

August 7, 2015

Report To: Mayor & Council

From: Doug Brown, Manager of Operations & Facilities

**SUBJECT: June 2015 Drinking Water Systems Monthly Summary Report**

Please find attached the June 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 June 2015 report as presented.

Respectfully submitted,  
Operations & Facilities Division



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

<p><b>Council approval of this report will</b> accept the June 2015 Drinking Water Systems Monthly Summary Report and approve the report prior to it being made available to the general public.</p>
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c.c. – Doug Herr, Environmental & Facilities Supt.  
Randy White, Senior WTP Operator

03CouncilwaterreportMarch 2015

**June, 2015**

**Monthly Summary Report  
Water Systems**

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

**Dated: August 5, 2015**

## 1) **Introduction -**

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

- June 4<sup>th</sup>
  - cleaned all 4 check valves on the poly unit
  - cleaned top and bottom tanks on the poly unit
- June 9<sup>th</sup>
  - cleaned plant and started painting floors and piping
- June 16<sup>th</sup>
  - calibrated the distribution chlorine analyzer.
  - took grab samples off the filters.
  - Honeywell and Lakeside working on High Lift VFD motors (Pumps No. 1 & 4)
- June 19<sup>th</sup>
  - repaired the blowdown valve on Clarifier No. 2.
- June 22<sup>nd</sup>
  - continued painting of pipes in the plant.
- June 23<sup>rd</sup>
  - calibrated distributor chlorine analyzer
  - took grab samples from all 4 filters
  - continued painting of pipes in the plant.
- June 25<sup>th</sup>
  - cleaned all 4 check valves on the poly unit
  - cleaned top and bottom tanks on the poly unit
- June 30<sup>th</sup>
  - changed west chlorine tank.

**8) Water Complaints –**

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

## 9) **Other Miscellaneous Information:**

- June 01<sup>st</sup> - took weekly routine micro samples.  
- valve replacement (VAL102) - water samples - First St. W. at Morrison Cres. (W. Side) - 1<sup>st</sup> set.
- June 02<sup>nd</sup> - valve replacement (VAL102) - water samples - First St. W. at Morrison Cresc. (W. Side) - 2<sup>nd</sup> set.
- June 03<sup>rd</sup> - temporary water line (Bay City) - Lillie Avenue - 2<sup>nd</sup> set.  
- temporary water line (Bay City) - York Avenue - 2<sup>nd</sup> set.
- June 08<sup>th</sup> - took weekly routine micro samples.  
- watermain isolation valve replacements - Third St. West/King's Hwy. (Bay City) - water samples - 1<sup>st</sup> set.
- June 09<sup>th</sup> - watermain isolation valve replacements - Third St. West/King's Hwy. (Bay City) - water samples - 2<sup>nd</sup> set
- June 10<sup>th</sup> - seasonal water turn on (water fountain) - Lions Park - 1<sup>st</sup> set.
- June 11<sup>th</sup> - seasonal water turn on (water fountain) - Lions Park – 2<sup>nd</sup> set.
- June 15<sup>th</sup> - took weekly routine micro samples.
- June 17<sup>th</sup> - received a shipment of Fluoride
- June 19<sup>th</sup> - received a load of Liquid Alum
- June 22<sup>nd</sup> - took weekly routine mico samples.
- June 29<sup>th</sup> - took weekly routine micro 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 June 2015**

Town of Fort Frances - Water treatment Plant - Water Works # 220000978  
Monitoring Record  
June 2015

