

May 19, 2015

Report To: Mayor & Council

From: Doug Brown, Manager of Operations & Facilities

SUBJECT: April 2015 Drinking Water Systems Monthly Summary Report

Please find attached the April 2015 Summary Report on the drinking water systems, prepared by Randy White, Senior WTP Operator.

Your Administration recommends that Operations & Facilities Executive Committee accept the April 2015 report as presented.

Respectfully submitted,
Operations & Facilities Division



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

<p>Council approval of this report will accept the April 2015 Drinking Water Systems Monthly Summary Report and approve the report prior to it being made available to the general public.</p>

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

03CouncilwaterreportMarch 2015

April, 2015

**Monthly Summary Report
Water Systems**

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

Dated: May 14, 2015

1) **Introduction -**

This report contains the major maintenance activities and operational events that occurred during the month of April 2015 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): 5 samples taken no adverse results

Water Treatment Plant (raw): 5 samples taken no adverse results

Water Distribution System: 20 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 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

- April 01st - Galbraith Electric at plant to heaters and electrical cords.
- April 02nd - filled soda ash day tank
- April 03rd - cleaned all four (4) check valves on poly unit.
- April 06th - Caron Electric at plant to repair Poly Pump No. 4.
- April 07th - calibrated chlorine analyzer.
- April 08th - greased both clarifiers.
- Cleartech, Pryde's and Galbraith Electric at plant to change chlorinator.
- cleaned electric motors for poly pumps and changed pulley belt for Poly Pump No. 3
- April 09th - Cleartech at plant working on new chlorinator.
- changed input out put card on Delta V system.
- April 10th - Galbraith Electric at plant to service poly motor and prep. for switch-over.
- cleaned the top and bottom tank on the poly unit.
- April 11th - Galbraith Electric at plant to change motor for poly pump.
- April 13th - tested backflow device at Manitoulines.
- greased both clarifiers.
- April 15th - began filling Clearwell No. 2.
- changed vacuum valve on chlorine system.
- April 16th - cleaned the top and bottom tank on the poly unit.

- April 17th - Galbraith Electric at plant to work on HL #2 motor.
- calibrated chemical feeders.
- April 21st - ordered Soda Ash.
- April 22nd - made chains for clarifier drives.
- April 23rd - took course on Working from Heights.
- April 28th - calibrated distribution chlorine analyzer.
- took grab samples from each filter.
- April 30th - worked on Sunny Cove.

8) **Water Complaints –**

- Poor Pressure – 0 complaints
- Water Quality – 1 complaint

1006 Webster Avenue: sampled (bacti) April 9, 2015 – no adverse
Chlorine – 1.77 mg/L

9) **Other Miscellaneous Information:**

- April 06th - took weekly routine bacti samples.
- April 07th - completed lead sampling – distribution system.
- April 09th - took weekly routine bacti samples.
- April 13th - took weekly routine bacti samples.
- April 20th - took weekly routine bacti samples.
- took bacti samples – Clearwell No. 2 – 1st set.
- April 21st - took bacti samples – Clearwell No. 2 – 2nd set.
- April 27th - took weekly routine bacti 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.: _____
- Doug Brown, Manager of Operations & Facilities: _____
- Mark McCaig, 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 April 2015

Town of Fort Frances - WTP - 220000978
April 2013/2014 vs. April 2015
Flow and Operating Data

Flow Data	APRIL	Units	2013		2014		2015	
			Day of the Month		Day of the Month		Day of the Month	
Total Raw Water	m ³		126330		206600		165700	
Raw Maximum Day	m ³	Sunday 28th	5140	Thursday 03rd	9660	Friday 17th	6650	
Raw Minimum Day	m ³	Monday 01st & 9th	4210	Saturday 26th	4770	Thursday 09th	5270	
Raw Average Daily Consumption	m ³		4360		7120		5710	
Total Treated Water	m ³		111400		173600		112830	
Treated Water Maximum Day Consumption	m ³	Friday 28th	4070	Thursday 03rd	7020	Sunday 12th	4260	
Treated Water Minimum Day Consumption	m ³	Friday 12th	3340	Saturday 26th	4810	Tuesday 21st	3390	
Treated Water Average Day Consumption	m ³		3710		5790		3760	
Daily Average Per Household Consumption Rate	m ³		0.98		1.53		0.99	
* Daily Average Per Person Consumption Rate	m ³		0.46		0.73		0.47	
Monthly Averages - Operating Parameters WTP:								
FAC Residual - Treated Water	mg/L		1.68		1.63		2.04	
Total Chlorine Residual - Treated Water	mg/L		2.02		1.92		2.32	
Aluminum Sulphate - Raw Water	mg/L		33.9		34.5		35.6	
Aluminum Sulphate - Treated Water Residual	mg/L		0.08		0.06		0.06	
Fluoride - Treated Water	mg/L		0.62		0.63		0.68	
Soda Ash - Raw Water	mg/L		34.0		35.0		37.3	
PH - Adjusted	mg/L		7.20		7.25		7.19	
Temperature	C		3.1		2.7		5.5	
Quantity of Chemical Used:								
Aluminum Sulphate	kg		4425.5		7457.2		6105.7	
Polyelectrolyte	kg		50		75		62.5	
Chlorine Gas	kg		391		689		639	
Soda Ash - Used for PH Adjustment	kg		4438.4		7565.3		6398.2	
Fluoride	kg		311		574		365	

