

April 2022

**Monthly Summary Report
Water Systems**

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

Dated: May 5, 2022

1) **Introduction:**

This report contains the major maintenance activities and operational events that occurred during the month of April 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 April Usage	6.3 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. 940 Third St. E.	2. 401 King's Hwy.	3. 861 King's Hwy.	4. W. Tower
5. 601 Reid Ave.	6. 218 Third St. E.	7. 900 Wright Ave.	8. W. Tower
9. 715 Col Rd E.	10. 740 Sixth St. W.	11. 500 King's Hwy.	12. W. Tower
13. 943 Third St. E.	14. 130 Second St. E.	15. 1533 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 March 16, 2022 – 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 - Calibrated distribution cl2 analyzer.
- Cleaned filter #3 turbidity meter probe.

April 8th - Cleaned top and bottom tanks on the poly unit.
- Cleaned all 4 check valves on the poly pumps.

April 12th - Added 125 bags of Anthracite to filter #3.

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

April 18th - Greased clarifier #2.

April 21st - Cleaned top and bottom tanks on the poly unit.
- Cleaned all 4 check valves on the poly pumps.

April 26th - Calibrated distribution cl2 analyzer.

April 27th - Calibrated distribution cl2 analyzer.

- April 28th - Ran the Standby Generator for 1 hour.
- Calibrated distribution cl2 analyzer.
 - Calibrated fluoride analyzer.
 - Cleaned top and bottom tanks on the poly unit.
 - Cleaned all 4 check valves on the poly pumps.

8) Water Complaints:

- Poor Pressure – 0 complaints.
- Water quality – 2 complaints.
- 925 Smith Ave. / 921 Smith Ave. **Brown dirty water** – Discoloured water due to fire flow testing for Vipond by Rainycrest. Flushed water main on Smith Ave. to clear up the water.

9) Other Miscellaneous Information:

- April 4th - Routine Micro samples.
- Ordered a load of Alum.
- April 5th - Took BAP re-sample for quarterly samples.
- Cannect Electric here working on poly pump #1.
- April 11th - Routine Micro samples.
- April 12th - Received a load of Alum.
- Alkalinity and PH samples for reduced lead sampling requirements.
- Took BAP re-sample for quarterly samples.
- April 18th - Routine Micro samples.
- April 19th - QMS meeting at WTP for Elements 1-7.
- April 21st - Took TSS samples for filter #1.
- QMS meeting at WTP for Elements 8-14.
- April 25th - Routine Micro samples.
- April 27th - QMS meeting at WTP for Elements 15-21.
- Took grab samples off the filters.

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
- 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 myself or Greg Wiedenhoeft, Senior WTP Operator at 274-2325.