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	Total	Average
		or Range																																
Flow rates																																		
Raw Water	10^3 M^3	17	5.67	5.64	5.63	5.56	5.72	5.49	5.67	5.77	5.64	5.61	5.65	5.63	5.95	5.65	5.53	5.63	5.54	5.60	5.61	5.56	5.74	5.27	5.44	5.40	5.60	5.57	5.75	5.44	5.58	5.57	168.11	5.60
Peak Instantaneous - Raw Water	L/s	n/a	67.16	67.30	67.26	65.79	66.71	66.06	66.00	66.19	66.07	65.80	65.71	65.67	65.58	65.57	65.80	65.64	65.70	65.31	64.81	64.90	64.96	64.84	64.56	63.55	65.56	64.98	65.03	64.81	64.91	65.58	1967.81	65.59
Treated Water	10^3 M^3	17	3.84	3.65	3.55	3.80	3.96	3.61	3.67	3.86	3.39	3.71	3.92	4.04	4.33	4.26	3.90	4.15	4.09	4.56	4.14	3.88	3.56	3.76	3.74	3.77	3.86	3.92	4.19	3.59	3.87	3.86	116.43	3.88
Peak Instantaneous - Treated Water	L/s	n/a	80.57	82.05	80.56	85.24	81.25	84.53	82.50	83.19	82.38	84.60	82.73	82.57	95.64	83.23	83.64	95.14	98.46	75.70	75.42	73.49	72.85	73.14	72.74	73.56	75.36	68.49	80.19	80.85	83.49	81.59	2435.15	81.17
BackWash Water	10^3 M^3	n/a	0.236	0.216	0.218	0.233	0.214	0.216	0.232	0.216	0.220	0.240	0.220	0.220	0.240	0.220	0.220	0.237	0.222	0.218	0.238	0.216	0.146	0.237	0.219	0.218	0.237	0.215	0.219	0.238	0.214	0.220	6.655	0.222
Fluoride Information																																		
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.65	0.66	0.69	0.67	0.69	0.68	0.65	0.67	0.58	0.63	0.50	0.61	0.59	0.48	0.61	0.65	0.59	0.59	0.62	0.63	0.54	0.54	0.59	0.59	0.55	0.58	0.59	0.57	0.50	0.52	18.01	0.60
Turbidity Information																																		
Raw Water	NTU	n/a	1.52	1.63	1.67	1.75	1.86	1.76	1.56	1.57	1.13	1.07	0.98	1.03	1.12	1.16	1.30	1.48	1.39	1.50	1.47	1.35	1.37	1.49	1.47	1.35	1.56	1.47	0.49	0.53	1.14	1.43	40.60	1.35
Settled Water	NTU	n/a	0.12	0.12	0.11	0.12	0.11	0.11	0.08	0.10	0.10	0.02	0.05	0.08	0.05	0.26	0.14	0.11	0.08	0.04	0.04	0.06	0.10	0.07	0.03	0.04	0.05	0.20	0.15	0.12	0.06	0.04	2.76	0.09
Treated Water	NTU	1	0.06	0.07	0.05	0.08	0.06	0.05	0.04	0.04	0.07	0.01	0.01	0.04	0.03	0.01	0.01	0.03	0.03	0.02	0.01	0.04	0.06	0.02	0.01	0.03	0.02	0.11	0.01	0.08	0.02	0.02	1.14	0.04
Other Operating Parameters																																		
pH - Treated Water	no units	6.5 to 8.5	7.10	7.16	7.22	7.15	7.19	7.32	7.42	7.31	7.27	7.31	7.45	7.23	7.27	7.33	7.38	7.43	7.35	7.26	7.39	7.21	7.19	7.24	7.35	7.30	7.29	7.26	7.21	7.17	7.29	7.24	218.29	7.28
pH - Settled water	no units	n/a	6.39	6.42	6.44	6.47	6.41	6.46	5.99	6.04	6.02	6.06	6.11	5.97	5.95	5.98	5.91	6.17	6.06	6.11	6.14	6.27	6.22	6.08	6.04	6.08	6.05	6.13	6.17	6.21	6.12	6.17	184.64	6.15
pH - Raw Water	no units	n/a	7.01	6.97	6.94	6.99	6.97	7.04	7.26	7.17	7.20	7.18	7.31	7.25	7.25	7.03	7.04	7.11	7.18	7.23	7.09	7.15	7.10	7.22	7.24	7.16	7.27	7.30	7.20	7.17	7.27	7.36	214.66	7.16
FAC - Treated Water	mg/l	0.2 to 4	2.17	2.06	2.04	2.00	1.88	1.68	1.93	1.76	1.54	1.63	1.65	1.84	1.84	1.81	1.78	2.10	1.94	2.07	2.12	2.20	2.00	2.10	1.94	2.02	1.89	1.93	1.89	1.82	1.67	1.78	57.08	1.90
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.36	2.33	2.39	2.17	2.06	2.24	2.32	2.10	2.60	2.28	1.96	2.26	2.28	2.34	2.42	2.44	2.36	2.44	2.41	2.43	2.21	2.16	2.18	2.30	2.42	2.48	2.17	2.10	2.18	2.28	68.67	2.29
Temperature	C	15	14.0	14.0	14.0	14.0	15.0	16.00	16.0	17.0	16.0	15.0	15.0	17.0	17.0	17.0	17.0	15.0	16.0	17.0	17.0	18.0	18.0	18.0	17.0	17.0	18.0	19.0	19.0	19.0	19.0	21.0	502.0	16.7
Fluoride used (Total Daily Consumption)	kg	n/a	15.0	15.0	15.0	15.0	15.0	14.00	15.0	14.0	14.0	14.0	13.0	13.0	11.0	12.0	11.0	11.0	11.0	11.0	12.0	10.0	11.0	10.0	10.0	12.0	14.0	13.0	14.0	13.0	14.0	385.0	12.8	
Chlorine used (Total Daily Consumption)	kg	n/a	24.0	23.0	24.0	23.0	25.00	24.0	26.0	26.0	25.0	25.0	23.0	26.0	26.0	27.0	26.0	26.0	26.0	26.0	27.0	26.0	27.0	25.0	25.0	25.0	27.0	26.0	28.0	26.0	25.0	26.0	764.0	25.4
Soda ash (Total Daily Consumption)	kg	n/a	198.5	197.4	197.1	194.6	200.2	192.2	198.5	202.0	197.4	196.4	197.8	197.1	208.3	197.8	193.6	197.1	193.9	196.0	196.4	194.6	200.9	184.5	190.4	189.0	196.0	195.0	201.3	190.4	195.3	195.0	5883.9	196.1
Soda Ash - Dosage	mg/l	n/a	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	1050.0	35.0	
Alum residual - (Total Daily Consumption)	kg	n/a	198.5	197.4	197.1	194.6	200.2	192.2	198.5	202.0	197.4	196.4	197.8	197.1	208.3	197.8	193.6	197.1	193.9	196.0	196.4	194.6	200.9	184.5	190.4	189.0	196.0	195.0	201.3	190.4	195.3	195.0	5883.9	196.1
Alum residual - Dosage	mg/l	n/a	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	1050.0	35.0	
Alum residual - Treated Water	mg/l	0.1	0.06	0.07	0.04	0.03	0.04	0.04	0.06	0.05	0.02	0.03	0.02	0.02	0.02	0.03	0.04	0.02	0.04	0.04	0.03	0.04	0.03	0.05	0.04	0.03	0.02	0.02	0.03	0.04	0.02	0.02	1.04	0.03
Poly bags added (25 kg bags )	kg			0.5							0.5							0.5		0.5								0.5			0.5	75.0		

