

January 2022

**Monthly Summary Report
Water Systems**

**Prepared by: Greg Wiedenhoeft
Overall Responsible Operator**

Dated: February 04, 2022

1) **Introduction:**

This report contains the major maintenance activities and operational events that occurred during the month of January 2022 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 Monthly 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. 943 Third St. E.	2. 715 Colonization Rd. E.	3. 900 Wright Ave.	4. W. Tower
5. 601 Reid Ave.	6. 218 Third St. E.	7. 900 Wright Ave.	8. W. Tower
9. 601 Reid Ave.	10. 218 Third St. E.	11. 740 Sixth St. W.	12. W. Tower
13. 601 Reid Ave.	14. 218 Third St. E.	15. 900 Wright Ave.	16. W. Tower
17. 943 Third St. E.	18. 1309 King's Hwy.	19. 715 Colonization Rd. E.	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 December 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:

Jan 4th - Received a load of Alum.

Jan 5th - Cleaned launders on clarifier #1.
- Started to drain clarifier #1 for cleaning and inspection.
- Changed out West cl2 tonner.

Jan 6th - Cleaned all 4 check valves on the poly unit.
- Cleaned top and bottom tanks on the poly unit.

Jan 10th - Cleaned clarifier #1.
- Calibrated distribution cl2 analyzer.
- Greased bucket elevator.

Jan 12th - Calibrated distribution cl2 analyzer.

Jan 14th - Cleaned all 4 check valves on the poly unit.
- Cleaned top and bottom tanks on the poly unit.

Jan 15th - Calibrated distribution cl2 analyzer.

Jan 17th - Installed High Lift pump #1 motor.
- Calibrated distribution cl2 analyzer.
- Replaced pressure pump on poly unit.

Jan 20th - Cleaned all 4 check valves on the poly unit.
- Cleaned top and bottom tanks on the poly unit.

Jan 21st - Calibrated fluoride analyzer.

Jan 25th - Cleaned Soda Ash feed line.

Jan 28th - Cleaned all 4 check valves on the poly unit.
- Cleaned top and bottom tanks on the poly unit.

8) **Water Complaints:**

- Poor Pressure – 0 complaints.
- Water quality – 0 complaints.

9) **Other Miscellaneous Information:**

Jan 4TH - Routine micro sample collection.

Jan 7th - Pryde's Plumbing here working on hot water tank.

Jan 10th - Routine micro sample collection.

Jan 11th - Sent 18 empty fluoride barrels back to Brenntag.

Jan 17th - Routine micro sample collection.

Jan 20th - Monthly TSS sample collection.

Jan 24th - Routine micro sample collection.

Jan 27th - Ran the standby generator for 1 hr.
- Took grab samples off the filters.
- M.E.C.P. at the plant for annual inspection.

Jan 28th - M.E.C.P. at the plant for annual inspection.

Jan 31st - 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 Greg Wiedenhoeft, Senior WTP Operator at 807-274-2325.

Flow Data January	Units	2020		2021		2022	
Total Raw Water	m ³		155620		156120		155120
Raw Maximum Day	m ³		5280		5220		5400
Raw Minimum Day	m ³		4720		4860		4700
Raw Average Daily Consumption	m ³		5020		5040		5000
Total Treated Water	m ³		108720		105360		108550
Treated Water Maximim Day Consumption	m ³		4240		3810		3920
Treated Water Minimim Day Consumption	m ³		3040		3000		3000
Treated Water Average Day Consumption	m ³		3520		3400		3500
Daily Average Per Household Consumption Rate	m ³		0.930		0.899		0.925
* Daily Average Per Person Consumption Rate	m ³		0.441		0.426		0.438
Monthly Averages - Operating Parameters WTP:							
FAC Residual - Treated Water	mg/L		2.12		2.11		2.06
Total Chlorine Residual - Treated Water	mg/L		2.35		2.37		2.35
Aluminum Sulphate - Raw Water	mg/L		35.0		34.0		37.0
Aluminum Sulphate - Treated Water Residual	mg/L		0.07		0.04		0.03
Fluoride - Treated Water	mg/L		0.75		0.62		0.67
Soda Ash - Raw Water	mg/L		35.0		37.0		36.0
pH - Adjusted	mg/L		6.98		7.1		7.06
Temperature	°C		2.0		2.0		2.0
Quantity of Chemical Used:							
Aluminum Sulphate	kg		5446.7		5308.08		5739.44
Polyelectrolyte	kg		62.5		75.0		87.5
Chlorine Gas	kg		617		578		531
Soda Ash - Used for pH Adjustment	kg		5446.7		5776.44		5584.32
Fluoride	kg		693		513		564

