

August 2021

**Monthly Summary Report
Water Systems**

**Prepared by: Greg Wiedenhoeft, ORO
Senior Water Treatment Plant Operator**

Dated: September 03, 2021

1) **Introduction:**

This report contains the major maintenance activities and operational events that occurred during the month of August 2021 at the Water Treatment Plant - Water Works # 220000978 and the Airport Groundwater Well Water Works No. 849N7DGE0 (Precedes Airport Groundwater Well Water Works No. 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. The water treatment plant falls under the requirements of Ontario Regulation 170/03 – Drinking Water Systems.

The Airport Small Drinking Water System, System No. 849N7DGE0, was put into service August 01, 2017. The system falls under the requirements of Ontario Regulation 319/08 – Small Drinking Water Systems.

2) **Flow Data:**

Water Treatment Plant: See attached spreadsheet.

Airport Groundwater Well:

Estimated Daily Usage 0.21 m3

Estimated August Usage 6.5 m3

3) **Microbiological (Health Related) Water Analysis - Main Water System No. 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.

Water distribution samples taken at the following locations:

- | | | | |
|----------------------|-----------------------------|---------------------|--------------|
| 1. 218 Third St. E. | 2. 401 King's Hwy. | 3. 900 Wright Ave. | 4. W. Tower |
| 5. 740 Scott St. | 6. 218 Third St. E. | 7. 900 Wright Ave. | 8. W. Tower |
| 9. 943 Third St. E. | 10. 1309 King's Hwy. | 11. 900 Wright Ave. | 12. W. Tower |
| 13. 943 Third St. E. | 14. 900 Wright Ave. | 15. 401 King's Hwy. | 16. W. Tower |
| 17. 943 Third St. E. | 18. 715 Colonization Rd. E. | 19. 900 Wright Ave. | 20. W. Tower |

4) Microbiological (Health Related) Water Analysis - Airport Groundwater Well No. 849N7DGE0:

New drinking water system put online August 01, 2017. No treatment required as the Airport groundwater tested negative for bacteria.

The Airport drinking water system is to be sampled and tested for bacteria once every three (3) months in accordance with Section 25 – Microbiological Sampling and Testing of the Small Drinking Water Systems Regulation, O. Reg. 319/08.

Water distribution sample taken June 23, 2021 – no adverse results.

5) Free Available Chlorine Residual (FAC) - Main Water System No. 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 No. 849N7DGE0:

New drinking water system put online August 01, 2017. No treatment required as the Airport groundwater well tested negative for bacteria.

7) Maintenance Activities at the WTP:

Aug 02nd - Calibrated cl2 analyzer.

Aug 5th - Cleaned top and bottom tanks on the poly unit.
- Cleaned all 4 check valves on the poly unit.

Aug 7th - Cleaned the Turbidity probe on filter # 3.

Aug 09th -Cleaned the Soda Ash transfer line.
-Installed new Soda Ash transfer pump.

Aug 10th -Connect Electric here to work on the cl2 tonner hoist.
-Changed the East cl2 tonner.
-Changed the East cl2 tonner pigtail.
-Lake Side here doing annual calibrations.

Aug 11th -Lake Side here doing annual calibrations.

Aug 12th -Cleaned top and bottom tanks on the poly unit.
-Cleaned all 4 check valves on the poly unit.

Aug 13th -Connect Electric here to work on the cl2 tonner hoist.
-Received a load of Alum.

Aug 15th -Calibrated the cl2 analyzer

Aug 19th -Cleaned top and bottom tanks on the poly unit.
-Cleaned all 4 check valves on the poly unit.
-Visit/tour from T.Rob and New C.A.O. Faisal Anwar.

Aug 24th -Tabletop mock emergency training at WTP.
-Century Cranes here doing annual inspections of the hoists.

Aug 25th -Joint tabletop mock emergency training with the town.
-Q.M.S. Management review.

Aug 26th - Cleaned top and bottom tanks on the poly unit.
-Cleaned all 4 check valves on the poly unit.
-Tour of the WTP by Mayor Caul, Councillor Hallikas, CAO Faisal Anwar, and Chief of Couchiching Brian Perrault.

