signs posted, exempt from testing.

7) Maintenance Activities at the WTP:

August 02nd - calibrated distribution chlorine analyzer.

August 04th - cleaned top and bottom tanks on the poly unit.

August 08th - calibrated distribution chlorine analyzer.

August 12th - changed the filters on the Dust Collector.

August 13th - calibrated distribution chlorine analyzer.

August 15th - ran generator for one hour.

August 17th - annual calibration of plant equipment by Lakeside Process Controls.

August 18th - annual calibration of plant equipment by Lakeside Process Controls.

August 23rd - shut down plant and changed the batteries on all UPS Units.

August 26th - cleaned top and bottom tanks on the poly unit.
- cleaned all four (4) check valves on poly unit.

August 30th - took grab samples off the filters.

8) **Water Complaints –**

- Poor Pressure – 0 complaints
- Water Quality – 0 complaints

9) **Other Miscellaneous Information:**

- August 02nd - took weekly routine micro samples.
- tie-in of existing water mains to new mains - bacti samples - Phair Avenue at 5th St. E. - 2nd set.
- August 08th - took weekly routine micro samples.
- water main break repairs - bacti samples - 338 Scott Street - 1st set.
- August 09th - water main break repairs - bacti samples - 338 Scott Street - 2nd set.
- water service repair - bacti samples – 515 First Street East.
- tie-in of existing water mains to new mains - bacti samples - Phair Avenue at 6th St. E. – 1st set.
- August 10th - tie-in of existing water mains to new mains - bacti samples - Phair Avenue at 6th St. E. – 2nd set.
- took bacti samples at the Lion's head.
- August 11th - installation of new valves and capped - Second St. E. at lane and just west of lane on Second St. E. - bacti samples - 1st set.
- took raw water samples at Airport new well.
- August 15th - took weekly routine micro samples.
- took micro samples at Sunny Cove water system.
- took quarterly samples at Sunny Cove water system.
- August 17th - installation of new valves and capped - Second St. E. at lane and just west of lane on Second St. E. - bacti samples - 2nd set.
- August 22nd - took weekly routine micro samples.
- August 25th - tie-in of existing water mains to new mains - bacti samples - Second St. E. at Colonization Rd. E. - 1st set.

August 26th - tie-in of existing water mains to new mains - bacti samples -
Second St. E. at Colonization Rd. E. - 2nd set.

August 29th - received a load of liquid Alum.
- took weekly routine micro samples.

10) In order to acknowledge that all levels of responsibility within the Corporation of the Town of Fort Frances have received and reviewed this monthly report, it is necessary to sign-off in the appropriate location below:

- Randy White, ORO, Senior WTP Operator: _____
- Doug Herr, Environmental & Facilities Supt.: _____
- Travis Rob, Manager of Operations & Facilities: _____
- Doug Brown, CAO: _____
- Paul Ryan, Chair O& F Exec Committee: _____
- Roy Avis, Mayor: _____
- June Caul, Councillor: _____
- John Albanese, Councillor: _____
- Wendy Brunetta, Councillor: _____
- Doug Kitowski, Councillor: _____
- Ken Perry, Councillor: _____

Note: Once all signatures have been obtained, the report will be distributed and made available to the public. If you have any questions, please feel free to contact myself or Randy White, Senior WTP Operator at 274-2325.

Monthly Report August 2016

Town of Fort Frances - Water treatment Plant - Water Works # 220000978
Monitoring Record
August 2016

