

May 2022

**Monthly Summary Report
Water Systems**

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

Dated: June 3, 2022

1) **Introduction:**

This report contains the major maintenance activities and operational events that occurred during the month of May 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 0.21m³

Estimated May Usage 6.51 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. 601 Reid Ave. | 3. 740 Sixth St. W. | 4. W. Tower |
| 5. 1309 Kings Hwy. | 6. 601 Reid Ave. | 7. 900 Wright Ave. | 8. W. Tower |
| 9. 943 Third St. E. | 10. 701 Col. Rd. E. | 11. 835 McKenzie Ave. | 12. W. Tower |
| 13. 740 Scott St. | 14. 401 Mowat Ave. | 15. 1001 Kings Hwy. | 16. W. Tower |
| 17. 943 Third St. E. | 18. 701 Col. 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 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:

May 5th - Calibrated the Distribution Chlorine Analyzer.

May 6th - Cleaned top and bottom tanks on the poly unit.
- Cleaned all four (4) check valves on the poly pumps.

May 12th - Cleaned top and bottom tanks on the poly unit.
- Cleaned all four (4) check valves on the poly pumps.

May 20th - Cleaned top and bottom tanks on the poly unit.
- Cleaned all four (4) check valves on the poly pumps.

May 22nd - Cleaned filter #3 turbidity probe.

May 24th - Replaced finished water sample pump.
- Calibrated fluoride analyzer.

May 25th - Worked on filter #3 effluent valve positioner.

May 27th - Cleaned top and bottom tanks on the poly unit.
- Cleaned all four (4) check valves on the poly pumps.

May 30th -Ran generator for 1 hour.
-Took grab samples from filters.

May 31st - Cleaned filter #3 turbidity probe.
- Calibrated the Distribution Chlorine Analyzer.

8) **Water Complaints:**

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

9) **Other Miscellaneous Information:**

May 2nd - Took weekly routine micro samples.
- Took samples for watermain repair at 500 blk. Sixth St. W. 1st set.

May 3rd - Took samples for watermain repair at 500 blk. Sixth St. W. 2nd set.

May 10th - Took weekly routine micro samples.

May 11th - Received 10 skids of Anthracite.

May 16th - Took weekly routine micro samples.
- Took seasonal bacti sample at sports fields.

May 18th - Took samples for watermain repair at Flinders and Second St. W. 1st set.
- Took water service repair sample at 1117 First St. E.

May 19th - Took monthly TSS samples from filter # 3 backwash.
- Took samples for watermain repair at Flinders and Second St. W. 2nd set.

May 24th - Took weekly routine micro samples.

May 25th – Took seasonal bacti sample for Sorting Gap and Rainy Lake Square.

May 27th – Took weekly routine micro samples.

May 31st - Lakeside at WTP to look at filter valves for replacement.

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 myself or Greg Wiedenhoeft, Overall Responsible Operator at 274-2325.

Flow Data MAY	Units	2020		2021		2022	
Total Raw Water	m ³		155620		158520		165410
Raw Maximum Day	m ³		5280		5350		5910
Raw Minimum Day	m ³		4720		4890		4900
Raw Average Daily Consumption	m ³		5020		5110		5340
Total Treated Water	m ³		108720		113290		110630
Treated Water Maximim Day Consumption	m ³		4240		4950		4880
Treated Water Minimim Day Consumption	m ³		3040		2860		2980
Treated Water Average Day Consumption	m ³		3520		3650		3570
Daily Average Per Household Consumption Rate	m ³		0.930		0.965		0.944
* Daily Average Per Person Consumption Rate	m ³		0.441		0.457		0.447
Monthly Averages - Operating Parameters WTP:							
FAC Residual - Treated Water	mg/L		2.12		2.04		1.94
Total Chlorine Residual - Treated Water	mg/L		2.35		2.35		2.26
Aluminum Sulphate - Raw Water	mg/L		35.0		34.0		37.0
Aluminum Sulphate - Treated Water Residual	mg/L		0.07		0.03		0.04
Fluoride - Treated Water	mg/L		0.75		0.67		0.66
Soda Ash - Raw Water	mg/L		35.0		37.0		36.0
pH - Adjusted	mg/L		6.98		7.17		7.03
Temperature	°C		2.0		10.7		6.2
Quantity of Chemical Used:							
Aluminum Sulphate	kg		5446.7		5389.68		6120.17
Polyelectrolyte	kg		62.5		62.5		100.0
Chlorine Gas	kg		617		625		596
Soda Ash - Used for pH Adjustment	kg		5446.7		5865.24		5954.76
Fluoride	kg		693		517		580

