

November 14, 2012

Report To: Mayor & Council

From: Doug Brown, Manager of Operations & Facilities

**SUBJECT: October 2012 Drinking Water Systems Monthly Summary Report**



Please find attached the October 2012 Summary Report on the drinking water systems, prepared by Randy White, Senior WTP Operator.

Your Administration recommends that Operations & Facilities Executive Committee accept the October 2012 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 October 2012 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

10 Council Water Report October 2012.doc

**RECOMMENDED**

NOV 14 2012  
DIV. MNG. *Doug Brown*  
EXECUTIVE COMM. *R. White*

**October, 2012**

**Monthly Summary Report  
Water Systems**

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

**Dated: November 14, 2012**

## 1) Introduction -

This report contains the major maintenance activities and operational events that occurred during the month of October 2012 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**

Oct. 02<sup>nd</sup> - unhooked and drained Sunny Cove Camp water system.

Oct. 03<sup>rd</sup> - cleaned the soda ash line.

Oct. 03<sup>rd</sup> - worked on draining Sunny Cove Camp water system.

Oct. 04<sup>th</sup> - worked on draining Sunny Cove Camp water system.

Oct. 05<sup>th</sup> - cleaned the top and bottom tank on the poly unit.

Oct. 05<sup>th</sup> - cleaned the four (4) check valves on the poly unit.

Oct. 05<sup>th</sup> - installed new mixer on soda ash system.

Oct. 05<sup>th</sup> - blew down clarifier # 1 manually.

Oct. 05<sup>th</sup> - Doug Brown here for health and safety inspection.

Oct. 09<sup>th</sup> - Clow Darling here working on boiler.

Oct. 10<sup>th</sup> - Clow Darling here working on boiler.

Oct. 11<sup>th</sup> - hauled Sunny Cove tanks and chlorine system back to be stored at Plant.

Oct. 12<sup>th</sup> - blew down clarifier # 1 manually.

Oct. 15<sup>th</sup> - Clow Darling and M. L. Caron here working on boiler.

Oct. 16<sup>th</sup> - Clow Darling and M. L. Caron here working on boiler.

Oct. 17<sup>th</sup> - Clow Darling and M. L. Caron here working on boiler.

Oct. 19<sup>th</sup> - blew down clarifier # 1 manually.

Oct. 22<sup>nd</sup> - lubricated and inspected clarifier # 1.

Oct. 22<sup>nd</sup> - lubricated and inspected clarifier # 2.

Oct. 22<sup>nd</sup> - checked both compressors oil levels and drained water.

Oct. 22<sup>nd</sup> - inspected and lubricated poly booster pump.

Oct. 22<sup>nd</sup> - inspected fluoride pump.

Oct. 22<sup>nd</sup> - did maintenance on chlorine analyzers.

Oct. 25<sup>th</sup> - cleaned the top and bottom tank on the poly unit.

Oct. 25<sup>th</sup> - cleaned the four (4) check valves on the poly unit.

Oct. 25<sup>th</sup> - blew down clarifier # 1 manually.

Oct. 30<sup>th</sup> - took chlorine samples for new water line at Court House.

Oct. 31<sup>st</sup> - took chlorine samples for new water line at Court House.

#### 8) **Water Complaints –**

- Poor Pressure – 0 complaint.
- Water quality – 1 complaint.

809 Christie Avenue bubbles in water. Removed aerator from tap cured problem.

9) **Other Miscellaneous Information:**

Oct. 01<sup>st</sup> - routine micro sample collection.

Oct. 09<sup>th</sup> - routine micro sample collection.

Oct. 10<sup>th</sup> - customer service repair samples at 1036 Colonization Road West first set.

Oct. 11<sup>th</sup> - Q.M.S. meeting at Water Treatment Plant.

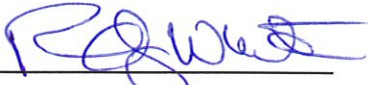

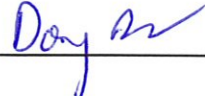

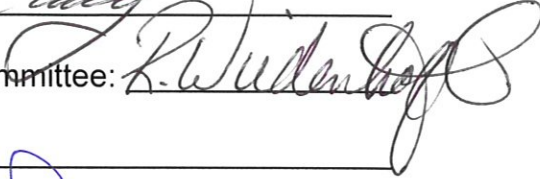
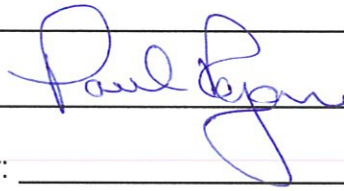

Oct. 11<sup>th</sup> - customer service repair samples at 1036 Colonization Road West second set.

Oct. 15<sup>th</sup> - routine micro sample collection.

Oct. 22<sup>nd</sup> - routine micro sample collection.

Oct. 29<sup>th</sup> - routine micro sample collection.

