

June 14, 2013

Report To: Mayor & Council

From: Doug Brown, Manager of Operations & Facilities

SUBJECT: May 2013 Drinking Water Systems Monthly Summary Report



Please find attached the May 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 May 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 May 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 January 2013.doc

R. Wiedenkopf
Doug Brown

May, 2013

**Monthly Summary Report
Water Systems**

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

Dated: June 11, 2013

1) Introduction -

This report contains the major maintenance activities and operational events that occurred during the month of May 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): 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

- May 02nd
 - flushed poly lines from pumps to clarifiers.
 - cleaned the top and bottom tank on the poly unit.
 - cleaned the four (4) check valves on the poly unit.
 - transferred sludge from clarifier # 1 to clarifier # 2.
 - greased clarifier No. 1.
- May 07th
 - cleaned soda ash line.
 - put Sunny Cove water system on line.
- May 08th
 - flushed poly lines from pumps to clarifiers.
- May 09th
 - washed out clarifier and put on line.
- May 10th
 - cleaned the weir going in to filters.
- May 13th
 - checked all fluid levels in fire pump.
- May 14th
 - re-calibrated soda ash feeder.
- May 23rd
 - re-calibrated alum feeder.
- May 26th
 - installed new soda ash pump.
- May 28th
 - annual calibrations done by Hach at plant on lab equipment and on line turbidity meters.
- May 31st
 - cleaned the top and bottom tank on the poly unit.
 - cleaned the four (4) check valves on the poly unit.

8) Water Complaints –

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

9) Other Miscellaneous Information:

- May 01st - worked on monthly report for April 2013.
- internal audit for Q.M.S. personnel.
- May 06th - completed D.W.S.P. samples at the plant.
- took weekly routine bacti samples.
- water service repair samples at 939 Crowe Ave. – 1st set.
- seasonal samples taken at Sorting Gap Marina.
- May 07th - water service repair samples at 939 Crowe Ave. – 2nd set.
- May 08th - seasonal samples taken at ball field & Lions head – 1st set.
- nitrate/nitrite samples taken at sunny cove.
- took first set of micro samples at Sunny cove.
- seasonal samples taken at ball field, Lions head water fountain and marina – 2nd set.
- May 09th - took second set of micro samples at Sunny cove.
- May 13th - took weekly routine bacti samples.
- May 15th - re-sample taken on adverse result at 1109 Col. Rd. W. Samples taken at source site, upstream and downstream.
- May 21st - seasonal sample at Point Park office, camp sites, washrooms, ball diamond and lions park washroom – 1st set.
- took weekly routine bacti samples.
- May 22nd - seasonal sample at Point Park office, camp sites, washrooms, ball diamond and lions park washroom – 2nd set.
- took quarterly samples at the Water Treatment Plant and Water Tower.
- May 27th - took weekly routine bacti samples.
- May 28th - had a Q.M.S. Meeting.
- May 29th - had a Health and Safety Tailgate meeting

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: Randy White
- Doug Herr, Environmental & Facilities Supt.: _____
- Doug Brown, Manager of Operations & Facilities: Doug Brown
- Mark McCaig, CAO: Mark McCaig
- Rick Wiedenhoeft, Chair O&F Exec Committee: Rick Wiedenhoeft
- Roy Avis, Mayor: Roy Avis
- Paul Ryan, Councillor: Paul Ryan
- John Albanese, Councillor: _____
- Andrew Hallikas, Councillor: _____
- Doug Kitowski, Councillor: _____
- Ken Perry, Councillor: Ken Perry