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

* Population is 7986

* Number of Households is 3783

Town of Fort Frances - Water treatment Plant - Water Works # 220000978
Monitoring Record
Jan-22

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	4.91	5.02	4.97	5.40	5.00	5.02	4.97	4.93	5.06	5.05	4.96	5.02	5.00	5.01	4.90	5.01	5.12	5.02	4.98	5.01	5.01	4.70	4.99	5.28	5.00	4.96	5.02	4.97	4.82	4.99	5.02	155.12	5.00
Peak Instantaneous - Raw Water	l/s	n/a	58.64	58.62	58.61	58.59	58.55	58.52	58.41	58.60	58.55	58.53	58.55	58.55	58.58	58.48	58.52	58.49	58.57	58.57	58.56	58.48	58.48	58.43	58.33	58.45	58.34	58.28	58.30	58.28	58.28	58.20	58.25		58.47
Treated Water	1000 m³	17	3.00	3.42	3.38	3.87	3.36	3.40	3.50	3.55	3.32	3.80	3.63	3.50	3.45	3.31	3.59	3.52	3.62	3.71	3.25	3.67	3.33	3.41	3.29	3.92	3.75	3.28	3.75	3.40	3.39	3.70	3.48	108.55	3.50
Peak Instantaneous - Treated Water	l/s	n/a	62.71	61.65	63.96	61.74	62.39	62.28	63.04	62.86	63.54	62.45	62.79	63.14	62.85	62.28	62.84	62.88	63.72	62.57	62.30	62.55	62.47	63.84	63.53	62.94	62.77	62.85	63.19	62.48	63.20	62.85	63.31		62.84
BackWash Water	1000 m³	n/a	0.25	0.28	0.26	0.25	0.27	0.26	0.25	0.28	0.26	0.25	0.28	0.26	0.25	0.28	0.26	0.25	0.28	0.26	0.25	0.27	0.26	0.25	0.28	0.26	0.25	0.27	0.26	0.25	0.28	0.259	0.252	8.152	0.263
Fluoride Information																																			
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.70	0.71	0.71	0.70	0.71	0.71	0.71	0.72	0.71	0.71	0.69	0.69	0.61	0.61	0.63	0.63	0.64	0.63	0.65	0.65	0.65	0.66	0.66	0.65	0.65	0.64	0.64	0.63	0.65	0.65	0.66		0.67
Turbidity Information																																			
Raw Water	NTU	n/a	0.88	1.39	0.83	0.63	0.55	0.50	0.60	0.58	0.53	0.44	0.58	0.47	0.41	0.40	0.47	0.42	0.51	0.40	0.49	0.39	0.47	0.62	0.70	0.51	0.55	0.41	0.37	0.52	0.44	0.43	0.38		0.54
Settled Water	NTU	n/a	0.14	0.11	0.12	0.12	0.13	0.13	0.16	0.13	0.17	0.18	0.17	0.19	0.18	0.18	0.16	0.16	0.17	0.18	0.13	0.17	0.18	0.13	0.13	0.18	0.13	0.18	0.18	0.13	0.15	0.16	0.19		0.16
Treated Water	NTU	1	0.11	0.07	0.07	0.09	0.09	0.07	0.12	0.09	0.09	0.11	0.11	0.07	0.09	0.06	0.06	0.06	0.06	0.09	0.08	0.09	0.10	0.08	0.12	0.12	0.11	0.10	0.09	0.12	0.12	0.13	0.11		0.09
Other Operating Parameters																																			
pH - Treated Water	no units	6.5 to 8.5	6.98	7.04	7.14	7.06	7.05	7.09	7.09	7.14	7.06	7.06	7.07	7.08	7.09	7.07	7.03	7.06	7.01	7.03	7.08	7.04	7.10	7.00	7.03	7.06	7.09	7.09	7.01	7.08	7.06	7.09	7.07		7.06
pH - Settled water	no units	n/a	6.52	6.42	6.53	6.47	6.46	6.57	6.64	6.48	6.46	6.59	6.52	6.60	6.66	6.54	6.50	6.45	6.49	6.53	6.56	6.55	6.54	6.36	6.55	6.51	6.53	6.54	6.56	6.56	6.43	6.61	6.45		6.52
