

September 5, 2014

Report To: Mayor & Council

From: Doug Brown, Manager of Operations & Facilities

SUBJECT: August 2014 Drinking Water Systems Monthly Summary Report

Please find attached the August 2014 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 2014 report as presented.

Respectfully submitted,
Operations & Facilities Division

Doug Brown

Doug Brown, P. Eng.
Manager of Operations & Facilities

Council approval of this report will accept the August 2014 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

08Council Water ReportAugust 2014.doc

RECOMMENDED

SEP 17 2014

DIV. MNG.

EXECUTIVE COMM.

Doug Brown
R. White

August, 2014

**Monthly Summary Report
Water Systems**

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

Dated: September 03, 2014

1) Introduction -

This report contains the major maintenance activities and operational events that occurred during the month of August 2014 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.

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 purposes 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 07th - cleaned top and bottom tanks on poly unit.
- cleaned all 4 check valves on the poly unit.

August 08th - greased motors and chains on clarifiers.

August 11th - greased motors and chains on clarifiers.

August 12th - annual calibrations completed by Lakeside Controls.

August 13th - annual calibrations completed by Lakeside Controls.
- installed new turbidity meters on filters # 1 & 3.

August 14th - annual calibrations completed by Lakeside Controls.

August 20th - flushed the poly lines to the clarifier # 2.

August 21st - flushed the poly lines to the clarifier # 1.

August 25th - worked on low lift # 3.

August 26th - greased motors and chains on clarifiers.

August 28th - cleaned top and bottom tanks on poly unit.
- cleaned all 4 check valves on the poly unit.

August 29th - worked on soda ash dust collector.

8) **Water Complaints:**

- Poor Pressure – 0 complaints.
- Water quality – 0 complaints.

9) **Other Miscellaneous Information:**

August 05th - routine micro sample collection.
- received a load of alum.

August 11th - routine micro sample collection.

August 12th - completed leachate sampling at 6 test wells at the landfill site
- took micro samples at Sunny Cove Camp.

August 18th - routine micro sample collection.
- service repair samples – water service break at 613 Riverview Drive -1st set.


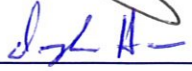
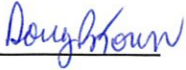

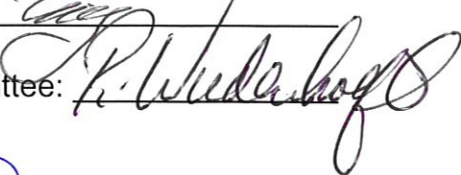

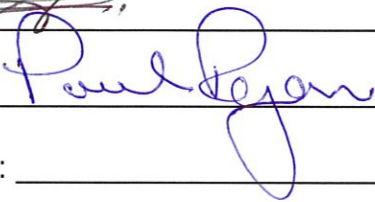

August 19th - service repair samples – water service break at 613 Riverview Drive - 2nd set.

August 25th - routine micro sample collection.

August 27th - new water main (Third St. E. – 600 blk.) samples – Third St. E. and Phair Ave - 1st set.

August 28th - new water main (Third St. E. – 600 blk.) samples – Third St. E. and Phair Ave - 2nd set.

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.: 
- Doug Brown, Manager of Operations & Facilities: 
- Mark McCaig, CAO: 
- Rick Wiedenhoeft, Chair O & F Exec Committee: 
- Roy Avis, Mayor: 
- Paul Ryan, Councillor: 
- John Albanese, Councillor: _____
- Andrew Hallikas, 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 2014