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 May 2013

Flow Data	MAY	Units	2011		2012		2013	
			Day of the Month		Day of the Month		Day of the Month	
Total Raw Water		m ³		163900		158280		142840
Raw Maximum Day		m ³	Tuesday 24th	5580	Saturday 19th	5480		6170
Raw Minimum Day		m ³	Monday 2nd	4980	Tuesday 8th	3290		4050
Raw Average Daily Consumption		m ³		5290		5110		4610
Total Treated Water		m ³		129730		121110		118680
Treated Water Maximum Day Consumption		m ³	Wednesday 18th	4950	Saturday 19th	4900	Friday May 17	4270
Treated Water Minimum Day Consumption		m ³	Monday 2nd	3680	Saturday 12th	3200	Monday May 20	3410
Treated Water Average Day Consumption		m ³		4180		3910		3830
Daily Average Per Household Consumption Rate		m ³		1.10		1.03		1.01
* Daily Average Per Person Consumption Rate		m ³		0.52		0.49		0.48
Monthly Averages - Operating Parameters WTP:								
FAC Residual - Treated Water		mg/L		1.75		1.75		1.78
Total Chlorine Residual - Treated Water		mg/L		2.01		2.03		2.08
Aluminum Sulphate - Raw Water		mg/L		34.0		34.4		34
Aluminum Sulphate - Treated Water Residual		mg/L		0.07		0.05		0.06
Fluoride - Treated Water		mg/L		0.63		0.63		0.63
Soda Ash - Raw Water		mg/L		34.0		34.1		34
PH - Adjusted		mg/L		7.20		7.31		7.2
Temperature		C		10.6		11.8		6.5
Quantity of Chemical Used:		kg						
Aluminum Sulphate		kg		5575.3		5437.4		4856.6
Polyelectrolyte		kg		62.5		50.0		37.5
Chlorine Gas		kg		562		539		450
Soda Ash - Used for PH Adjustment		kg		5572.6		5391.8		4856.6
Fluoride		kg		488		392		350