pH - Raw Water	no units	n/a	7.00	6.98	6.96	7.01	6.94	6.96	6.92	6.88	6.95	6.95	6.99	6.96	6.99	6.98	6.96	6.98	6.94	6.94	6.98	6.95	6.98	6.99	7.01	6.86	6.88	6.94	6.95	6.92	6.83	6.93	6.86		6.95
FAC - Treated Water	mg/l	0.2 to 4	2.02	1.95	2.01	2.02	1.88	2.00	1.99	2.06	2.10	2.15	2.12	2.22	2.14	2.05	2.03	2.00	2.15	2.18	2.10	2.07	1.98	1.98	1.96	2.07	2.10	2.12	2.12	2.09	2.17	2.10	2.04		2.06
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.24	2.27	2.32	2.34	2.29	2.19	2.22	2.40	2.22	2.45	2.42	2.35	2.39	2.40	2.51	2.42	2.46	2.30	2.40	2.36	2.37	2.34	2.35	2.29	2.31	2.34	2.33	2.33	2.42	2.39	2.39		2.35
Temperature	°C	15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		2.0
Fluoride used (Total Daily Consumption)	kg	n/a	17.0	17.0	16.0	18.0	17.0	17.0	19.0	20.0	20.0	19.0	20.0	19.0	19.0	19.0	18.0	19.0	19.0	18.0	18.0	18.0	18.0	17.0	17.0	18.0	18.0	17.0	17.0	17.0	18.0	20.0	20.0	564.00	18.2
Chlorine used (Total Daily Consumption)	kg	n/a	17.0	17.0	18.0	18.0	17.0	17.0	16.0	18.0	17.0	17.0	18.0	17.0	17.0	17.0	16.0	18.0	17.0	17.0	17.0	17.0	18.0	15.0	18.0	18.0	16.0	18.0	17.0	16.0	17.0	17.0	18.0	531.00	17.1
Soda Ash (Total Daily Consumption)	kg	n/a	176.8	180.7	178.9	194.4	180.0	180.7	178.9	177.5	182.2	181.8	178.6	180.7	180.0	180.4	176.4	180.4	184.3	180.7	179.3	180.4	180.4	169.2	179.6	190.1	180.0	178.6	180.7	178.9	173.5	179.6	180.7	5584.32	180.1
Soda Ash - Dosage	mg/l	n/a	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36		36.0
Alum residual - (Total Daily Consumption)	kg	n/a	181.7	185.7	183.9	199.8	185.0	185.7	183.9	182.4	187.2	186.9	183.5	185.7	185.0	185.4	181.3	185.4	189.4	185.7	184.3	185.4	185.4	173.9	184.6	195.4	185.0	183.5	185.7	183.9	178.3	184.6	185.7	5739.44	185.1
Alum residual - 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 - Treated Water	mg/l	0.1	0.03	0.03	0.02	0.01	0.05	0.02	0.04	0.03	0.02	0.03	0.04	0.03	0.02	0.03	0.03	0.03	0.02	0.02	0.01	0.01	0.03	0.03	0.03	0.02	0.03	0.02	0.03	0.03	0.04	0.05	0.03		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			87.5	

* MAC - maximum acceptable range

Signature: 
Greg Wiedenhoef (Jun 29, 2022 09:02 CDT)

Email: gwiedenhoef@fortfrances.ca

Signature: 

Email: cmiller@fortfrances.ca

Signature: 

Email: trob@fortfrances.ca

Minimum	Maximum
4.70	5.40
58.20	58.64
3.00	3.92
61.65	63.96












Jan 2022 WTP Report

Final Audit Report

2022-06-30

Created:	2022-06-29
By:	Craig Miller (cmiller@fortfrances.ca)
Status:	Signed
Transaction ID:	CBJCHBCAABAA13cXs59t6gEwNqwjteFpVPfsIDXyek1W

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