Flow Data	August	Units	2012		2013		2014	
			Day of the Month		Day of the Month		Day of the Month	
Total Raw Water		m ³		198830		161980		184830
Raw Maximum Day		m ³	Tuesday 07th	7990	Sunday 25th	5920	Friday 22nd	6860
Raw Minimum Day		m ³	Wednesday 29th	5130	Wednesday 14th	4460	Wednesday 27th	4960
Raw Average Daily Consumption		m ³		6410		5230		5960
Total Treated Water		m ³		147770		129740		129750
Treated Water Maximim Day Consumption		m ³	Thursday 30th	6700	Friday 23rd	5130	Thursday 28th	5080
Treated Water Minimim Day Consumption		m ³	Sunday 19th	3640	Sunday 04th	3430	Monday 25th	3480
Treated Water Average Day Consumption		m ³		4770		4190		4190
Daily Average Per Household Consumption Rate		m ³		1.26		1.11		1.11
* Daily Average Per Person Consumption Rate		m ³		0.60		0.52		0.52
Monthly Averages - Operating Parameters WTP:								
FAC Residual - Treated Water		mg/L		1.75		1.83		1.78
Total Chlorine Residual - Treated Water		mg/L		2.03		2.15		2.09
Aluminum Sulphate - Raw Water		mg/L		34.5		34.0		36.0
Aluminum Sulphate - Treated Water Residual		mg/L		0.04		0.06		0.06
Fluoride - Treated Water		mg/L		0.67		0.60		0.57
Soda Ash - Raw Water		mg/L		34		34.0		36.0
PH - Adjusted		mg/L		7.18		7.11		7.29
Temperature		C		22.0		20.0		22.3
Quantity of Chemical Used:		kg						
Aluminum Sulphate		kg		6859.6		5507.3		6653.9
Polyelectrolyte		kg		75		87.5		75.0
Chlorine Gas		kg		804		716		933
Soda Ash - Used for PH Adjustment		kg		6760.2		5507.3		6653.9
Fluoride		kg		731		458		441

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

* Population is 7986

* Number of Households is 3783

Town of Fort Frances - Water treatment Plant - Water Works # 220000978
Monitoring Record
August 2014

