

THE TOWN OF FORT FRANCES

May 30, 2013

Report To: Mayor & Council

From: Doug Brown, Manager of Operations & Facilities

SUBJECT: April 2013 Drinking Water Systems Monthly Summary Report

JUN - 5 2013

Please find attached the April 2013 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 2013 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 April 2013 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

01 Council Water Report April 2013.doc

RECOMMENDED

JUN 5 2013

OP. MNG.

Doug Brown

EXECUTIVE COMM.

R. W. White

EXECUTIVE COMM.

OP. MNG.

JUN 5 2013

RECOMMENDED



April, 2013

**Monthly Summary Report
Water Systems**

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

Dated: May 17, 2013

1) Introduction -

This report contains the major maintenance activities and operational events that occurred during the month of April 2013 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 - Cleaned the flumes at the plant.
 - Put Clarifier No. 1 back on-line.
- April 02nd - Calibrated distribution chlorine analyzer.
- April 04th - Flushed ploy lines to clarifiers.
 - Cleaned the top and bottom tank on the poly unit.
 - Cleaned all four (4) check valves on the poly lines.
- April 08th - Cleaned out soda ash lines.
 - Calibrated distribution chlorine analyzer.
- April 09th - Repaired the settled water sample pump.
 - Worked on Low Lift Pumps No. 3.
- April 11th - Took Clarifiers No. 2 off-line for maintenance and cleaning.
- April 12th - Cleaned out the sludge from Clarifier No. 2.
- April 16th - Checked filter turbidity readings by taking grab samples.
- April 23rd - Worked on High Lift Pump No. 4.
- April 25th - Cleaned the top and bottom tank on the poly unit.
- April 26th - Cleaned all four (4) check valves on poly unit.
- April 30th - Transferred sludge over from Clarifier No. 1 to Clarifier No. 2.

8) **Water Complaints –**

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

9) **Other Miscellaneous Information:**

April 01st - Took weekly routine bacti samples

April 02nd - Lead sampling program as per O. Reg. 170/03.

April 03rd - Lead sampling program as per O. Reg. 170/03.

April 08^h - Took weekly routine bacti samples.

April 15th - Took weekly routine bacti samples.

April 16th - QMS meeting at the Water Treatment Plant.

April 22nd - Took weekly routine bacti samples.

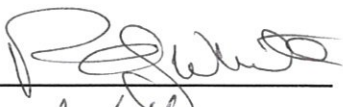
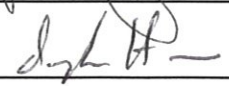
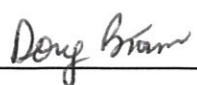

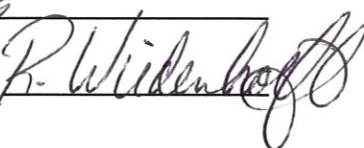
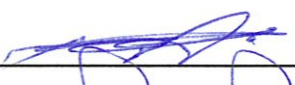
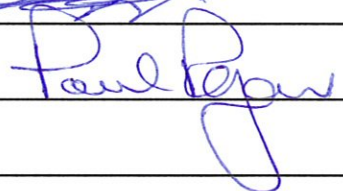
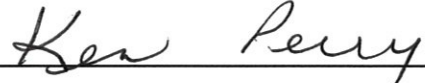
April 25th - QMS meeting at the Water Treatment Plant.

April 26th - QMS meeting at the Water Treatment Plant.

April 29th - Took weekly routine bacti samples.

April 30th - QMS meeting at the Water Treatment Plant.

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.

