

June 16, 2015

Report To: Mayor & Council

From: Doug Brown, Manager of Operations & Facilities

SUBJECT: May 2015 Drinking Water Systems Monthly Summary Report

Please find attached the May 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 May 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 May 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

May, 2015

**Monthly Summary Report
Water Systems**

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

Dated: June 16, 2015

1) **Introduction -**

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

- | | |
|----------------------|--|
| May 4 th | - cleaned all 4 check valves on the poly unit
- cleaned top and bottom tanks on the poly unit |
| May 6 th | - greased plant equipment
- calibrated soda ash and alum feeders
- flushed poly lines to the clarifiers |
| May 7 th | - meeting with Ministry of the Environment |
| May 8 th | - Honeywell worked on High Lift Motors No. 1 and No.4 |
| May 12 th | - changed the filters on the dust collector |
| May 15 th | - calibrated distributor chlorine analyzer
- took grab samples from all 4 filters
- worked on the chlorination system at the Tower |
| May 21 st | - working on new chlorination system |
| May 26 th | - calibrated distribution chlorine analyzer |
| May 27 th | - changed bearings and chain on clarifier No. 2 |

8) Water Complaints –

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

9) Other Miscellaneous Information:

- May 4th - took weekly routine bacti samples.
 - took seasonal samples - soccer field.
- May 7th - water main break repair - water samples - 560 Webster Ave. - 1st set.
 - hydrant replacement (HYD129) - water samples - 618 First St. W. at Morrison Cresc. - 1st set.
 - hydrant replacement (HYD146) - water samples - 654 Riverview Dr. - 1st set.
- May 11th - took weekly routine bacti samples.
 - water main break repair - water samples - 560 Webster Ave. - 2nd set.
 - hydrant replacement (HYD129) - water samples - 618 First St. W. - 2nd set.
 - hydrant replacement (HYD146) - water samples - 654 Riverview Dr. - 2nd set.
 - season opening samples - Point Park.
 - valve replacement (VAL551) - water samples - Minnie Ave. at Front St. (N. Side) - 1st set.
- May 12th - valve replacements (VAL440) - water samples - Frenette Ave. at Fifth St. E. (S. Side) - 1st set
 - valve replacement (VAL551) - water samples - Minnie Ave. at Front St. (N. Side) - 2nd set.
 - took micro samples at Sunny Cove
 - took quarterly samples at Sunny Cove
- May 13th - valve replacements (VAL440) - water samples - Frenette Ave. at Fifth St. E. (S. Side) - 2nd set
 - hydrant replacement (HYD344) - water samples - Sorting Gap - 1st set
- May 14th - hydrant replacement (HYD344) - water samples - Sorting Gap - 2nd set.
 - valve replacement (VAL523) - water samples - Third St. E. at Williams Ave. (E. Side) - 1st set
 - season opening - Point Park washroom
- May 19th - took weekly routine bacti samples
 - frozen water line - 400 Central Ave. (Tourist Info. Centre) - 1st set
 - did quarterly samples at the Plant and Tower

- May 20th
- frozen water line - 400 Central Ave. (Tourist Info. Centre) - 2nd set
 - valve replacement (VAL523) - water samples - Third St. E. at Williams Ave. (E. Side) - 2nd set
 - water main break repair - Nelson St. (500 blk.) - water samples - 1st set
- May 21st
- water main break repair - Nelson St. (500 blk.) - water samples - 2nd set.
 - valve replacements (VAL211 & VAL212) - Mowat Ave. at Church St. (S. & E. Sides) - water samples - 1st set
- May 25th
- took weekly routine bacti samples
 - valve replacements (VAL211 & VAL212) – Mowat Ave. at Church St. (S. & E. Sides) - water samples - 2nd set
 - hydrant replacement (HYD068) - York Ave. at Eight St. W. - water samples - 1st set.
 - water main break repair - Lillie Ave. (500 blk.) - water samples - 1st set.
 - DWSP sampling
- May 27th
- hydrant replacement (HYD068) - York Ave. at Eight St. W. - water samples - 2nd set.
 - water main break repair - Lillie Ave. (500 blk.) - water samples - 2nd set.
 - service repair - Fort Frances Cemetery - 1st set
 - water main break repair – Sixth St. W. (200 blk.) - water samples - 1st set
- May 28th
- water main break repair - Sixth St. W. (200 blk.) - water samples - 2nd set
 - service repairs - Fort Frances Cemetery - 2nd set
 - temporary water line (Bay City) - Lillie Avenue - 1st set
 - temporary water line (Bay City) - York Avenue - 1st set

