

October 2021

**Monthly Summary Report
Water Systems**

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

Dated: November 01, 2021

1) **Introduction:**

This report contains the major maintenance activities and operational events that occurred during the month of October 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 monthly. 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 0.198 m³

Estimated Monthly Usage 6.1 m³

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

Water distribution samples taken at the following locations:

1. 218 Third St. E.	2. 900 Wright Ave.	3. 401 King's Hwy.	4. W. Tower
5. 943 Third St. E.	6. 835 McKenzie Ave.	7. 900 Wright Ave.	8. W. Tower
9. 715 Col. Rd. E.	10. 943 Third St. E.	11. 740 Sixth St. W.	12. W. Tower
13. 218 Third St. E.	14. 900 Wright Ave.	15. 401 King's Hwy.	16. 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 September 21, 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:

Oct 01st – Calibrated the distribution chlorine analyzer.
- Cleaned top and bottom tanks on the poly unit.
- Cleaned all 4 check valves on the poly unit.

Oct 04th - Calibrated the distribution chlorine analyzer.
- Changed out Cl₂ tonner.

Oct 05th – Received 4 Cl₂ tonners.
- Sent 4 Cl₂ tonners back.

Oct 06th – Calibrated distribution chlorine analyzer.

Oct 07th - Cleaned top and bottom tanks on the poly unit.
- Cleaned all 4 check valves on the poly unit.
- Cleaned launders in Clarifier #1
- Calibrated the distribution chlorine analyzer.

Oct 09th - Calibrated the distribution chlorine analyzer.

Oct 10th – Changed out Soda ash transfer pump with refurbished pump.

Oct 12th – Cannect Electric started to replace overload switch in MCC for the backwash pump.

Oct 14th - Cannect Electric finished replacing overload switch in MCC for the backwash pump.

- Cleaned top and bottom tanks on the poly unit.
- Cleaned all 4 check valves on the poly unit.
- Calibrated the distribution chlorine analyzer.

Oct 27th -WayJax here doing annual load test on stand-by generator.
- Ran generator for 1 hour.

Oct. 21st – Adjusted effluent valve on filter # 3.
- Cleaned top and bottom tanks on the poly unit.
- Cleaned all 4 check valves on the poly unit.

Oct 22nd - Received 15 barrels of fluoride.

Oct 26th – Changed Soda Ash dust collector filters.

Oct 27th – Flushed and cleaned filter # 4 Turbidimeter lines.
- Took grab samples off filters.
- Flushed and cleaned fluoride analyzer line.
- Calibrated the fluoride analyzer.

Oct 28th – Calibrated fluoride analyzer.
- Cleaned top and bottom tanks on the poly unit.
- Cleaned all 4 check valves on the poly unit.

8) **Water Complaints:**

- Poor Pressure – 0 complaints.
- Water quality – 1 complaint.
- Mill (Portage Ave. Stores) **Colour and smell of water** – Water at Portage stores had a slight yellowish colour. The issue was due to a dead ended water main. River's Edge requested the water main be shut down so they could demolish one of the buildings in that area. Advised them to run the cold water and keep it running until the main was opened.

9) **Other Miscellaneous Information**

Oct 04th - Routine micro sample collection.

Oct 05th – Took micro samples on Wright Ave. Tie-in, 1st set.

Oct 06th – Took micro samples on Wright Ave. Tie-in, 2nd set.
- Took distribution Alkalinity and pH samples.

Oct 07th – Took micro samples on Keating Ave. lined main, 1st set.

Oct 12th - Routine micro sample collection.
- Took micro samples on Keating Ave. lined main, 2nd set.

Oct 18th - Routine micro sample collection.
- Took micro samples on Keating Ave. Tie-in, 1st set.

Oct 20th – Took T.S.S. and Total Cl₂ samples off Filter # 1.
- Took Landfill samples.

Oct 19th - Took micro samples on Keating Ave. Tie-in, 2nd set.

Oct 25th - 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:

- 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.