* 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
May-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	5.16	5.24	4.90	5.16	5.04	5.18	5.21	5.17	5.35	5.51	5.21	5.23	5.29	5.19	5.39	5.37	5.34	5.38	5.40	5.41	5.31	5.46	5.44	5.32	5.44	5.40	5.50	5.40	5.55	5.55	5.91	165.41	5.34
Peak Instantaneous - Raw Water	l/s	n/a	60.24	60.45	60.47	60.40	60.43	60.54	60.59	60.70	60.81	61.04	61.22	61.37	61.79	61.96	62.25	62.41	62.68	62.87	63.18	63.25	63.47	63.63	63.79	63.85	64.04	64.28	64.25	64.35	65.95	64.55	64.70		62.44
Treated Water	1000 m³	17	3.39	3.57	3.22	3.42	3.42	3.07	3.42	3.07	3.60	3.50	3.38	3.63	3.66	3.46	3.26	3.76	3.72	4.02	3.42	3.58	4.01	2.98	3.63	3.45	3.21	4.88	3.85	3.80	3.96	3.56	3.73	110.63	3.57
Peak Instantaneous - Treated Water	l/s	n/a	62.07	62.26	63.33	61.77	62.30	63.19	62.85	62.42	61.93	62.15	76.17	79.10	80.23	81.60	79.47	78.93	78.34	85.00	79.22	82.92	77.35	80.41	77.85	80.56	81.94	84.95	79.33	82.52	80.46	78.95	78.48		74.45
BackWash Water	1000 m³	n/a	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	0.28	0.26	0.25	0.28	0.26	0.25	0.28	0.27	0.25	0.28	0.26	0.25	0.28	0.26	0.25	0.281	0.263	8.180	0.264
Fluoride Information																																			
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.65	0.65	0.65	0.64	0.65	0.66	0.66	0.67	0.67	0.67	0.67	0.68	0.70	0.70	0.61	0.57	0.62	0.64	0.68	0.68	0.69	0.68	0.69	0.65	0.64	0.65	0.69	0.70	0.69	0.65	0.65		0.66
Turbidity Information																																			
Raw Water	NTU	n/a	0.68	0.59	1.67	1.65	1.65	1.73	1.35	1.24	1.53	1.54	1.49	1.10	1.42	1.32	1.51	1.36	1.38	1.48	1.46	1.36	1.40	1.44	1.47	1.54	1.45	1.63	1.45	1.63	1.52	1.74	1.43		1.43
Settled Water	NTU	n/a	0.10	0.11	0.12	0.14	0.14	0.13	0.14	0.15	0.13	0.12	0.11	0.11	0.11	0.13	0.15	0.16	0.16	0.15	0.15	0.14	0.14	0.14	0.13	0.15	0.13	0.12	0.13	0.12	0.11	0.16	0.12		0.13
Treated Water	NTU	1	0.11	0.11	0.07	0.11	0.11	0.08	0.09	0.1	0.11	0.13	0.11	0.15	0.13	0.13	0.15	0.15	0.13	0.13	0.13	0.13	0.13	0.11	0.11	0.13	0.11	0.09	0.11	0.06	0.1	0.08	0.11		0.11
Other Operating Parameters																																			
pH - Treated Water	no units	6.5 to 8.5	7.14	7.07	6.99	7.00	6.98	7.04	7.02	7.03	7.06	7.11	7.12	7.09	6.90	7.05	7.12	7.06	7.10	6.91	6.96	7.01	6.96	6.93	7.00	7.04	7.02	7.03	7.00	7.03	6.99	7.04	7.04		7.03
pH - Settled water	no units	n/a	6.44	6.42	6.62	6.62	6.60	6.66	6.68	6.65	6.67	6.48	6.40	6.39	6.57	6.41	6.40	6.45	6.43	6.55	6.52	6.47	6.41	6.36	6.41	6.63	6.64	6.62	6.63	6.66	6.68	6.69	6.52		6.54