* 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	31	Total	Average
Flow rates																																					
Raw Water		10 ³ M ³	17	4.32	4.38	4.28	4.05	4.45	4.39	4.30	4.38	4.33	5.09	6.03	6.17	5.91	6.04	5.19	4.98	4.74	4.18	4.47	4.30	4.27	4.34	4.25	4.25	4.08	4.36	4.32	4.25	4.16	4.30	4.28	142.84	4.61	
Peak instantaneous - Raw Water		L/s	n/a	53.63	50.61	53.24	50.42	50.50	50.59	50.60	50.68	53.05	60.84	70.98	71.06	71.06	71.28	71.03	60.64	55.97	55.68	50.02	50.85	51.05	50.33	50.16	49.59	49.74	49.88	50.03	50.04	50.13	50.10	49.99	1704.38	54.98	
Treated Water		10 ³ M ³	17	3.52	3.85	3.57	3.52	3.84	3.67	3.71	4.13	4.05	4.25	4.23	3.98	3.76	4.13	4.01	4.17	4.27	3.58	3.57	3.41	3.52	3.68	3.96	3.97	3.65	3.78	3.82	3.89	3.94	3.71	3.54	118.68	3.83	
Peak instantaneous - Treated Water		L/s	n/a	61.74	99.29	63.03	61.84	61.24	61.63	71.01	63.00	64.37	64.15	69.79	60.02	61.79	67.18	62.59	74.07	92.73	63.02	59.32	59.13	60.43	61.90	61.97	62.28	61.71	60.55	61.17	62.28	61.90	61.48	61.43	2017.84	65.09	
Backwash Water		10 ³ M ³	n/a	0.229	0.246	0.216	0.243	0.239	0.223	0.244	0.244	0.224	0.000	0.208	0.261	0.217	0.241	0.536	0.215	0.240	0.245	0.220	0.199	0.221	0.211	0.440	0.000	0.229	0.215	0.225	0.213	0.213	0.219	7.084	0.229		
Fluoride Information																																					
Fluoride Residual - Treated Water		mg/l		0.66	0.62	0.60	0.60	0.60	0.60	0.54	0.56	0.67	0.65	0.61	0.67	0.70	0.62	0.53	0.68	0.63	0.57	0.64	0.61	0.68	0.68	0.68	0.69	0.67	0.68	0.63	0.65	0.62	0.65	0.65	19.62	0.63	
Turbidity Information																																					
Raw Water		NTU	n/a	0.41	0.59	0.57	0.54	0.58	0.54	0.68	0.75	0.78	0.79	0.79	0.81	0.99	0.98	0.96	0.95	0.97	1.01	1.03	1.41	1.70	1.74	1.77	1.75	1.66	1.71	1.60	1.91	0.99	1.10	1.15	33.71	1.09	
Settled Water		NTU	n/a	0.09	0.11	0.14	0.11	0.13	0.17	0.19	0.32	0.19	0.09	0.09	0.08	0.17	0.12	0.16	0.22	0.15	0.21	0.10	0.11	0.11	0.09	0.08	0.09	0.09	0.08	0.07	0.08	0.07	0.08	0.09	3.96	0.13	
Treated Water		NTU	1	0.05	0.06	0.06	0.06	0.05	0.07	0.11	0.12	0.19	0.09	0.05	0.06	0.08	0.11	0.09	0.06	0.10	0.12	0.06	0.05	0.05	0.06	0.04	0.04	0.04	0.05	0.04	0.03	0.04	0.05	2.13	0.07		
Other Operating Parameters																																					
pH - Treated Water		no units	6.5 to 8.5	7.27	7.29	7.26	7.28	7.31	7.33	7.12	7.10	7.18	7.15	7.18	7.17	7.15	7.36	7.20	7.31	7.22	7.16	7.14	7.21	7.36	7.29	7.19	7.21	7.26	7.19	7.15	7.00	7.12	7.10	7.07	223.33	7.20	
pH - Settled water		no units	n/a	6.19	6.20	6.18	6.27	6.18	6.26	6.30	6.17	6.12	6.00	6.05	6.11	6.15	6.04	6.08	6.00	5.95	5.74	5.70	6.19	6.24	6.17	6.15	6.11	6.19	6.22	6.15	6.10	6.05	6.09	6.12	189.47	6.11	
pH - Raw Water		no units	n/a	7.09	7.17	7.14	7.11	7.08	7.13	7.00	7.12	7.15	7.12	7.11	7.07	7.25	7.03	6.91	6.99	6.96	6.94	6.96	7.04	7.01	7.06	7.10	7.01	7.02	7.08	7.10	7.09	7.10	7.15	7.10	213.17	7.07	
FAC - Treated Water		mg/l	0.2 to 4	1.80	1.76	1.76	1.71	1.68	1.65	1.71	1.68	1.65	1.75	1.71	1.73	1.63	1.56	1.71	1.67	1.76	1.74	1.67	1.76	1.74	1.79	1.79	1.87	1.96	1.94	2.08	2.00	2.01	1.92	1.95	55.09	1.78	
Total Chlorine Residual Treated		mg/l	0.5 to 7	2.18	2.25	2.16	2.08	2.02	2.00	1.95	1.93	1.75	1.82	1.69	1.98	1.91	1.99	2.31	2.12	2.07	2.02	2.05	2.13	2.16	2.09	2.09	2.15	2.23	2.27	2.20	2.19	2.21	2.19	2.17	64.38	2.08	
Temperature		C	15	4.0	4.0	4.0	4.0	4.0	4.00	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0	8.0	9.0	9.0	10.0	10.0	10.0	11.0	12.0	200.0	6.5	
Fluoride used (Total Daily Consumption)		kg	n/a	10.0	11.0	11.0	10.0	10.0	10.0	10.0	10.0	10.0	11.0	15.0	17.0	16.0	13.0	13.0	14.0	10.0	12.0	10.0	11.0	11.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	350.0	11.3		
Chlorine used (Total Daily Consumption)		kg	n/a	13.0	14.0	13.0	12.0	14.0	13.0	13.0	14.0	13.0	16.0	19.0	22.0	21.0	20.0	17.0	15.0	15.0	12.0	14.0	13.0	13.0	14.0	13.0	12.0	12.0	13.0	13.0	14.0	13.0	15.0	15.0	450.0	14.5	
Soda ash (Total Daily Consumption)		kg	n/a	146.9	146.9	145.5	137.7	151.3	149.3	146.2	146.9	147.2	173.1	205.0	209.8	200.9	205.4	176.5	169.3	161.2	142.1	152.0	146.2	145.2	147.6	144.5	144.5	138.7	148.2	146.9	144.5	141.4	146.2	145.5	4856.6	156.7	
Alum residual - (Total Daily Consumption)		mg/l	n/a	146.9	146.9	145.5	137.7	151.3	149.3	146.2	146.9	147.2	173.1	205.0	209.8	200.9	205.4	176.5	169.3	161.2	142.1	152.0	146.2	145.2	147.6	144.5	144.5	138.7	148.2	146.9	144.5	141.4	146.2	145.5	4856.6	156.7	
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	34.0	1094.0	34.0	
Alum - Treated Water		mg/l	n/a	146.9	146.9	145.5	137.7	151.3	149.3	146.2	146.9	147.2	173.1	205.0	209.8	200.9	205.4	176.5	169.3	161.2	142.1	152.0	146.2	145.2	147.6	144.5	144.5	138.7	148.2	146.9	144.5	141.4	146.2	145.5	4856.6	156.7	
Poly bags added (25 kg bags)		kg	n/a	0.66	0.66	0.66	0.64	0.66	0.66	0.60	0.69	0.69	0.61	0.62	0.61	0.63	0.67	0.68	0.69	0.69	0.68	0.69	0.69	0.66	0.66	0.66	0.67	0.68	0.67	0.68	0.67	0.68	0.66	0.65	1.91	0.66	