Town of Fort Frances - Water treatment Plant - Water Works # 220000978
Monitoring Record
Oct-21

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	31	Total	Average
		or Range																																	
Flow rates																																			
Raw Water	1000 m³	17	5.73	5.48	5.36	5.70	5.34	5.60	5.29	5.18	5.07	5.15	5.23	5.56	5.19	5.20	5.18	5.13	5.22	5.16	5.16	5.18	5.18	5.18	5.07	5.22	5.23	4.95	5.17	5.19	5.15	5.04	5.21	162.70	5.25
Peak Instantaneous - Raw Water	l/s	n/a	65.39	65.43	65.42	65.74	65.57	65.49	65.49	65.58	60.71	60.64	60.76	60.69	61.06	60.74	60.79	60.75	60.57	60.51	60.66	60.48	60.54	60.55	60.49	60.51	60.41	60.41	60.42	60.53	60.66	60.51	60.42		61.87
Treated Water	1000 m³	17	3.40	3.32	3.00	3.17	3.37	3.31	3.49	3.39	3.16	3.52	2.75	3.81	3.03	3.37	2.86	3.32	3.08	3.14	3.11	3.38	3.05	3.22	2.74	3.08	3.45	3.21	3.41	2.90	3.11	2.95	2.82	98.92	3.19
Peak Instantaneous - Treated Water	l/s	n/a	63.00	62.71	62.54	63.09	63.78	63.01	65.11	64.57	63.68	63.87	62.71	63.68	62.82	62.81	63.26	62.71	65.90	62.24	62.70	64.18	64.46	62.91	62.76	61.85	62.59	63.43	63.26	73.02	62.78	61.83	62.14		63.53
BackWash Water	1000 m³	n/a	0.25	0.00	0.00	0.24	0.68	0.00	0.26	0.52	0.26	0.25	0.29	0.27	0.25	0.00	0.54	0.25	0.28	0.27	0.25	0.28	0.26	0.25	0.28	0.26	0.25	0.28	0.26	0.25	0.28	0.261	0.252	8.053	0.260
Fluoride Information																																			
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.57	0.61	0.61	0.52	0.61	0.51	0.60	0.60	0.59	0.59	0.59	0.52	0.57	0.57	0.59	0.58	0.58	0.59	0.58	0.57	0.57	0.57	0.56	0.56	0.63	0.62	0.60	0.55	0.56	0.55	0.55		0.58
Turbidity Information																																			
Raw Water	NTU	n/a	1.45	1.51	1.56	1.16	1.05	1.25	1.12	1.27	1.19	1.14	1.07	1.28	1.35	1.65	1.60	1.38	1.41	1.53	1.38	1.70	1.73	1.68	1.65	1.73	1.56	1.86	1.63	1.70	1.84	1.67	1.77		1.48
Settled Water	NTU	n/a	0.10	0.09	0.10	0.12	0.11	0.07	0.09	0.11	0.11	0.11	0.11	0.07	0.09	0.10	0.08	0.06	0.09	0.07	0.09	0.10	0.05	0.05	0.05	0.05	0.11	0.14	0.10	0.11	0.11	0.09	0.12		0.09
Treated Water	NTU	1	0.08	0.07	0.07	0.09	0.08	0.06	0.07	0.08	0.08	0.09	0.10	0.10	0.08	0.09	0.05	0.06	0.06	0.06	0.05	0.03	0.03	0.04	0.03	0.03	0.06	0.01	0.07	0.10	0.01	0.01	0.05		0.06
Other Operating Parameters																																			
pH - Treated Water	no units	6.5 to 8.5	7.36	7.30	7.28	7.27	7.34	7.25	7.27	7.38	7.33	7.29	7.15	7.20	7.25	7.24	7.27	7.29	7.26	7.27	7.26	7.26	7.27	7.24	7.23	7.26	7.25	7.35	7.45	7.33	7.29	7.25	7.22		7.28
pH - Settled water	no units	n/a	6.33	6.29	6.31	6.24	6.25	6.26	6.23	6.35	6.46	6.48	6.50	6.36	6.41	6.37	6.38	6.41	6.37	6.38	6.32	6.46	6.36	6.42	6.40	6.41	6.39	6.40	6.45	6.25	6.39	6.43	6.41		6.37
pH - Raw Water	no units	n/a	7.11	7.06	7.03	7.18	7.15	7.18	7.08	6.93	7.00	7.02	7.06	7.12	7.20	7.14	7.16	7.16	7.15	7.11	7.06	6.99	7.06	6.94	6.93	6.92	7.02	7.20	7.07	7.09	7.10	7.01	7.09		7.07
FAC - Treated Water	mg/l	0.2 to 4	2.30	2.22	2.10	2.07	2.01	2.22	2.10	2.03	1.97	2.05	1.92	2.04	2.07	2.12	2.15	2.21	2.18	2.25	2.28	2.25	2.21	2.31	2.12	2.22	2.20	2.37	2.49	2.37	2.33	2.37	2.38		2.19
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.56	2.46	2.44	2.45	2.34	2.52	2.36	2.34	2.32	2.38	2.17	2.41	2.33	2.45	2.37	2.40	2.41	2.35	2.56	2.66	2.63	2.58	2.46	2.58	2.44	2.55	2.75	2.72	2.70	2.72	2.69		2.49
Temperature	°C	15	18.0	17.0	17.0	18.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	16.0	16.0	16.0	15.0	15.0	15.0	15.0	14.0	13.0	13.0	12.0	12.0	12.0	11.0	11.0	11.0	11.0	11.0		14.7	
Fluoride used (Total Daily Consumption)	kg	n/a	17.0	16.0	17.0	16.0	16.0	15.0	15.0	16.0	16.0	17.0	17.0	18.0	17.0	17.0	16.0	17.0	16.0	17.0	16.0	16.0	17.0	16.0	16.0	16.0	17.0	16.0	15.0	15.0	16.0	14.0	16.0	502.00	16.2
Chlorine used (Total Daily Consumption)	kg	n/a	26.0	24.0	24.0	25.0	20.0	24.0	22.0	22.0	21.0	22.0	22.0	24.0	22.0	21.0	22.0	22.0	22.0	21.0	22.0	22.0	22.0	22.0	20.0	22.0	20.0	22.0	22.0	21.0	21.0	22.0	686.00	22.1	
Soda Ash (Total Daily Consumption)	kg	n/a	212.0	202.8	198.3	210.9	197.6	207.2	195.7	191.7	187.6	190.6	193.5	205.7	192.0	192.4	191.7	189.8	193.1	190.9	190.9	191.7	191.7	191.7	187.6	193.1	193.5	183.2	191.3	192.0	190.6	186.5	192.8	6019.90	194.2
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		37.0	
Alum residual - (Total Daily Consumption)	kg	n/a	217.7	208.2	203.7	216.6	202.9	212.8	201.0	196.8	192.7	195.7	198.7	211.3	197.2	197.6	196.8	194.9	198.4	196.1	196.1	196.8	196.8	196.8	192.7	198.4	198.7	188.1	196.5	197.2	195.7	191.5	198.0	6182.60	199.4
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	0.03	0.03	0.03	0.05	0.05	0.04	0.04	0.06	0.05	0.05	0.03	0.04	0.03	0.04	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.01	0.05	0.04	0.03	0.05	0.04	0.07		0.04
Poly bags added (25 kg bags)	kg	n/a			0.5					0.5						0.5				0.5				0.5						0.5				75.0	