Aug 27th -Calibrated Fluoride Analyzer.
-Took grab samples off the filters.
-Ran the back up generator for 1 hour.

Aug 31st -Flushed poly line.

8) **Water Complaints:**

- Poor Pressure – 0 complaints.
- Water quality – 1 complaint.
- 1265 Idylwild Dr. **High chlorine** -Advised customer to run cold water tap. Flushed the water main and took a residual. 1.37 mg/L

9) **Other Miscellaneous Information:**

Aug. 03rd - Routine micro samples collection.

Aug. 04th - Took micro samples at Armit and Church construction Tie-in. 1st set.

Aug. 05th -Took micro samples at 318 3rd St. E. for a curb stop repair.
- Took micro samples at Armit and Church construction Tie-in. 1st / 2nd set.

Aug. 09th -Routine micro samples collection.
- Took micro samples at Armit and Church construction Tie-in. 2nd set.

Aug. 11th - Took micro samples at 318 3rd St. E. for a curb stop repair.
- Took micro samples at Armit and Church construction Tie-in. 1st / 2nd set.
Resample due to shipping.

Aug. 16th - Routine micro samples collection.

Aug. 19th - Took micro samples at 300 6th St. W. for a curb stop repair.

Aug. 23rd -Routine micro samples collection.

Aug. 24th -Took micro samples on Armit Ave. new main. 1st set.

Aug. 25th -Took micro samples 300 6th St. W. for a curb stop repair.
Resample due to shipping.
- Took micro samples on Armit Ave. new main. 2nd set.

Aug 30th -Routine micro samples 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:

- Greg Wiedenhoeft, Overall Responsible Operator: Greg Wiedenhoeft
- Craig Miller, P.Eng. Environmental Superintendent: Craig Miller
- Travis Rob, P.Eng. Manager of Operations & Facilities: Travis Rob
- Faisal Anwar, CAO: _____
- Rick Wiedenhoeft, Chair O & F Exec Committee: _____
- June Caul, Mayor: _____
- John McTaggart, Councillor: _____
- Mike Behan, Councillor: _____
- Wendy Brunetta, Councillor: _____
- Doug Judson, Councillor: _____
- Andrew Hallikas, 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 Craig Miller or Greg Wiedenhoeft at 807-274-2325.

Flow Data August	Units	2019		2020		2021	
Total Raw Water	m ³		159470		176790		209560
Raw Maximum Day	m ³		5260		6210		7170
Raw Minimum Day	m ³		5010		5310		6390
Raw Average Daily Consumption	m ³		5140		5700		6760
Total Treated Water	m ³		118250		127750		139070
Treated Water Maximim Day Consumption	m ³		4880		5880		5950
Treated Water Minimim Day Consumption	m ³		3120		2930		3370
Treated Water Average Day Consumption	m ³		3810		4120		4490
Daily Average Per Household Consumption Rate	m ³		1.007		1.089		1.187
* Daily Average Per Person Consumption Rate	m ³		0.477		0.516		0.562
Monthly Averages - Operating Parameters WTP:							
FAC Residual - Treated Water	mg/L		2.11		2.18		2.27
Total Chlorine Residual - Treated Water	mg/L		2.33		2.44		2.62
Aluminum Sulphate - Raw Water	mg/L		35.0		34.0		38.0
Aluminum Sulphate - Treated Water Residual	mg/L		0.02		0.04		0.03
Fluoride - Treated Water	mg/L		0.74		0.64		0.60
Soda Ash - Raw Water	mg/L		35.0		37.0		37.0
pH - Adjusted	mg/L		7.26		7.08		7.34
Temperature	°C		21.7		22.4		21.4
Quantity of Chemical Used:							
Aluminum Sulphate	kg		5581.5		6010.8		7962.9
Polyelectrolyte	kg		87.5		75.0		125.0
Chlorine Gas	kg		778		962		995
Soda Ash - Used for pH Adjustment	kg		5581.5		6541.2		7753.35
Fluoride	kg		729		726		653