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 Wiedenhoef, Chair O & F Exec Committee: 
- Roy Avis, Mayor: \_\_\_\_\_
- Paul Ryan, Councillor: 
- John Albanese, Councillor: \_\_\_\_\_
- Andrew Hallikas, Councillor: \_\_\_\_\_
- Sharon Tibbs, 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	October	Units	2010		2011		2012	
			Day of the Month		Day of the Month		Day of the Month	
Total Raw Water	m <sup>3</sup>			178830		186500		148030
Raw Maximum Day	m <sup>3</sup>		Sunday 3rd	6410	Saturday 08th	6380	Monday 22nd	5590
Raw Minimum Day	m <sup>3</sup>		Monday 18th	5380	Monday 31st	5690	Wednesday 24th	4130
Raw Average Daily Consumption	m <sup>3</sup>			5770		6020		4775
Total Treated Water	m <sup>3</sup>			12690		123010		116100
Treated Water Maximum Day Consumption	m <sup>3</sup>		Thursday 7th	4600	Saturday 08th	5000	Sunday 21st	4970
Treated Water Minimum Day Consumption	m <sup>3</sup>		Saturday 2nd	3630	Saturday 01st	2880	Wednesday 10th	3160
Treated Water Average Day Consumption	m <sup>3</sup>			4090		3970		3745
Daily Average Per Household Consumption Rate	m <sup>3</sup>			1.08		1.05		0.99
* Daily Average Per Person Consumption Rate	m <sup>3</sup>			0.51		0.50		0.47
Monthly Averages - Operating Parameters WTP:								
FAC Residual - Treated Water	mg/L			1.99		2.05		1.65
Total Chlorine Residual - Treated Water	mg/L			2.36		2.4		1.95
Aluminum Sulphate - Raw Water	mg/L			35.0		34.5		34.5
Aluminum Sulphate - Treated Water Residual	mg/L			0.05		0.06		0.05
Fluoride - Treated Water	mg/L			0.62		0.71		0.58
Soda Ash - Raw Water	mg/L			35		34		34
PH - Adjusted	mg/L			7.19		7.29		7.41
Temperature	C			12.2		12.9		12.9
Quantity of Chemical Used:	kg							
Aluminum Sulphate	kg			6259.1		6434.3		5107.0
Polyelectrolyte	kg			62.5		62.5		87.5
Chlorine Gas	kg			706		729		508
Soda Ash - Used for PH Adjustment	kg			6080.2		6160.6		4881.2
Fluoride	kg			618		710		400