Flow Data	APRIL	Units	2011		2012		2013	
			Day of the Month		Day of the Month		Day of the Month	
Total Raw Water		m ³		153480		149680		126330
Raw Maximum Day		m ³	Saturday 2nd	5270	Saturday 14th	5350	Sunday 28th	5140
Raw Minimum Day		m ³	Saturday 23rd	4970	Thursday 5th	4910	Monday 01st & 9th	4210
Raw Average Daily Consumption		m ³		5120		5160		4360
Total Treated Water		m ³		120870		125040		111400
Treated Water Maximim Day Consumption		m ³	Thursday 7th	4400	Monday 2nd	4710	Friday 28th	4070
Treated Water Minimim Day Consumption		m ³	Sunday 10th	3610	Tuesday 17th	3400	Friday 12th	3340
Treated Water Average Day Consumption		m ³		4030		4170		3710
Daily Average Per Household Consumption Rate		m ³		1.07		1.10		0.98
* Daily Average Per Person Consumption Rate		m ³		0.57		0.52		0.46
Monthly Averages - Operating Parameters WTP:								
FAC Residual - Treated Water		mg/L		1.82		2.01		1.68
Total Chlorine Residual - Treated Water		mg/L		2.12		2.21		2.02
Aluminum Sulphate - Raw Water		mg/L		34.8		34.5		33.9
Aluminum Sulphate - Treated Water Residual		mg/L		0.07		0.05		0.08
Fluoride - Treated Water		mg/L		0.62		0.62		0.62
Soda Ash - Raw Water		mg/L		34.0		34.3		34.0
PH - Adjusted		mg/L		7.13		7.17		7.20
Temperature		C		4.0		5.9		3.1
Quantity of Chemical Used:								
Aluminum Sulphate		kg		5341.2		5346.1		4425.5
Polyelectrolyte		kg		50		75		50
Chlorine Gas		kg		497		473		391
Soda Ash - Used for PH Adjustment		kg		5218.3		5309.7		4438.4
Fluoride		kg		475		415		311