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
Flow rates		or Range																																			
Peak instantaneous - Raw Water	Raw Water	10 ³ M ³	17	6.01	5.93	6.33	5.77	5.92	5.87	6.09	5.99	5.90	6.16	6.17	6.12	6.22	6.18	6.25	6.41	6.35	5.87	6.19	6.20	6.32	6.66	5.26	5.45	5.06	5.09	4.96	5.81	6.18	5.94	6.07	184.83	5.96	
	Raw Water	L/s	17	70.16	71.01	70.57	70.30	69.73	69.58	70.49	70.13	70.00	71.57	71.46	71.28	71.50	71.91	72.54	72.75	72.64	72.62	72.65	72.57	72.70	72.73	71.32	71.07	61.20	60.41	59.81	76.14	75.99	71.69	71.62	1290.14	70.65	
	Treated Water	10 ³ M ³	17	3.93	4.22	4.01	3.62	4.59	4.81	4.54	4.44	4.68	4.48	4.35	4.18	4.33	4.63	4.41	4.44	4.40	3.93	4.25	4.69	4.27	3.70	3.58	4.12	3.48	3.73	4.14	5.08	3.94	3.53	4.05	129.75	4.19	
	Treated Water	L/s	17	96.55	81.82	80.39	78.92	76.86	82.25	86.99	85.56	83.17	84.92	83.25	78.96	81.82	82.24	81.29	81.97	87.30	80.90	83.05	85.68	83.18	80.84	79.17	76.21	74.08	85.68	87.64	92.13	96.60	89.00	88.55	2599.19	83.64	
Backwash Water	Backwash Water	10 ³ M ³	na	0.208	0.261	0.235	0.257	0.213	0.261	0.235	0.240	0.261	0.214	0.238	0.243	0.214	0.260	0.236	0.242	0.215	0.264	0.238	0.244	0.475	0.236	0.240	0.542	0.299	0.242	0.474	0.473	0.610	0.620	0.640	9.590	0.309	
Fluoride Information	Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.52	0.51	0.52	0.59	0.59	0.58	0.59	0.59	0.57	0.59	0.56	0.59	0.55	0.57	0.59	0.55	0.58	0.55	0.50	0.52	0.62	0.54	0.55	0.51	0.51	0.59	0.57	0.60	0.61	0.62	0.64	17.57	0.57	
Turbidity Information	Raw Water	NTU	na	1.40	1.42	1.39	1.45	1.51	1.47	1.56	1.60	1.47	1.40	1.46	1.42	1.45	1.49	1.45	1.42	1.31	1.27	1.44	1.32	1.43	1.33	1.15	1.29	1.15	1.36	1.57	1.52	1.54	1.47	1.49	43.90	1.42	
	Settled Water	NTU	na	0.13	0.14	0.12	0.17	0.11	0.11	0.11	0.11	0.10	0.10	0.10	0.12	0.15	0.12	0.13	0.17	0.15	0.14	0.12	0.09	0.11	0.10	0.10	0.13	0.11	0.09	0.08	0.09	0.09	0.08	0.06	3.48	0.11	
	Treated Water	NTU	1	0.06	0.08	0.06	0.07	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.07	0.06	0.07	0.08	0.08	0.09	0.07	0.09	0.04	0.07	0.06	0.04	0.06	0.04	0.06	0.07	0.05	0.04	0.04	1.86	0.06	
Other Operating Parameters																																					
pH - Treated Water	pH - Treated Water	no units	6.5 to 6.5	7.30	7.41	7.31	7.38	7.40	7.36	7.35	7.32	7.36	7.26	7.31	7.30	7.25	7.20	7.25	7.15	7.25	7.12	7.22	7.17	7.28	7.28	7.22	7.27	7.28	7.40	7.33	7.41	7.36	7.27	7.34	226.11	7.29	
	pH - Settled Water	no units	na	6.47	6.44	6.38	6.25	6.51	6.36	6.32	6.32	6.39	6.39	6.45	6.37	6.42	6.49	6.45	6.39	6.41	6.17	6.14	6.07	6.15	6.12	6.05	6.22	6.24	6.21	6.31	6.17	6.29	6.36	195.72	6.31		
	pH - Raw Water	na	na	7.08	7.09	7.00	7.05	6.94	6.88	7.12	7.00	6.96	6.96	6.95	6.85	6.80	6.87	6.91	6.88	7.00	6.89	7.13	6.97	7.03	7.01	6.96	7.03	6.97	6.94	7.12	7.13	1.90	1.97	1.92	65.21	1.78	1.92
	FAC - Treated Water	mg/l	0.2 to 4	1.71	1.70	1.63	1.60	1.78	1.90	1.93	1.87	2.01	1.92	1.85	1.89	1.80	1.88	2.03	1.79	1.79	1.92	1.77	1.69	1.74	1.72	1.48	1.41	1.43	1.22	1.42	2.13	1.30	1.90	1.77	1.92	55.29	1.78
Total Chlorine Residual Treated	Temperature	°C	15	22.0	22.0	22.0	22.0	22.0	22.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	21.0	21.0	21.0	20.0	69.10	22.3	20.8	
	Fluoride used (Total Daily Consumption)	kg	na	14.0	12.0	15.0	15.0	15.0	15.0	14.0	15.0	15.0	14.0	15.0	14.0	15.0	15.0	15.0	15.0	15.0	14.0	14.0	14.0	13.0	14.0	12.0	12.0	12.0	11.0	13.0	14.0	16.0	18.0	44.10	14.2	14.0	
	Chlorine used (Total Daily Consumption)	kg	na	29.0	30.0	31.0	29.0	29.0	29.0	30.0	30.0	29.0	30.0	31.0	32.0	31.0	32.0	31.0	32.0	31.0	32.0	31.0	32.0	31.0	31.0	30.0	28.0	25.0	28.0	32.0	32.0	31.0	31.0	30.0	30.1	31.0	30.3
	Soda ash (Total Daily Consumption)	kg	na	216.4	213.5	222.9	207.7	213.1	211.3	219.2	215.6	212.4	221.8	222.1	220.3	223.9	222.5	225.0	220.8	228.6	211.3	222.8	223.2	223.9	247.0	189.4	196.2	182.2	183.2	178.6	209.2	222.5	213.8	218.5	6653.9	214.6	216.0
Soda Ash - Dosage	Soda Ash - Dosage	mg/l	na	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	
	Alum residual - Total Daily Consumption	kg	na	216.4	213.5	222.9	207.7	213.1	211.3	219.2	215.6	212.4	221.8	222.1	220.3	223.9	222.5	225.0	220.8	228.6	211.3	222.8	223.2	223.9	247.0	189.4	196.2	182.2	183.2	178.6	209.2	222.5	213.8	218.5	6653.9	214.6	216.0
	Alum residual - Dosage	mg/l	na	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	
	Alum residual - Treated Water	mg/l	0.1	0.03	0.07	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.09	0.07	0.04	0.05	0.04	0.05	0.04	0.04	0.03	0.04	0.07	0.08	0.05	0.06	0.07	0.06	0.07	0.04	0.06	0.08	0.06	0.04	0.04	11.60	0.06
Poly bags added (25 kg bags)		kg																																		75.0	