Flow Data APRIL	Units	2020		2021		2022	
Total Raw Water	m ³		149220		150940		155310
Raw Maximum Day	m ³		5770		5260		5470
Raw Minimum Day	m ³		3820		4660		4850
Raw Average Daily Consumption	m ³		5150		5030		5180
Total Treated Water	m ³		96350		99400		106280
Treated Water Maximim Day Consumption	m ³		3640		4000		3990
Treated Water Minimim Day Consumption	m ³		2730		2550		2880
Treated Water Average Day Consumption	m ³		3210		3310		3540
Daily Average Per Household Consumption Rate	m ³		0.849		0.875		0.936
* Daily Average Per Person Consumption Rate	m ³		0.402		0.414		0.443
Monthly Averages - Operating Parameters WTP:							
FAC Residual - Treated Water	mg/L		2.2		2.11		1.92
Total Chlorine Residual - Treated Water	mg/L		2.28		2.39		2.19
Aluminum Sulphate - Raw Water	mg/L		35.0		34.0		37.0
Aluminum Sulphate - Treated Water Residual	mg/L		0.04		0.03		0.03
Fluoride - Treated Water	mg/L		0.72		0.70		0.64
Soda Ash - Raw Water	mg/L		35.0		37.0		36.0
pH - Adjusted	mg/L		6.94		7.37		7.02
Temperature	°C		5.4		6.6		3.0
Quantity of Chemical Used:							
Aluminum Sulphate	kg		5399.8		5131.96		5746.47
Polyelectrolyte	kg		62.5		87.5		75.0
Chlorine Gas	kg		605		555		494
Soda Ash - Used for pH Adjustment	kg		5399.8		5584.78		5591.16
Fluoride	kg		736		504		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
Apr-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	Total	Average
		or Range																																
Flow rates																																		
Raw Water	1000 m³	17	4.96	5.46	5.20	5.20	5.13	5.07	5.19	5.29	5.07	5.18	5.29	4.93	5.22	5.12	5.08	5.24	5.16	5.33	5.47	5.21	5.22	5.20	5.41	4.85	5.25	5.14	5.11	5.14	5.14	5.05	155.31	5.18
Peak Instantaneous - Raw Water	l/s	n/a	70.82	60.61	60.59	60.63	60.61	60.53	60.61	60.63	60.59	60.68	60.01	60.52	60.59	60.71	60.69	60.70	60.75	60.83	60.79	60.84	60.82	60.70	61.08	60.95	60.56	60.56	59.86	60.01	60.11	60.08		60.92
Treated Water	1000 m³	17	3.42	3.99	3.28	3.81	3.64	3.62	3.47	3.71	3.56	3.71	3.34	3.45	3.76	3.54	3.66	3.44	3.53	3.68	3.95	3.64	3.27	3.60	3.79	2.88	3.57	3.51	3.56	3.31	3.51	3.08	106.28	3.54
Peak Instantaneous - Treated Water	l/s	n/a	64.00	63.63	63.56	63.06	64.21	63.20	64.14	63.91	63.52	62.38	63.70	79.35	63.40	62.32	62.05	62.97	62.70	62.95	62.50	63.14	63.27	63.50	63.58	63.08	80.04	81.38	63.39	62.07	63.66	63.62		64.94
BackWash Water	1000 m³	n/a	0.28	0.26	0.25	0.28	0.51	0.28	0.26	0.25	0.28	0.26	0.25	0.28	0.52	0.25	0.28	0.27	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	0.280	8.440	0.281
Fluoride Information																																		
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.64	0.57	0.58	0.58	0.62	0.63	0.63	0.62	0.63	0.63	0.63	0.66	0.66	0.66	0.66	0.65	0.65	0.65	0.66	0.65	0.66	0.66	0.65	0.66	0.66	0.66	0.66	0.65	0.65	0.65		0.64
Turbidity Information																																		
Raw Water	NTU	n/a	0.48	0.47	0.38	0.45	0.49	0.46	0.43	0.46	0.48	0.53	0.47	0.52	0.41	0.57	0.59	0.60	0.53	0.39	0.54	0.51	0.56	0.51	0.95	0.62	0.83	0.86	0.66	0.63	0.66	0.71	0.56	
Settled Water	NTU	n/a	0.16	0.13	0.12	0.13	0.12	0.12	0.11	0.11	0.12	0.11	0.16	0.14	0.11	0.13	0.11	0.13	0.10	0.10	0.10	0.11	0.10	0.11	0.13	0.14	0.12	0.12	0.09	0.09	0.10	0.10	0.12	