* 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	1000 m³	17	6.87	6.78	7.14	6.85	6.59	6.95	6.69	6.85	6.95	7.17	6.87	6.91	6.83	6.97	6.54	6.93	6.77	6.76	6.80	6.81	6.64	6.75	6.95	6.49	6.52	6.46	6.51	6.39	6.43	6.62	6.76	209.55	6.76
Peak Instantaneous - Raw Water	l/s	n/a	80.31	80.37	80.31	80.33	80.13	80.04	80.34	80.10	79.95	80.01	80.63	80.68	80.11	79.59	79.52	79.49	79.31	79.28	79.37	79.39	79.40	79.19	79.17	78.89	78.94	75.68	75.76	75.68	75.67	75.49	75.49		78.99
Treated Water	1000 m³	17	4.53	4.16	5.85	5.95	5.16	4.42	4.02	3.92	4.18	4.92	4.02	4.20	3.67	3.88	4.30	5.49	5.47	5.62	5.82	5.88	5.42	3.42	4.38	3.55	3.87	4.34	3.72	3.99	3.37	3.64	3.91	139.07	4.49
Peak Instantaneous - Treated Water	l/s	n/a	112.59	66.52	124.13	125.08	133.74	70.08	67.05	68.28	65.68	67.07	64.34	105.49	112.67	65.74	65.55	122.96	124.69	116.92	84.95	85.60	86.97	81.51	83.70	81.12	81.01	84.47	88.69	94.84	91.27	94.79	94.79		90.72
BackWash Water	1000 m³	n/a	0.29	0.27	0.25	0.25	0.27	0.25	0.29	0.27	0.26	0.28	0.27	0.25	0.28	0.27	0.25	0.28	0.27	0.26	0.28	0.27	0.26	0.28	0.27	0.26	0.29	0.27	0.25	0.28	0.27	0.258	0.277	8.289	0.267
Fluoride Information																																			
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.62	0.64	0.64	0.65	0.65	0.66	0.65	0.66	0.67	0.53	0.54	0.56	0.54	0.52	0.54	0.55	0.52	0.55	0.56	0.56	0.56	0.62	0.64	0.65	0.59	0.64	0.64	0.63	0.63	0.63	0.63		0.60
Turbidity Information																																			
Raw Water	NTU	n/a	1.76	1.81	1.70	1.68	1.75	1.14	1.07	1.32	1.30	1.26	1.13	1.44	1.43	1.48	1.38	1.36	1.41	1.13	0.99	1.05	0.99	1.07	1.28	1.67	1.62	1.42	1.70	1.92	1.85	1.53	1.56		1.43
Settled Water	NTU	n/a	0.10	0.10	0.11	0.11	0.10	0.15	0.09	0.11	0.10	0.10	0.11	0.12	0.14	0.09	0.09	0.08	0.08	0.12	0.10	0.11	0.12	0.13	0.08	0.05	0.09	0.09	0.11	0.09	0.07	0.10		0.10	
Treated Water	NTU	1	0.09	0.09	0.09	0.09	0.10	0.09	0.01	0.07	0.08	0.09	0.10	0.11	0.13	0.10	0.11	0.10	0.11	0.09	0.09	0.09	0.09	0.09	0.10	0.05	0.07	0.01	0.01	0.01	0.02	0.09	0.08		0.08
Other Operating Parameters																																			
pH - Treated Water	no units	6.5 to 8.5	7.01	7.00	6.98	7.04	7.03	6.95	7.07	7.08	7.10	7.17	7.14	7.52	7.57	7.69	7.59	7.61	7.68	7.59	7.53	7.56	7.51	7.48	7.81	7.63	7.31	7.43	7.30	7.23	7.32	7.32		7.34	
pH - Settled water	no units	n/a	6.29	6.32	6.30	6.25	6.28	6.27	6.29	6.31	6.27	6.21	6.20	6.39	6.49	6.49	6.43	6.40	6.40	6.38	6.38	6.41	6.43	6.40	6.50	6.40	6.36	6.41	6.40	6.38	6.43	6.35	6.34		6.36