\* The Canadian Average is 450 Litres (0.45 m<sup>3</sup>) 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 <sup>3</sup> M <sup>3</sup>	17	5.07	5.19	5.07	5.23	5.16	4.94	5.55	5.05	5.23	5.11	5.21	5.19	5.23	5.15	5.17	4.41	4.31	4.33	4.28	4.45	4.46	5.59	4.39	4.13	4.30	4.34	4.33	4.42	4.14	4.31	4.29	148.03	4.78
	Peak Instantaneous - Raw Water	L/s	n/a	60.51	60.50	60.59	60.73	60.71	60.60	60.52	60.51	60.66	60.74	60.61	60.57	60.60	60.68	60.41	50.54	50.47	50.47	50.51	50.46	70.73	70.59	50.84	50.45	50.44	50.45	50.45	50.44	50.45	50.59	50.68	1666.47	57.46
	Treated Water	10 <sup>3</sup> M <sup>3</sup>	17	4.08	4.12	4.02	3.78	3.75	3.83	4.11	3.18	4.15	3.16	3.74	3.72	3.61	3.72	3.81	3.60	4.00	3.50	3.54	3.74	4.97	3.73	3.62	3.65	3.55	4.02	3.35	3.63	3.40	3.50	3.52	116.10	3.75
	Peak Instantaneous - Treated Water	L/s	n/a	61.39	63.47	65.83	63.10	64.22	63.79	61.79	63.58	62.28	63.72	62.29	63.03	63.26	61.01	61.59	62.48	62.35	62.30	62.48	84.54	68.46	69.06	70.97	70.64	69.77	66.86	69.43	62.59	61.61	1889.38	65.15		
	Backwash Water	10 <sup>3</sup> M <sup>3</sup>	n/a	0.488	0.537	0.489	0.538	0.490	0.540	0.494	0.437	0.494	0.541	0.492	0.534	0.492	0.533	0.497	0.498	0.529	0.499	0.521	0.466	0.262		0.271	0.239	0.251	0.265	0.495	0.519	0.263	0.484	0.528	13.616	0.454
Fluoride Information																																				
Fluoride Residual - Treated Water		mg/l	0.5 to 0.8	0.55	0.52	0.50	0.52	0.50	0.51	0.50	0.52	0.60	0.65	0.67	0.67	0.60	0.59	0.51	0.50	0.72	0.68	0.74	0.78	0.66	0.59	0.62	0.64	0.51	0.52	0.50	0.51	0.54	0.58	0.55	18.05	0.58
Turbidity Information																																				
Raw Water		NTU	n/a	1.15	1.21	1.17	1.20	1.16	1.09	1.10	1.14	1.22	1.45	1.32	1.40	1.25	1.32	1.35	1.16	1.19	1.22	1.44	1.29	1.26	1.24	1.31	1.55	1.39	1.52	1.35	1.40	1.32	1.27	1.24	39.68	1.28
Settled Water		NTU	n/a	0.07	0.07	0.07	0.06	0.07	0.06	0.07	0.06	0.10	0.06	0.08	0.09	0.09	0.10	0.09	0.05	0.05	0.07	0.10	0.10	0.07	0.06	0.07	0.06	0.05	0.06	0.07	0.08	0.09	0.08	0.07	2.29	0.07
Treated Water		NTU	1	0.07	0.04	0.06	0.06	0.04	0.04	0.04	0.04	0.06	0.04	0.05	0.04	0.07	0.06	0.07	0.04	0.04	0.05	0.07	0.05	0.05	0.06	0.04	0.05	0.04	0.05	0.04	0.04	0.06	0.04	0.04	1.54	0.05
Other Operating Parameters																																				
pH - Treated Water		no units	6.5 to 8.5	7.65	7.46	7.41	7.39	7.21	7.36	7.52	7.45	7.12	7.29	7.25	7.20	7.15	7.20	7.10	7.28	7.71	7.20	7.77	7.70	7.76	7.48	7.67	7.66	7.84	7.76	7.51	7.42	7.01	7.10	7.06	229.69	7.41
pH - Settled Water		no units	n/a	5.94	5.99	6.01	6.04	5.96	5.97	6.12	6.06	5.54	5.98	6.00	5.97	6.01	6.10	6.00	5.98	5.96	5.92	6.06	5.98	6.37	5.99	6.04	5.97	5.99	6.05	6.00	5.99	5.89	5.92	5.90	185.70	5.99
pH - Raw Water		no units	n/a	7.26	7.11	7.33	7.28	7.08	7.06	7.23	7.26	6.80	7.17	7.10	7.12	7.05	7.10	7.12	7.31	7.21	7.20	7.12	7.24	7.20	7.16	7.10	7.17	7.20	7.25	7.15	7.12	7.10	7.08	7.19	221.87	7.16
FAC - Treated Water		mg/l	0.2 to 4	1.70	1.74	1.76	1.72	1.70	1.60	1.65	1.78	2.02	2.00	1.65	1.64	1.46	1.60	1.67	1.61	1.63	1.54	1.54	1.61	1.60	1.91	1.59	1.64	1.57	1.65	1.68	1.60	1.49	1.48	1.46	51.29	1.65
Total Chlorine Residual Treated		mg/l	0.3 to 7	1.80	1.96	2.12	2.09	1.97	1.83	1.94	2.11	2.21	2.20	1.95	1.89	1.69	1.86	1.93	2.14	2.03	1.98	1.96	1.94	1.96	2.25	2.02	1.94	1.98	1.99	1.89	1.71	1.63	1.71	1.74	60.42	1.97
Temperature		C	15	14.0	14.0	13.0	12.0	12.0	11.0	11.0	11.0	11.0	10.0	10.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	7.0	6.0	6.0	6.0	6.0	5.0	8.0	8.0	7.0	7.0	287.0	9.7		
Fluoride used (Total Daily Consumption)		kg	n/a	11.0	10.0	11.0	11.0	11.0	12.0	14.0	12.0	12.0	14.0	16.0	16.0	14.0	22.0	16.0	16.0	16.0	15.0	16.0	14.0	10.0	13.0	10.0	12.0	11.0	11.0	11.0	10.0	11.0	11.0	400.0	12.9	
Chlorine used (Total Daily Consumption)		kg	n/a	19.0	19.0	19.0	19.0	19.0	18.0	20.0	18.0	20.0	19.0	19.0	20.0	19.0	19.0	19.0	15.0	13.0	14.0	13.0	14.0	14.0	14.0	14.0	13.0	14.0	14.0	14.0	14.0	14.0	13.0	11.0	508.0	13.4
Soda ash (Total Daily Consumption)		kg	n/a	172.4	176.5	172.4	177.8	175.4	168.0	188.7	171.7	177.8	173.7	177.1	176.5	26.0	175.1	175.8	149.9	146.5	147.2	145.5	151.3	151.6	190.1	149.3	140.4	146.2	147.6	147.2	150.3	140.8	146.5	145.9	4881.2	157.5
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	34.0	1054.0	34.0
Alum residual - (Total Daily Consumption)		kg	n/a	174.9	179.1	174.9	180.4	178.0	170.4	191.5	174.2	180.4	176.3	179.7	179.1	180.4	177.7	178.4	152.1	148.7	149.4	147.7	153.5	153.9	192.9	151.5	142.5	148.4	149.7	149.4	152.5	142.8	148.7	148.0	5107.0	164.7
Alum residual - Dosage		mg/l	n/a	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	1069.5	34.5
Alum residual - Treated Water		mg/l	0.1	0.05	0.04	0.03	0.06	0.06	0.06	0.04	0.02	0.06	0.04	0.05	0.06	0.05	0.06	0.04	0.05	0.05	0.07	0.04	0.05	0.04	0.05	0.03	0.04	0.06	0.06	0.06	0.05	0.04	0.04	0.04	1.49	0.05
Poly bags added (25 kg bags)		kg		0.5											1.0				0.5					0.5				0.5					0.5		87.5	