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

* Population is 7986

* Number of Households is 3783

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																																			
Flow rates	Raw Water	10³ M³/3	17	4.21	4.31	4.24	4.33	4.3	4.32	4.35	4.21	4.34	4.29	4.30	4.25	4.31	4.36	4.28	4.29	4.30	4.32	4.32	4.34	4.26	4.30	4.31	4.26	4.36	4.28	5.04	5.14	4.33	4.29	126.33	4.36
	Peak Instantaneous - Raw Water	L/s	n/a	50.30	50.91	50.31	50.36	50.27	50.35	50.28	50.33	50.33	50.37	50.36	50.32	50.37	50.39	50.42	50.39	50.42	50.36	50.41	50.39	50.42	50.44	50.37	50.39	50.31	50.30	50.32	50.34	50.37	50.53	1511.43	50.38
	Treated Water	10³ M³/3	17	3.42	4.00	3.92	4.05	3.99	3.96	3.74	3.85	3.82	3.94	3.93	3.84	3.84	3.91	3.98	3.92	3.98	3.94	3.96	3.90	3.83	3.84	3.72	3.53	3.72	4.07	3.61	3.65	3.78	3.91	111.40	3.71
	Peak Instantaneous - Treated Water	L/s	n/a	66.93	67.54	70.41	68.65	68.31	68.53	67.16	68.01	68.53	68.31	68.08	68.17	67.50	67.51	67.81	68.31	68.27	69.16	69.96	68.29	67.54	67.68	68.57	69.21	62.53	62.16	61.37	61.66	61.88	62.46	2011.50	67.05
Backwash Water		10³ M³/3	n/a	0.229	0.237	0.212	0.225	0.238	0.215	0.229	0.234	0.217	0.228	0.237	0.221	0.228	0.245	0.222	0.228	0.240	0.219	0.230	0.242	0.220	0.229	0.240	0.222	0.227	0.245	0.223	0.209	0.248	0.456	7.096	0.237
Fluoride Information																																			
Fluoride Residual - Treated Water		mg/l	0.5 to 0.8	0.54	0.62	0.58	0.62	0.62	0.66	0.55	0.65	0.77	0.62	0.61	0.60	0.61	0.62	0.60	0.61	0.61	0.59	0.60	0.61	0.62	0.61	0.52	0.59	0.58	0.61	0.62	0.75	0.76	0.68	18.63	0.62
Turbidity Information																																			
Raw Water		NTU	n/a	0.37	0.32	0.39	0.34	0.35	0.33	0.35	0.35	0.33	0.40	0.39	0.39	0.33	0.37	0.37	0.42	0.45	0.39	0.35	0.32	0.35	0.37	0.46	0.36	0.36	0.40	0.37	0.52	0.40	0.44	11.34	0.38
Settled Water		NTU	n/a	0.21	0.13	0.09	0.09	0.09	0.08	0.13	0.11	0.21	0.11	0.12	0.11	0.10	0.09	0.09	0.15	0.12	0.09	0.12	0.11	0.11	0.14	0.11	0.15	0.16	0.14	0.14	0.19	0.13	0.11	3.73	0.12
Treated Water		NTU	1	0.09	0.09	0.09	0.09	0.07	0.06	0.09	0.10	0.13	0.07	0.07	0.06	0.06	0.05	0.04	0.06	0.05	0.07	0.06	0.07	0.05	0.08	0.09	0.06	0.08	0.08	0.07	0.10	0.09	0.06	2.23	0.07
Other Operating Parameters																																			
pH - Treated Water		no units	6.5 to 8.5	7.25	6.94	7.09	7.38	7.39	7.32	7.29	7.23	7.19	7.19	7.16	7.14	7.19	7.18	7.11	7.12	7.07	7.12	7.02	7.11	7.05	7.10	7.20	7.23	7.26	7.29	7.32	7.31	7.3	7.28	216.03	7.20
pH - Settled Water		no units	n/a	6.00	5.93	5.91	5.97	5.99	6.06	6.05	6.06	6.13	6.08	6.04	6.12	6.08	6.06	6.10	6.12	6.06	6.00	6.00	6.02	6.00	5.92	5.99	6.12	6.34	6.44	6.39	6.21	6.45	6.22	182.86	6.10
pH - Raw Water		no units	n/a	7.07	6.96	6.76	7.18	7.03	7.01	6.98	7.00	7.04	7.07	7.08	7.03	7.06	7.06	7.09	7.05	7.12	7.07	7.00	7.00	7.01	7.01	6.98	7.02	6.44	6.39	6.21	6.45	6.22	207.48	6.92	
FAC - Treated Water		mg/l	0.2 to 4	1.82	1.83	1.73	1.80	1.71	1.67	1.66	1.64	1.59	1.72	1.69	1.72	1.74	1.65	1.64	1.67	1.60	1.64	1.75	1.63	1.67	1.68	1.62	1.64	1.52	1.70	1.65	1.57	1.66	1.79	50.40	1.68
Total Chlorine Residual Treated		mg/l	0.3 to 7	2.19	2.20	2.12	2.17	2.06	1.97	1.95	1.94	2.04	2.11	2.07	2.16	2.21	2.03	1.96	1.82	1.86	1.83	1.93	1.85	1.92	1.86	2.08	2.03	2.02	2.05	1.99	1.96	1.96	2.14	60.48	2.02
Temperature		C	15	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	93.0	3.1	
Fluoride used (Total Daily Consumption)		kg	n/a	9.0	11.0	10.0	9.0	10.0	10.0	11.0	9.0	10.0	11.0	11.0	10.0	10.0	11.0	10.0	10.0	11.0	11.0	10.0	11.0	10.0	10.0	11.0	10.0	10.0	11.0	11.0	11.0	10.0	311.0	10.4	
Chlorine used (Total Daily Consumption)		kg	n/a	12.0	14.0	13.0	13.0	13.0	13.0	13.0	13.0	12.0	14.0	13.0	12.0	13.0	14.0	13.0	13.0	13.0	13.0	13.0	13.0	14.0	12.0	13.0	14.0	13.0	13.0	13.0	13.0	13.0	391.0	13.0	
Soda ash (Total Daily Consumption)		kg	n/a	143.1	146.5	144.2	147.2	146.2	146.9	147.9	143.1	147.6	145.9	146.2	144.5	146.5	148.2	145.5	145.9	146.2	146.9	146.9	147.6	144.8	146.2	146.5	144.8	148.2	145.5	171.4	174.8	147.2	145.9	4438.4	147.9
Soda Ash - Dosage		mg/l	n/a	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	1020.0	34.0
Alum residual - Total Daily Consumption		kg	n/a	143.1	146.5	144.2	147.2	146.2	146.9	147.9	143.1	147.6	145.9	146.2	144.1	142.4	146.1	143.4	145.9	146.2	146.9	146.9	147.6	144.8	146.2	146.5	144.8	148.2	145.5	171.4	174.8	147.2	145.9	4425.5	147.5
Alum residual - Dosage		mg/l	n/a	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	2.23	0.08
Alum residual - Treated Water		mg/l	0.1	0.09	0.06	0.06	0.08	0.09	0.08	0.09	0.09	0.09	0.06	0.07	0.08	0.09	0.05	0.07	0.07	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.07	0.07	0.07	0.07	0.07	0.06	1017.0	33.9	
Poly bags added (25 kg bags)		kg		0.5										0.5												0.5							0.5	50.0	