pH - Raw Water	no units	n/a	6.83	6.79	6.76	6.81	6.79	6.84	6.96	6.91	6.93	6.86	6.94	7.37	7.32	7.40	7.45	7.41	7.37	7.34	7.33	7.31	7.27	7.21	7.32	7.16	7.25	7.13	7.13	7.13	7.08	7.28	7.13		7.12
FAC - Treated Water	mg/l	0.2 to 4	2.15	2.11	2.28	2.28	2.36	2.28	2.18	2.22	2.37	2.26	1.94	2.11	2.10	2.21	2.37	2.36	2.37	2.53	2.43	2.44	2.30	2.07	2.33	2.44	2.31	2.28	2.24	2.23	2.16	2.33	2.24		2.27
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.48	2.52	2.60	2.56	2.82	2.69	2.53	2.51	2.79	2.62	2.21	2.45	2.49	2.53	2.72	2.75	2.77	2.90	2.75	2.68	2.63	2.54	2.61	2.81	2.59	2.61	2.55	2.61	2.50	2.73	2.57		2.62
Temperature	°C	15	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	21.0	21.0	21.0	22.0	22.0	21.0	21.0	21.0	21.0	21.0	20.0	20.0	20.0	20.0		21.4	
Fluoride used (Total Daily Consumption)	kg	n/a	20.0	20.0	20.0	19.0	22.0	24.0	22.0	23.0	23.0	23.0	22.0	22.0	21.0	21.0	26.0	20.0	19.0	20.0	19.0	19.0	18.0	19.0	19.0	18.0	21.0	23.0	22.0	22.0	21.0	22.0	23.0	653.00	21.1
Chlorine used (Total Daily Consumption)	kg	n/a	33.0	33.0	34.0	33.0	32.0	34.0	32.0	33.0	33.0	35.0	32.0	33.0	33.0	33.0	31.0	34.0	32.0	33.0	32.0	32.0	30.0	32.0	32.0	31.0	30.0	31.0	30.0	30.0	29.0	31.0	32.0	995.00	32.1
Soda Ash (Total Daily Consumption)	kg	n/a	254.2	250.9	264.2	253.5	243.8	257.2	247.5	253.5	257.2	265.3	254.2	255.7	252.7	257.9	242.0	256.4	250.5	250.1	251.6	252.0	245.7	249.8	257.2	240.1	241.2	239.0	240.9	236.4	237.9	244.9	250.1	7753.35	250.1
Soda Ash - Dosage	mg/l	n/a	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37		37.0
Alum residual - (Total Daily Consumption)	kg	n/a	261.1	257.6	271.3	260.3	250.4	264.1	254.2	260.3	264.1	272.5	261.1	262.6	259.5	264.9	248.5	263.3	257.3	256.9	258.4	258.8	252.3	256.5	264.1	246.6	247.8	245.5	247.4	242.8	244.3	251.6	256.9	7962.90	256.9
Alum residual - Dosage	mg/l	n/a	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0		38.0
Alum residual - Treated Water	mg/l	0.1	0.02	0.01	0.01	0.01	0.01	0.04	0.05	0.04	0.04	0.03	0.04	0.03	0.02	0.08	0.01	0.05	0.06	0.01	0.05	0.04	0.02	0.02	0.01	0.05	0.01	0.04	0.06	0.05	0.02	0.01	0.02		0.03
Poly bags added (25 kg bags)	kg	n/a		0.5				0.5	0.5			0.5			0.5					0.5						0.5						0.5		125.0	

* MAC - maximum acceptable range

Minimum	Maximum
6.39	7.17
75.49	80.68
3.37	5.95
64.34	133.74

Signature: 
Greg Wiedenhoeft (Sep 3, 2021 13:10 CDT)
Email: gwiedenhoeft@fortfrances.ca

Signature: 
Email: cmiller@fortfrances.ca

Signature: 
Email: trob@fortfrances.ca












WTP August 2021 Report

Final Audit Report

2021-09-03

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