Operating Data	Units	*MAC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total	Average
		or Range																																	
Flow rates																																			
Raw Water	10^3 M^3	17	5.74	5.92	5.83	6.00	5.96	5.53	5.84	5.96	5.83	5.60	6.01	5.86	5.64	5.91	5.99	5.90	5.84	5.75	5.70	5.84	5.68	5.50	5.71	5.17	5.71	5.69	5.59	5.57	5.82	5.67	5.65	178.41	5.76
Peak Instantaneous - Raw Water	L/s	n/a	68.07	68.23	68.34	68.41	68.02	68.05	68.25	68.20	68.12	68.09	68.23	63.31	68.45	68.46	68.58	69.28	68.24	68.17	66.68	66.43	66.40	66.34	66.47		66.69	66.45	66.43	66.37	66.21	66.19	66.10	2021.26	67.38
Treated Water	10^3 M^3	17	4.61	3.57	5.50	4.65	4.21	4.20	3.37	3.85	4.80	3.88	5.09	4.73	3.91	3.69	4.13	4.38	4.41	5.43	4.74	5.36	5.30	4.21	5.31	4.83	5.05	4.93	4.35	3.46	3.84	4.12	3.59	137.50	4.44
Peak Instantaneous - Treated Water	L/s	n/a	86.36	86.11	113.96	84.17	87.93	82.52	87.28	63.72	77.29	91.82	84.64	72.53	85.81	71.17	72.39	84.69	84.42	105.76	85.60	98.82	80.58	84.95	83.42		82.75	84.00	83.82	93.60	83.66	80.96	82.64	2547.37	84.91
BackWash Water	10^3 M^3	n/a	0.169	0.238	0.254		0.189	0.226	0.259	0.237	0.167	0.263			0.379	0.315	0.264	0.171	0.244	0.268	0.173	0.163	0.377	0.270	0.211	0.242	0.268	0.896	0.238	0.267	0.136	0.170	0.265	7.319	0.261
Fluoride Information																																			
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.72	0.58	0.53	0.63	0.58	0.52	0.63	0.69	0.67	0.79	0.68	0.58	0.69	0.70	0.72	0.74	0.62	0.66	0.74	0.71	0.76	0.53	0.53	0.61	0.58	0.54	0.51	0.61	0.54	0.57	0.63	19.59	0.63
Turbidity Information																																			
Raw Water	NTU	n/a	1.52	1.63	1.57	1.60	1.42	1.33	1.37	1.51	1.52	1.31	1.09	1.21	1.49	1.49	1.56	1.45	1.36	1.47	1.31	1.39	1.44	1.28	1.33	1.27	1.41	1.37	1.27	1.30	1.12	1.21	1.17	42.77	1.38
Settled Water	NTU	n/a	0.12	0.13	0.11	0.11	0.14	0.16	0.11	0.14	0.17	0.16	0.18	0.14	0.12	0.10	0.09	0.14	0.11	0.13	0.14	0.13	0.12	0.14	0.17	0.21	0.15	0.19	0.13	0.11	0.14	0.16	0.12	4.27	0.14
Treated Water	NTU	1	0.07	0.09	0.07	0.08	0.07	0.09	0.07	0.10	0.08	0.08	0.09	0.08	0.07	0.06	0.06	0.09	0.08	0.08	0.11	0.11	0.09	0.09	0.11	0.08	0.09	0.08	0.11	0.09	0.09	0.09	0.08	2.63	0.08
Other Operating Parameters																																			
pH - Treated Water	no units	6.5 to 8.5	7.24	7.14	7.21	7.18	7.15	7.13	7.16	7.19	7.21	7.20	7.20	7.24	7.27	7.24	7.27	7.21	7.15	7.18	7.19	7.21	7.17	7.22	7.21	7.15	7.19	7.16	7.14	7.16	7.16	7.18	7.17	222.88	7.19
pH - Settled water	no units	n/a	6.11	6.12	6.07	5.95	5.94	6.05	6.16	6.14	6.07	6.12	6.18	6.24	6.24	6.22	6.26	6.27	6.18	6.21	6.09	6.12	6.15	6.17	6.26	6.23	6.16	6.76	6.74	6.31	6.78	6.31	6.77	193.38	6.24
pH - Raw Water	no units	n/a	7.19	7.09	7.15	7.21	7.22	7.26	7.31	7.32	7.25	7.29	7.33	7.08	7.19	7.16	7.20	7.11	7.19	7.19	7.10	7.09	7.16	7.20	6.99	7.07	7.09	7.01	7.17	7.05	7.10	7.09	6.94	221.80	7.15
FAC - Treated Water	mg/l	0.2 to 4	2.00	2.11	2.28	2.12	2.09	2.40	2.52	2.43	2.10	2.22	2.19	1.89	1.90	2.04	2.16	2.21	2.28	2.30	2.31	2.41	2.31	2.17	2.30	2.44	2.34	2.30	2.40	2.20	2.28	2.30	2.32	69.32	2.24
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.27	2.34	2.52	2.32	2.28	2.66	2.72	2.68	2.44	2.54	2.46	2.16	2.14	2.37	2.41	2.43	2.58	2.58	2.51	2.57	2.55	2.44	2.60	2.64	2.56	2.62	2.66	2.50	2.56	2.80	2.70	77.61	2.50
Temperature	C	15	23.0	23.0	23.0	23.0	22.0	22.0	23.0	23.0	23.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	23.0	22.0	22.0	22.0	22.0	22.0	22.0	23.0	22.0	22.0	22.0	21.0	21.0	689.0	22.2	
Fluoride used (Total Daily Consumption)	kg	n/a	17.0	18.0	17.0	17.0	17.0	16.0	17.0	17.0	17.0	16.0	17.0	18.0	18.0	19.0	20.0	18.0	19.0	18.0	18.0	19.0	18.0	17.0	17.0	19.0	17.0	17.0	16.0	17.0	18.0	16.0	17.0	542.0	17.5
Chlorine used (Total Daily Consumption)	kg	n/a	29.0	29.0	30.0	30.0	30.0	27.0	29.0	31.0	30.0	28.0	31.0	28.0	28.0	28.0	30.0	30.0	27.0	31.0	28.0	30.0	28.0	28.0	28.0	26.0	29.0	29.0	28.0	28.0	29.0	28.0	29.0	894.0	28.8
Soda ash (Total Daily Consumption)	kg	n/a	200.9	207.2	204.1	210.0	208.6	193.6	204.4	208.6	204.1	196.0	210.4	205.1	197.4	206.9	209.7	206.5	204.4	201.3	199.5	204.4	198.8	192.5	199.9	181.0	199.9	199.2	195.7	195.0	203.7	198.5	197.8	6244.4	201.4
Soda Ash - Dosage	mg/l	n/a	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	1085.0	35.0
Alum residual - (Total Daily Consumption)	kg	n/a	200.9	207.2	204.1	210.0	208.6	193.6	204.4	208.6	204.1	196.0	210.4	205.1	197.4	206.9	209.7	206.5	204.4	201.3	199.5	204.4	198.8	192.5	199.9	181.0	199.9	199.2	195.7	195.0	203.7	198.5	197.8	6244.4	201.4
Alum residual - Dosage	mg/l	n/a	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	1085.0	35.0
Alum residual - Treated Water	mg/l	0.1	0.01	0.02	0.01	0.01	0.02	0.02	0.02	0.01	0.02	0.01	0.04	0.02	0.01	0.03	0.04	0.07	0.01	0.01	0.06	0.06	0.05	0.03	0.01	0.04	0.03	0.02	0.02	0.02	0.01	0.01	0.02	0.76	0.02
Poly bags added (25 kg bags)	kg				0.5						0.5								0.5					0.5				0.5				0.5		75.0	

