

April 2021

**Monthly Summary Report
Water Systems**

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

Dated: May 5, 2021

1) **Introduction:**

This report contains the major maintenance activities and operational events that occurred during the month of April 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 April Usage	6.30 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. 1509 School Rd.	2. 218 Third St. E.	3. 740 Sixth St. W.	4. W. Tower
5. 943 Third St. E.	6. 1309 King's Hwy.	7. 401 King's Hwy.	8. W. Tower
9. 401 King's Hwy.	10. 218 Third St. E.	11. 900 Wright Ave.	12. W. Tower
13. 900 Wright Ave.	14. 401 King's Hwy.	15. 218 Third St. E.	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 March 16, 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:

April 01st Cleaned top and bottom tanks on the poly unit.
Cleaned all 4 Check Valves on the poly unit.

April 5th Calibrated Dist. Cl₂ Analyzer.

April 8th Cleaned top and bottom tanks on the poly unit.
Cleaned all 4 Check Valves on the poly unit.

April 9th Cleaned and flushed Settled sample pump line.

April 12th Calibrated Dist. Cl₂ Analyzer.

April 15th Changed West Cl₂ tank.
Cleaned top and bottom tanks on the poly unit.
Cleaned all 4 Check Valves on the poly unit.

April 22nd Cleaned top and bottom tanks on the poly unit.
Cleaned all 4 Check Valves on the poly unit.

April 27th Calibrated Dist. Cl₂ Analyzer.
Calibrated Fluoride Analyzer.

April 28th Ran the Standby Generator for 1 hour.
Took grab samples off filters.

April 30th 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 – 0 complaints.

9) **Other Miscellaneous Information:**

April 5th Routine Micro samples.

April 7th Sunset Protection Systems tested fire alarm and
checked fire extinguishers.
Alkalinity and PH samples for reduced lead sampling requirements.

April 12th Routine Micro samples.

April 19th Routine Micro samples.

April 21st Inspected all High lift, Low lift and Backwash pumps.





April 22nd Installed reconditioned Soda Ash transfer pump.

April 23rd Greased bucket elevator, auger, feeder, clarifiers and poly unit.

April 26th Cleaned valve positioner on filter #1.
Routine Micro samples.

April 27th Cleaned and flushed Alum line.

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, ORO, Senior WTP Operator: 
Greg Wiedenhoeft (Jun 3, 2021 14:27 CDT)
- Craig Miller, P.Eng. Environmental Superintendent: 
- Travis Rob, P.Eng. Manager of Operations & Facilities: 
- Acting CAO: 
Dawn Galusha (Jun 3, 2021 16:42 CDT)
- 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 myself or Greg Wiedenhoeft, Senior WTP Operator at 274-2325.