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 May 2015

Flow Data	MAY	Units	2013		2014		2015	
			Day of the Month		Day of the Month		Day of the Month	
Total Raw Water		m ³		142840		167920		175810
Raw Maximum Day		m ³		6170	Tuesday 27th	6440	Saturday 02nd	5940
Raw Minimum Day		m ³		4050	Sunday 25th	4590	Friday 01st	5260
Raw Average Daily Consumption		m ³		4610		5420		5670
Total Treated Water		m ³		118680		142970		12010
Treated Water Maximim Day Consumption		m ³	Friday May 17	4270	Monday 26th	5390	Sunday 03rd	4380
Treated Water Minimim Day Consumption		m ³	Monday May 20	3410	Saturday 17th	4030	Monday 18th	3450
Treated Water Average Day Consumption		m ³		3830		4610		3870
Daily Average Per Household Consumption Rate		m ³		1.01		1.22		1.02
* Daily Average Per Person Consumption Rate		m ³		0.48		0.58		0.48
Monthly Averages - Operating Parameters WTP:								
FAC Residual - Treated Water	mg/L			1.78		1.48		2.05
Total Chlorine Residual - Treated Water	mg/L			2.08		1.76		2.28
Aluminum Sulphate - Raw Water	mg/L			34		34.5		35.1
Aluminum Sulphate - Treated Water Residual	mg/L			0.06		0.04		0.05
Fluoride - Treated Water	mg/L			0.63		0.59		0.62
Soda Ash - Raw Water	mg/L			34		34.9		35.5
PH - Adjusted	mg/L			7.2		7.18		7.17
Temperature	C			6.5		6.5		10.4
Quantity of Chemical Used:	kg							
Aluminum Sulphate	kg			4856.6		5793.2		6182.4
Polyelectrolyte	kg			37.5		62.5		50.0
Chlorine Gas	kg			450		520		709
Soda Ash - Used for PH Adjustment	kg			4856.6		5860.3		6255.1
Fluoride	kg			350		358		427