Flow Data	JUNE	Units	2013		2014		2015	
			Day of the Month		Day of the Month		Day of the Month	
Total Raw Water		m <sup>3</sup>		144280		161770		168110
Raw Maximum Day		m <sup>3</sup>	Friday 26th	5590	Monday 02nd	6620	Saturday 13th	5950
Raw Minimum Day		m <sup>3</sup>	Monday 10th	3970	Saturday 21st	4750	Monday 22nd	5270
Raw Average Daily Consumption		m <sup>3</sup>		4810		5390		5600
Total Treated Water		m <sup>3</sup>		119730		123240		116430
Treated Water Maximim Day Consumption		m <sup>3</sup>	Friday 26th	5730	Tuesday 17th	6250	Thursday 18th	4560
Treated Water Minimim Day Consumption		m <sup>3</sup>	Monday 10th	3230	Sunday 29th	3330	Tuesday 09th	3390
Treated Water Average Day Consumption		m <sup>3</sup>		3990		4110		3880
Daily Average Per Household Consumption Rate		m <sup>3</sup>		1.055		1.086		1.026
* Daily Average Per Person Consumption Rate		m <sup>3</sup>		0.500		0.515		0.486
Monthly Averages - Operating Parameters WTP:								
FAC Residual - Treated Water		mg/L		1.72		1.68		1.90
Total Chlorine Residual - Treated Water		mg/L		2.03		1.97		2.29
Aluminum Sulphate - Raw Water		mg/L		34.0		34.8		35.0
Aluminum Sulphate - Treated Water Residual		mg/L		0.06		0.04		0.03
Fluoride - Treated Water		mg/L		0.57		0.62		0.60
Soda Ash - Raw Water		mg/L		34.0		34.8		35.0
PH - Adjusted		mg/L		7.17		7.18		7.28
Temperature		C		15.8		15.2		16.7
Quantity of Chemical Used:								
Aluminum Sulphate		kg		4905.5		5619.8		5883.9
Polyelectrolyte		kg		62.5		75.0		75.0
Chlorine Gas		kg		545.0		686.0		764.0
Soda Ash - Used for PH Adjustment		kg		4905.5		5633.6		5883.9
Fluoride		kg		327.0		406.0		385.0

\* The Canadian Average is 450 Litres (0.45 m<sup>3</sup>) per day.

\* Population is 7986

\* Number of Households is 3783