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

* Population is 7986

* Number of Households is 3783

April 2015

Operating Data			Units	*MAC or Range	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	Total	Average
Flow rates	Raw Water	10³ M³/3	17	5.60	5.69	5.75	5.63	5.50	5.70	5.57	5.64	5.27	5.98	5.58	5.94	5.33	5.59	6.45	6.21	6.65	5.89	5.55	5.70	5.62	5.60	5.38	5.83	5.81	5.59	5.48	5.60	5.68	5.59	185.70	5.71	
	Peak Instantaneous - Raw Water	L/s	n/a	65.59	65.52	65.57	65.52	65.64	65.58	65.65	65.52	76.29	70.00	75.85	75.57	65.63	65.64	65.62	65.65	65.66	65.69	65.76	65.75	65.63	65.64	65.62	65.65	65.66	65.69	65.76	65.75	65.81	65.81	2020.32	67.34	
	Treated Water	10³ M³/3	17	3.89	3.92	3.69	3.82	3.76	4.02	3.98	4.12	3.52	4.12	3.46	4.26	3.70	3.60	3.92	3.60	3.92	3.66	3.36	3.92	3.36	3.63	3.66	3.41	3.68	3.77	3.58	3.74	3.61	3.74	61.23	3.76	
	Peak Instantaneous - Treated Water	L/s	5	82.59	83.04	82.52	81.64	82.24	80.83	82.76	84.59	81.87	82.95	79.30	82.81	82.95	82.71	80.97	88.83	83.15	83.06	83.95	82.56	81.14	81.64	81.84	81.38	81.07	81.74	82.15	82.32	81.19	86.03	2475.82	82.53	
	Backwash Water	10³ M³/3	n/a	0.23	0.23	0.21	0.23	0.23	0.23	0.23	0.21	0.23	0.23	1.33	0.23	0.21	0.23	0.20	0.20	0.22	0.22	0.23	0.20	0.22	0.23	0.20	0.20	0.21	0.23	0.21	0.22	0.23	0.22	6.59	0.26	
Fluoride Information																																				
Fluoride Residual - Treated Water	mg/L	0.5 to 0.8	0.75	0.72	0.88	0.69	0.72	0.64	0.37	0.22	0.19	0.53	0.77	0.73	0.74	0.75	0.76	0.77	0.76	0.74	0.74	0.74	0.72	0.70	0.72	0.72	0.75	0.75	0.71	0.74	0.71	0.73	0.77	20.26	0.68	
Turbidity Information																																				
Raw Water	NTU	n/a	0.79	0.75	0.69	0.62	0.66	0.72	0.92	1.03	0.84	0.71	0.99	1.06	0.92	0.76	1.28	1.38	1.44	1.34	1.19	1.46	1.38	1.35	1.30	1.37	1.45	1.39	1.45	1.35	1.31	1.42	33.28	1.11		
Settled Water	NTU	n/a	0.11	0.12	0.11	0.13	0.21	0.11	0.35	0.37	0.22	0.10	0.11	0.15	0.16	0.18	0.16	0.12	0.11	0.09	0.09	0.09	0.09	0.07	0.12	0.12	0.14	0.11	0.12	0.11	0.12	0.11	0.09	4.20	0.14	
Treated Water	NTU	1	0.09	0.09	0.06	0.06	0.06	0.06	0.08	0.04	0.03	0.07	0.06	0.07	0.06	0.06	0.06	0.05	0.05	0.04	0.05	0.04	0.05	0.04	0.04	0.06	0.07	0.06	0.05	0.07	0.08	0.06	0.05	1.79	0.06	
Other Operating Parameters																																				
pH - Treated Water	no units	6.5 to 6.5	7.49	7.41	7.26	7.20	7.16	7.17	7.14	7.07	7.13	7.15	7.08	7.01	6.69	7	7.14	7.18	7.21	7.08	7.16	7.41	7.14	7.37	7.27	7.27	7.41	7.32	7.41	7.32	7.01	7.1	7.35	215.64	7.19	
pH - Settled Water	no units	n/a	6.71	6.77	6.84	6.52	6.56	6.61	6.80	6.36	6.87	6.80	6.74	6.85	6.47	6.41	6.43	6.46	6.52	6.36	6.41	6.36	6.40	6.52	6.45	6.45	6.45	6.41	6.45	6.41	5.96	5.89	5.97	194.76	6.49	