Town of Fort Frances - Water treatment Plant - Water Works # 220000978
Monitoring Record
Apr-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	Total	Average
		or Range																																
Flow rates																																		
Raw Water	1000 m³	17	5.01	4.93	5.01	5.03	5.11	5.13	5.00	4.99	4.99	5.20	4.66	5.21	5.01	5.01	5.03	5.01	4.95	5.01	5.15	4.95	5.03	5.02	5.08	4.82	5.06	5.26	5.14	5.04	5.04	5.06	150.94	5.03
Peak Instantaneous - Raw Water	l/s	n/a	58.62	58.60	58.61	58.56	58.58	58.54	58.53	58.63	58.60	58.56	58.06	58.70	58.65	58.63	58.66	58.71	58.96	58.97	59.01	59.04	59.06	59.06	59.08	59.02	59.05	58.80	58.79	58.80	58.36	59.19		58.75
Treated Water	1000 m³	17	2.98	3.32	2.88	3.16	3.14	3.59	3.54	3.47	4.00	3.71	2.55	3.57	3.38	3.86	3.38	3.79	2.74	3.07	3.15	3.22	3.27	3.38	3.31	3.00	2.88	3.55	3.09	3.49	3.49	3.44	99.40	3.31
Peak Instantaneous - Treated Water	l/s	n/a	62.66	62.54	62.23	63.87	63.14	63.40	69.03	67.66	68.27	63.33	62.81	61.42	62.22	67.86	65.45	63.34	62.07	62.03	62.50	62.72	62.08	63.41	62.27	62.13	62.33	61.48	62.36	69.98	62.53	63.43		63.69
BackWash Water	1000 m³	n/a	0.27	0.26	0.29	0.27	0.26	0.29	0.27	0.25	0.29	0.27	0.25	0.28	0.27	0.25	0.28	0.27	0.52	0.29	0.27	0.25	0.28	0.27	0.25	0.29	0.27	0.26	0.29	0.27	0.25	0.286	8.327	0.278
Fluoride Information																																		
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.71	0.71	0.71	0.71	0.73	0.62	0.75	0.63	0.76	0.61	0.64	0.62	0.65	0.69	0.61	0.57	0.68	0.68	0.76	0.69	0.66	0.74	0.76	0.78	0.78	0.78	0.70	0.71	0.72	0.71		0.70
Turbidity Information																																		
Raw Water	NTU	n/a	0.80	0.52	0.93	0.98	0.97	1.07	0.92	1.14	1.27	0.96	0.85	0.87	0.93	0.91	0.87	0.91	0.94	0.89	0.94	0.95	0.97	0.94	0.95	0.82	1.04	1.09	1.01	1.00	0.89	0.93		0.94
Settled Water	NTU	n/a	0.08	0.10	0.12	0.11	0.11	0.09	0.05	0.09	0.28	0.12	0.08	0.11	0.11	0.12	0.08	0.09	0.11	0.10	0.05	0.07	0.10	0.08	0.07	0.10	0.09	0.11	0.10	0.08	0.07	0.08		0.10
Treated Water	NTU	1	0.08	0.01	0.06	0.01	0.03	0.06	0.05	0.05	0.04	0.08	0.06	0.06	0.05	0.05	0.07	0.08	0.07	0.07	0.08	0.09	0.09	0.07	0.08	0.01	0.01	0.07	0.08	0.07	0.06	0.05		0.06
Other Operating Parameters																																		
pH - Treated Water	no units	6.5 to 8.5	7.30	7.32	7.27	7.26	7.25	7.39	7.35	7.47	7.57	7.49	7.46	7.34	7.31	7.42	7.46	7.39	7.31	7.28	7.25	7.34	7.32	7.36	7.44	7.32	7.37	7.40	7.39	7.39	7.35	7.38		7.37
pH - Settled water	no units	n/a	6.41	6.50	6.37	6.39	6.36	6.44	6.45	6.40	6.21	6.10	6.15	6.19	6.33	6.04	6.04	6.01	6.16	6.13	6.09	6.09	6.09	6.10	6.01	6.12	6.09	6.11	6.09	6.12	6.12	6.13		6.19
pH - Raw Water	no units	n/a	7.14	7.09	7.10	7.12	7.08	7.08	7.10	7.00	7.08	7.19	6.99	6.96	6.98	6.96	6.97	7.09	7.01	7.06	7.08	7.06	7.03	7.08	7.09	7.09	6.98	7.08	7.06	7.12	7.1	7.13		7.06
FAC - Treated Water	mg/l	0.2 to 4	2.14	2.12	2.04	2.05	2.01	2.21	2.11	2.07	2.07	2.09	2.12	2.09	2.09	2.09	2.10	2.02	2.09	2.13	2.27	2.34	2.14	2.12	2.14	2.04	2.06	2.10	2.05	2.10	2.13	2.04		2.11
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.30	2.46	2.22	2.32	2.28	2.26	2.46	2.42	2.50	2.56	2.24	2.60	2.38	2.44	2.22	2.28	2.38	2.36	2.62	2.72	2.34	2.66	2.40	2.34	2.32	2.34	2.29	2.35	2.31	2.33		2.39
Temperature	°C	15	5.0	5.0	5.0	5.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.0	7.0	6.0	6.0	7.0	7.0	6.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	8.0	8.0		6.6	
Fluoride used (Total Daily Consumption)	kg	n/a	18.0	17.0	16.0	17.0	17.0	17.0	17.0	16.0	16.0	17.0	14.0	17.0	15.0	15.0	15.0	15.0	17.0	18.0	19.0	18.0	18.0	17.0	18.0	17.0	17.0	18.0	17.0	17.0	17.0	17.0	504.00	16.8
Chlorine used (Total Daily Consumption)	kg	n/a	18.0	18.0	19.0	18.0	19.0	19.0	19.0	18.0	19.0	18.0	17.0	19.0	18.0	18.0	18.0	15.0	20.0	20.0	20.0	19.0	18.0	19.0	19.0	17.0	19.0	19.0	19.0	18.0	19.0	19.0	555.00	18.5
Soda Ash (Total Daily Consumption)	kg	n/a	185.4	182.4	185.4	186.1	189.1	189.8	185.0	184.6	184.6	192.4	172.4	192.8	185.4	185.4	186.1	185.4	183.2	185.4	190.6	183.2	186.1	185.7	188.0	178.3	187.2	194.6	190.2	186.5	186.5	187.2	5584.78	186.2
Soda Ash - Dosage	mg/l	n/a	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0		37.0
Alum residual - (Total Daily Consumption)	kg	n/a	170.3	167.6	170.3	171.0	173.7	174.4	170.0	169.7	169.7	176.8	158.4	177.1	170.3	170.3	171.0	170.3	168.3	170.3	175.1	168.3	171.0	170.7	172.7	163.9	172.0	178.8	174.8	171.4	171.4	172.0	5131.96	171.1
Alum residual - Dosage	mg/l	n/a	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0		34.0
Alum residual - Treated Water	mg/l	0.1	0.04	0.02	0.04	0.02	0.02	0.02	0.01	0.02	0.03	0.04	0.03	0.02	0.02	0.04	0.04	0.02	0.04	0.03	0.03	0.01	0.04	0.02	0.03	0.06	0.04	0.05	0.06	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	87.5	