Town of Fort Frances - WTP - 220000978
August 2014/2015 vs. August 2016
Flow and Operating Data

Flow Data August	Units	2014		2015		2016	
		Day of the Month		Day of the Month		Day of the Month	
Total Raw Water	m ³		184830		195880		178410
Raw Maximum Day	m ³	Friday 22nd	6860	Tuesday 4th & Sunday 23rd	6620	Thursday 11th	6010
Raw Minimum Day	m ³	Wednesday 27th	4960	Monday 31st	5370	Wednesday 24th	5170
Raw Average Daily Consumption	m ³		5960		6320		5760
Total Treated Water	m ³		129750		130290		137500
Treated Water Maximim Day Consumption	m ³	Thursday 28th	5080	Sunday 16th	5030	Wednesday 03rd	5500
Treated Water Minimim Day Consumption	m ³	Monday 25th	3480	Sunday 23rd	3510	Sunday 07th	3370
Treated Water Average Day Consumption	m ³		4190		4200		4440
Daily Average Per Household Consumption Rate	m ³		1.11		1.11		1.17
* Daily Average Per Person Consumption Rate	m ³		0.52		0.53		0.56
Monthly Averages - Operating Parameters WTP:							
FAC Residual - Treated Water	mg/L		1.78		2.10		2.24
Total Chlorine Residual - Treated Water	mg/L		2.09		2.38		2.50
Aluminum Sulphate - Raw Water	mg/L		36.0		35.0		35.0
Aluminum Sulphate - Treated Water Residual	mg/L		0.06		0.03		0.02
Fluoride - Treated Water	mg/L		0.57		0.56		0.63
Soda Ash - Raw Water	mg/L		36.0		35.0		35.0
PH - Adjusted	mg/L		7.29		7.20		7.19
Temperature	C		22.3		20.1		22.2
Quantity of Chemical Used:	kg						
Aluminum Sulphate	kg		6653.9		6855.8		6244.4
Polyelectrolyte	kg		75.0		62.5		75.0
Chlorine Gas	kg		933		947		894
Soda Ash - Used for PH Adjustment	kg		6653.9		6855.8		6244.4
Fluoride	kg		441		600		542

* The Canadian Average is 450 Litres (0.45 m³) per day.

* Population is 7986

* Number of Households is 3783