FAc - Raw Water	no units	n/a	6.81	6.92	6.87	6.89	7.05	6.74	6.58	6.63	6.54	6.77	6.83	6.73	6.69	6.92	6.97	6.90	6.95	6.94	6.87	6.99	6.99	6.99	6.99	6.99	6.91	6.84	6.92	6.99	6.89	7.02	7	7.22	206.05	6.88
pH - Treated Water	0.2 to 4	n/a	1.97	1.99	1.87	2.01	1.89	1.95	1.85	1.89	1.74	1.40	2.20	2.15	2.24	2.29	2.91	2.65	1.97	1.94	1.94	1.84	2.01	2.19	1.79	2.15	2.05	2.15	2.19	1.94	2.57	1.51	2.05	2.04		
Total Chlorine Residual	0.3 to 7	n/a	2.17	2.19	2.24	2.29	2.16	2.19	2.30	2.38	2.16	1.76	2.47	2.44	2.64	2.67	2.31	2.88	2.39	2.21	2.20	2.18	2.27	2.32	2.10	2.30	2.29	2.30	2.35	2.25	2.28	2.31	69.52	2.32		
Temperature	C	15	4.0	4.0	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0	6.0	6.0	6.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0	165.0	5.5		
Chlorine used (Total Daily Consumption)	kg	n/a	11.0	12.0	12.0	11.0	12.0	11.0	9.0	9.0	10.0	11.0	12.0	12.0	12.0	16.0	20.0	14.0	15.0	14.0	12.0	13.0	12.0	13.0	12.0	11.0	13.0	11.0	11.0	10.0	11.0	11.0	14.0	385.0	12.2	
Chlorine used (Total Daily Consumption)	kg	n/a	21.0	20.0	19.0	21.0	19.0	21.0	20.0	20.0	20.0	19.0	20.0	24.0	22.0	24.0	22.0	20.0	27.0	23.0	21.0	22.0	21.0	21.0	21.0	22.0	22.0	22.0	21.0	21.0	19.0	19.0	639.0	21.3		
Soda ash (Total Daily Consumption)	kg	n/a	207.8	207.4	213.3	208.9	204.1	211.5	206.6	209.2	195.5	210.9	207.0	220.4	197.7	209.6	241.9	236.6	249.4	220.9	208.1	213.8	210.8	217.9	209.6	210.0	216.8	217.9	209.6	205.0	210.0	213.0	209.6	6398.2	213.3	
Soda Ash - Dosage	mg/L	n/a	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	1120.4	37.1	
Alum residual - (Total Daily Consumption)	kg	n/a	199.4	199.0	204.7	200.4	195.8	202.9	198.3	200.8	187.6	212.9	198.6	211.5	198.7	198.4	229.0	221.7	237.4	210.3	198.1	203.5	200.6	199.9	192.1	208.1	207.4	199.6	195.6	199.9	202.8	199.6	6105.7	203.5		
Alum residual - Dosage	mg/L	n/a	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	1069.3	35.6	
Alum residual - Treated Water	mg/L	n/a	0.09	0.09	0.06	0.03	0.06	0.08	0.06	0.06	0.08	0.08	0.08	0.08	0.08	0.08	0.05	0.04	0.06	0.06	0.03	0.05	0.06	0.06	0.05	0.05	0.04	0.07	0.06	0.05	0.04	0.05	0.06	1.83	0.06	
Alum Residual - Settled Water	mg/L	0.1	0.09	0.09	0.06	0.03	0.06	0.08	0.06	0.06	0.08	0.08	0.08	0.08	0.08	0.08	0.05	0.04	0.06	0.06	0.03	0.05	0.06	0.06	0.05	0.05	0.04	0.07	0.06	0.05	0.04	0.05	0.06	62.5	0.05	
Alum Residual - Backwash Water	mg/L	0.1	0.09	0.09	0.06	0.03	0.06	0.08	0.06	0.06	0.08	0.08	0.08	0.08	0.08	0.08	0.05	0.04	0.06	0.06	0.03	0.05	0.06	0.06	0.05	0.05	0.04	0.07	0.06	0.05	0.04	0.05	0.06	1.83	0.06	