* MAC - maximum acceptable range

Minimum	Maximum
4.66	5.26
58.06	59.19
2.55	4.00
61.42	69.98

Flow Data APRIL	Units	2019		2020		2021	
Total Raw Water	m ³		146840		149220		150940
Raw Maximum Day	m ³		6220		5770		5260
Raw Minimum Day	m ³		4060		3820		4660
Raw Average Daily Consumption	m ³		5060		5150		5030
Total Treated Water	m ³		106270		96350		99400
Treated Water Maximim Day Consumption	m ³		4330		3640		4000
Treated Water Minimim Day Consumption	m ³		2910		2730		2550
Treated Water Average Day Consumption	m ³		3540		3210		3310
Daily Average Per Household Consumption Rate	m ³		0.936		0.849		0.875
* Daily Average Per Person Consumption Rate	m ³		0.443		0.402		0.414
Monthly Averages - Operating Parameters WTP:							
FAC Residual - Treated Water	mg/L		2.13		2.2		2.11
Total Chlorine Residual - Treated Water	mg/L		2.36		2.28		2.39
Aluminum Sulphate - Raw Water	mg/L		35.0		35.0		34.0
Aluminum Sulphate - Treated Water Residual	mg/L		0.03				0.03
Fluoride - Treated Water	mg/L		0.63		0.72		0.70
Soda Ash - Raw Water	mg/L		35.0		35.0		37.0
pH - Adjusted	mg/L		6.99		6.94		7.37
Temperature	°C		4.1		5.4		6.6
Quantity of Chemical Used:							
Aluminum Sulphate	kg		5312.3		5399.8		5131.96
Polyelectrolyte	kg		75.0		62.5		87.5
Chlorine Gas	kg		579		605		555
Soda Ash - Used for pH Adjustment	kg		5312.3		5399.8		5584.78
Fluoride	kg		442		736		504

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

* Population is 7986

* Number of Households is 3783












April 2021 WTP


Final Audit Report

2021-06-03

Created:	2021-06-03
By:	Craig Miller (cmiller@fortfrances.ca)
Status:	Signed
Transaction ID:	CBJCHBCAABAAmGDw8rM3Hk2XsU_KKb9fiV3rqpswAS2

"April 2021 WTP" History

-  Document created by Craig Miller (cmiller@fortfrances.ca)
2021-06-03 - 7:04:18 PM GMT- IP address: 216.211.31.9
-  Document emailed to Greg Wiedenhoeft (gwiedenhoeft@fortfrances.ca) for signature
2021-06-03 - 7:04:59 PM GMT
-  Email viewed by Greg Wiedenhoeft (gwiedenhoeft@fortfrances.ca)
2021-06-03 - 7:26:29 PM GMT- IP address: 216.211.31.9
-  Document e-signed by Greg Wiedenhoeft (gwiedenhoeft@fortfrances.ca)
Signature Date: 2021-06-03 - 7:27:37 PM GMT - Time Source: server- IP address: 216.211.31.9
-  Document emailed to Craig Miller (cmiller@fortfrances.ca) for signature
2021-06-03 - 7:27:38 PM GMT
-  Email viewed by Craig Miller (cmiller@fortfrances.ca)
2021-06-03 - 7:44:04 PM GMT- IP address: 216.211.31.9
-  Document e-signed by Craig Miller (cmiller@fortfrances.ca)
Signature Date: 2021-06-03 - 7:46:09 PM GMT - Time Source: server- IP address: 216.211.31.9
-  Document emailed to Travis Rob (trob@fortfrances.ca) for signature
2021-06-03 - 7:46:11 PM GMT
-  Email viewed by Travis Rob (trob@fortfrances.ca)
2021-06-03 - 9:10:31 PM GMT- IP address: 216.211.31.9
-  Document e-signed by Travis Rob (trob@fortfrances.ca)
Signature Date: 2021-06-03 - 9:11:19 PM GMT - Time Source: server- IP address: 216.211.31.9
-  Document emailed to Dawn Galusha (dgalusha@fortfrances.ca) for signature
2021-06-03 - 9:11:21 PM GMT

 Email viewed by Dawn Galusha (dgalusha@fortfrances.ca)

2021-06-03 - 9:41:34 PM GMT- IP address: 216.211.31.9

 Document e-signed by Dawn Galusha (dgalusha@fortfrances.ca)

Signature Date: 2021-06-03 - 9:42:00 PM GMT - Time Source: server- IP address: 216.211.31.9

 Agreement completed.

2021-06-03 - 9:42:00 PM GMT



Adobe Sign