* MAC - maximum acceptable range

Minimum	Maximum
4.95	5.73
60.41	65.74
2.74	3.81
61.83	73.02

Flow Data October	Units	2019	2020	2021
Total Raw Water	m ³	153300	159370	162700
Raw Maximum Day	m ³	5220	5580	5730
Raw Minimum Day	m ³	4540	4830	4950
Raw Average Daily Consumption	m ³	4950	5140	5250
Total Treated Water	m ³	97640	102590	96920
Treated Water Maximim Day Consumption	m ³	3650	3910	3810
Treated Water Minimim Day Consumption	m ³	2800	2870	2740
Treated Water Average Day Consumption	m ³	3150	3310	3190
Daily Average Per Household Consumption Rate	m ³	0.833	0.875	0.843
* Daily Average Per Person Consumption Rate	m ³	0.394	0.414	0.399
Monthly Averages - Operating Parameters WTP:				
FAC Residual - Treated Water	mg/L	2.29	2.45	2.19
Total Chlorine Residual - Treated Water	mg/L	2.58	2.71	2.49
Aluminum Sulphate - Raw Water	mg/L	35.0	34.0	38.0
Aluminum Sulphate - Treated Water Residual	mg/L	0.04	0.03	0.04
Fluoride - Treated Water	mg/L	0.74	0.56	0.58
Soda Ash - Raw Water	mg/L	35.0	37.0	37.0
pH - Adjusted	mg/L	7.47	7.49	7.28
Temperature	°C	11.0	10.0	14.7
Quantity of Chemical Used:				
Aluminum Sulphate	kg	5365.5	5418.6	6182.6
Polyelectrolyte	kg	64.5	62.5	75.0
Chlorine Gas	kg	712	729	686
Soda Ash - Used for pH Adjustment	kg	5365.5	5896.7	6019.9
Fluoride	kg	696	722	502

* The Canadian Average is 450 litres (0.45 m³) per day.

* Population is 7986

* Number of Households is 3783

Signature: Greg Wiedenhoeft
Greg Wiedenhoeft (Nov 10, 2021 14:50 CST)

Email: gwiedenhoeft@fortfrances.ca

Signature: Carly Miller

Email: cmiller@fortfrances.ca

Signature: Tina B.

Email: trob@fortfrances.ca












WTP October 2021 Report Complete

Final Audit Report

2021-11-12

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By:	Craig Miller (cmiller@fortfrances.ca)
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