Treated Water	NTU	1	0.08	0.11	0.05	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.14	0.12	0.01	0.12	0.04	0.10	0.09	0.04	0.12	0.11	0.13	0.12	0.14	0.16	0.12	0.11	0.16	0.12	0.12	0.12	0.10	
Other Operating Parameters																																		
pH - Treated Water	no units	6.5 to 8.5	6.98	7.04	7.06	7.03	6.91	7.02	6.89	6.92	6.96	6.98	7.05	7.03	7.01	7	7.01	7.01	7.01	7.04	7.14	7.07	7.08	7.07	7.03	7.09	7.01	7.06	7.08	7.03	7.01	7.03		7.02
pH - Settled water	no units	n/a	6.59	6.54	6.57	6.55	6.46	6.51	6.45	6.48	6.42	6.46	6.37	6.63	6.56	6.57	6.69	6.68	6.77	6.74	6.53	6.37	6.28	6.45	6.48	6.46	6.43	6.38	6.41	6.42	6.54	6.50		6.51
pH - Raw Water	no units	n/a	7.03	7.01	6.98	6.82	7.01	6.96	7.03	7.01	6.99	7.01	6.79	6.97	7.04	7.08	6.97	7.08	6.99	7.00	6.81	6.96	6.82	6.91	6.88	6.89	6.93	6.99	6.88	6.88	6.42	6.33		6.92
FAC - Treated Water	mg/l	0.2 to 4	1.75	1.83	1.84	1.90	2.01	1.97	1.95	2.04	2.01	2.00	1.92	1.84	1.94	1.95	1.92	1.86	1.89	1.89	1.89	1.93	1.92	1.87	1.90	1.87	1.84	2.01	1.96	1.89	1.96	1.98		1.92
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.02	2.11	1.94	2.06	2.22	2.24	2.21	2.28	2.30	2.32	2.27	2.19	2.29	2.21	2.15	2.15	2.21	2.17	2.12	2.18	2.13	2.14	2.13	2.17	2.27	2.35	2.21	1.98	2.3	2.28		2.19
Temperature	°C	15	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Fluoride used (Total Daily Consumption)	kg	n/a	18.0	18.0	18.0	18.0	17.0	20.0	20.0	21.0	19.0	20.0	20.0	19.0	20.0	18.0	19.0	19.0	19.0	18.0	19.0	18.0	19.0	17.0	18.0	17.0	18.0	17.0	19.0	21.0	20.0	20.0	564.00	18.8
Chlorine used (Total Daily Consumption)	kg	n/a	16.0	17.0	17.0	15.0	17.0	15.0	17.0	16.0	17.0	16.0	17.0	15.0	17.0	16.0	16.0	17.0	17.0	17.0	17.0	17.0	16.0	17.0	17.0	15.0	17.0	17.0	17.0	16.0	17.0	16.0	494.00	16.5
Soda Ash (Total Daily Consumption)	kg	n/a	178.6	196.6	187.2	187.2	184.7	182.5	186.8	190.4	182.5	186.5	190.4	177.5	187.9	184.3	182.9	188.6	185.8	191.9	196.9	187.6	187.9	187.2	194.8	174.6	189.0	185.0	184.0	185.0	185.0	181.8	5591.16	186.4
Soda Ash - Dosage	mg/l	n/a	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	
Alum residual - (Total Daily Consumption)	kg	n/a	183.5	202.0	192.4	192.4	189.8	187.6	192.0	195.7	187.6	191.7	195.7	182.4	193.1	189.4	188.0	193.9	190.9	197.2	202.4	192.8	193.1	192.4	200.2	179.5	194.3	190.2	189.1	190.2	190.2	186.9	5746.47	191.5
Alum residual - 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	
Alum residual - Treated Water	mg/l	0.1	0.04	0.03	0.03	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.03	0.05	0.04	0.03	0.04	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.03	0.04	0.04	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					75.0	

* MAC - maximum acceptable range

Signature: 
Greg Wiedenhoef (Jul 8, 2022 07:19 CDT)
Email: gwiedenhoef@fortfrances.ca

Signature: 
Email: cmiller@fortfrances.ca

Signature: 
Email: trob@fortfrances.ca

Minimum	Maximum
4.85	5.47
59.86	70.82
2.88	3.99
62.05	81.38












Apr 2022 WTP Report

Final Audit Report

2022-07-08

Created:	2022-07-08
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