* 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	10³ M³	17	5.63	5.26	5.94	5.65	5.86	5.55	5.71	5.54	5.90	5.64	5.54	5.54	5.65	5.60	5.68	5.54	5.54	5.91	5.50	5.68	5.68	5.60	5.78	5.73	5.89	5.47	5.64	5.70	5.74	5.82	5.93	5.71	175.81	5.67
	Peak Instantaneous - Raw Water	US	65.80	65.81	65.86	65.84	65.88	65.84	65.83	65.89	65.94	65.95	65.92	65.85	65.88	65.91	66.04	66.09	65.44	66.04	66.09	65.44	66.01	66.18	66.46	66.81	66.77	66.82	66.83	66.89	67.08	67.35	67.47	67.23	2084.27	66.27
	Treated Water	10³ M³	17	3.70	3.63	4.38	4.26	3.92	4.32	3.81	3.92	3.75	3.76	3.95	3.85	4.15	3.48	3.48	3.30	3.45	3.45	3.30	3.45	3.40	3.68	4.01	3.96	4.02	3.92	4.06	3.73	3.60	3.64	120.10	3.87	
	Peak Instantaneous - Treated Water	US	81.25	82.68	81.08	83.43	84.67	84.06	85.81	83.40	114.92	81.41	84.80	86.73	81.90	87.78	80.09	79.05	79.55	81.77	81.37	81.13	81.58	80.07	82.25	81.73	81.83	80.07	82.26	81.97	84.58	84.76	80.15	80.36	2802.94	83.97
	Backwash Water	10³ M³	n/a	0.217	0.230	0.217	0.219	0.232	0.208	0.219	0.231	0.214	0.217	0.231	0.217	0.232	0.216	0.217	0.234	0.218	0.449	0.218	0.449	0.218	0.218	0.233	0.214	0.219	0.234	0.218	0.218	0.234	0.214	0.218	6.874	0.229
Fluoride Information																																				
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.78	0.76	0.74	0.77	0.57	0.59	0.59	0.83	0.59	0.55	0.57	0.58	0.57	0.58	0.59	0.60	0.58	0.60	0.60	0.60	0.61	0.64	0.60	0.61	0.63	0.59	0.58	0.60	0.57	0.61	0.63	0.65	19.20	0.62
Turbidity Information																																				
Raw Water	NTU		1.37	1.31	1.44	1.39	1.41	1.45	1.49	1.41	1.39	1.47	1.49	1.52	1.59	1.75	1.64	1.58	1.64	1.75	1.64	1.73	1.77	1.71	1.63	1.77	1.54	1.47	1.49	1.51	1.57	1.55	1.59	48.06	1.55	
Settled Water	NTU		0.09	0.08	0.07	0.08	0.10	0.08	0.09	0.16	0.15	0.14	0.12	0.11	0.12	0.10	0.11	0.13	0.11	0.09	0.08	0.08	0.12	0.11	0.12	0.11	0.11	0.12	0.13	0.12	0.10	0.12	0.12	0.12	3.37	0.11
Treated Water	NTU	1	0.04	0.04	0.04	0.04	0.06	0.05	0.04	0.08	0.09	0.09	0.07	0.08	0.06	0.07	0.06	0.06	0.04	0.04	0.07	0.06	0.08	0.09	0.07	0.06	0.05	0.07	0.06	0.05	0.07	0.06	0.06	0.06	1.90	0.06
Other Operating Parameters																																				
pH - Treated Water	no units		7.19	7.16	7.24	7.21	7.12	7.21	7.26	7.10	7.15	7.10	7.18	7.25	7.29	7.15	7.20	7.21	7.16	7.22	7.15	7.19	7.17	7.15	7.11	7.21	7.18	7.12	7.18	7.12	7.18	7.05	7.07	7.01	222.21	7.17
pH - Settled water	no units		6.25	6.09	6.14	6.00	6.51	6.41	6.02	6.19	6.27	6.31	6.39	6.42	6.36	6.41	6.36	6.39	6.34	6.39	6.41	6.40	6.45	6.41	6.39	6.45	6.47	6.45	6.36	6.39	6.45	6.37	6.42	196.67	6.34	
Raw Water	no units		7.06	7.00	6.96	6.75	6.86	7.06	7.06	6.99	7.03	7.06	7.01	7.06	7.01	7.08	7.07	7.04	7.09	7.07	7.13	7.08	7.07	7.00	7.05	7.00	6.98	7.00	7.02	7.10	7.10	7.00	6.89	21.41	7.01	7.04
PH - Treated Water	mg/l	0.2 to 4	2.10	1.94	2.14	1.18	1.78	1.93	1.95	1.97	2.01	1.98	2.04	2.00	2.04	1.98	2.14	2.00	1.96	2.10	2.00	2.15	2.00	2.00	2.10	2.00	2.18	2.10	1.87	2.09	1.89	2.20	2.25	2.21	63.16	2.04
Total Chlorine Residual	mg/l	0.3 to 7	2.37	2.26	2.41	2.44	2.24	2.36	2.27	2.19	2.20	2.19	2.29	2.19	2.26	2.17	2.31	2.23	2.18	2.20	2.15	2.26	2.17	2.15	2.34	2.37	2.48	2.19	2.36	2.17	2.41	2.45	2.38	70.64	2.28	
Temperature	°C	15	7.0	8.0	9.0	9.0	9.0	9.0	9.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	9.0	10.0	10.0	9.0	10.0	10.0	10.0	12.0	12.0	12.0	14.0	15.0	14.0	14.0	32.20	10.4		
Chlorine used (Total Daily Consumption)	kg	n/a	14.0	13.0	13.0	13.0	13.0	13.0	14.0	16.0	14.0	14.0	15.0	14.0	14.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	13.0	13.0	13.0	14.0	12.0	12.0	12.0	14.0	16.0	16.0	47.00	13.8	
Fluorine used (Total Daily Consumption)	kg	n/a	20.0	20.0	22.0	22.0	23.0	22.0	23.0	22.0	23.0	23.0	23.0	23.0	22.0	22.0	22.0	22.0	22.0	23.0	22.0	23.0	22.0	25.0	24.0	25.0	24.0	23.0	24.0	24.0	25.0	23.0	70.90	22.9		
Soda ash (Total Daily Consumption)	kg	n/a	211.1	197.3	222.8	171.9	212.3	197.0	196.7	209.5	200.2	196.7	200.6	198.8	201.6	193.9	206.9	192.5	198.8	196.8	196.0	202.3	200.6	206.2	191.5	197.4	198.5	200.9	203.7	207.6	199.9	199.9	625.51	201.8		
Soda Ash - Dosage	mg/l	n/a	37.5	37.5	37.5	37.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.0	35.0	35.0	35.5	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	110.02	35.5	
Alum residual - (Total Daily Consumption)	mg/l	n/a	201.0	187.8	212.1	202.1	195.9	201.6	193.9	206.5	197.4	193.9	197.8	196.0	198.8	193.9	206.9	192.5	198.8	196.8	196.0	202.3	200.6	206.2	191.5	197.4	198.5	200.9	203.7	207.6	199.9	199.9	618.24	199.4		
Alum residual - Dosage	mg/l	n/a	35.7	35.7	35.7	35.7	35.7	35.7	35.3	35.3	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	108.94	35.1	
Polw bass added (25 to baas)	mg/l	0.1	0.07	0.04	0.06	0.04	0.07	0.06	0.07	0.08	0.08	0.08	0.06	0.06	0.07	0.06	0.04	0.08	0.03	0.04	0.04	0.04	0.04	0.04	0.06	0.05	0.06	0.05	0.05	0.05	0.06	0.05	0.03	0.02	1.66	0.05
	kg							0.5																0.5										50.0		