pH - Raw Water	no units	n/a	6.36	6.42	6.92	7.06	7.00	6.96	6.89	6.95	6.99	6.83	6.85	6.87	6.91	6.88	6.89	6.95	6.93	6.87	6.82	6.91	6.95	6.99	6.88	6.93	6.96	6.97	6.93	6.94	6.89	6.95	6.83		6.89
FAC - Treated Water	mg/l	0.2 to 4	1.85	1.91	1.70	1.75	1.75	1.88	1.87	1.83	1.96	1.95	2.02	2.14	2.12	2.07	1.99	2.14	2.12	2.09	1.95	1.97	2.01	1.98	1.92	1.91	1.87	2.02	2.00	1.91	1.92	1.86	1.79		1.94
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.26	2.26	2.00	2.05	2.05	2.18	2.16	2.12	2.25	2.34	2.34	2.38	2.40	2.41	2.34	2.32	2.40	2.32	2.32	2.28	2.38	2.32	2.36	2.16	2.16	2.35	2.28	2.24	2.22	2.12	2.18		2.26
Temperature	°C	15	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	5.0	5.0	6.0	6.0	7.0	7.0	8.0	9.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	9.0	9.0	10.0		6.2	
Fluoride used (Total Daily Consumption)	kg	n/a	20.0	20.0	19.0	19.0	19.0	19.0	19.0	18.0	19.0	20.0	18.0	18.0	19.0	16.0	15.0	15.0	13.0	11.0	10.0	18.0	17.0	17.0	17.0	19.0	21.0	28.0	25.0	24.0	23.0	22.0	22.0	580.00	18.7
Chlorine used (Total Daily Consumption)	kg	n/a	17.0	16.0	16.0	18.0	17.0	18.0	19.0	17.0	19.0	20.0	18.0	19.0	19.0	19.0	20.0	19.0	20.0	20.0	20.0	19.0	20.0	20.0	20.0	20.0	20.0	21.0	21.0	20.0	21.0	21.0	22.0	596.00	19.2
Soda Ash (Total Daily Consumption)	kg	n/a	185.8	188.6	176.4	185.8	181.4	186.5	187.6	186.1	192.6	198.4	187.6	188.3	190.4	186.8	194.0	193.3	192.2	193.7	194.4	194.8	191.2	196.6	195.8	191.5	195.8	194.4	198.0	194.4	199.8	199.8	212.8	5954.76	192.1
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	190.9	193.9	181.3	190.9	186.5	191.7	192.8	191.3	198.0	203.9	192.8	193.5	195.7	192.0	199.4	198.7	197.6	199.1	199.8	200.2	196.5	202.0	201.3	196.8	201.3	199.8	203.5	199.8	205.4	205.4	218.7	6120.17	197.4
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		37.0	
Alum residual - Treated Water	mg/l	0.1	0.03	0.04	0.06	0.04	0.05	0.04	0.04	0.04	0.03	0.03	0.05	0.06	0.04	0.05	0.03	0.04	0.02	0.02	0.05	0.04	0.04	0.05	0.04	0.05	0.04	0.04	0.07	0.05	0.05	0.04	0.05		0.04
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	100.0	

* MAC - maximum acceptable range

Signature: Greg Wiedenhoef
Greg Wiedenhoef (Jun 29, 2022 09:07 CDT)

Email: gwiedenhoef@fortfrances.ca

Signature: Carly Miller

Email: cmiller@fortfrances.ca

Signature: Troy B.

Email: trob@fortfrances.ca

Minimum	Maximum
4.90	5.91
60.24	65.95
2.98	4.88
61.77	85.00












May 2022 WTP Report

Final Audit Report

2022-06-30

Created:	2022-06-29
By:	Craig Miller (cmiller@fortfrances.ca)
Status:	Signed
Transaction ID:	CBJCHBCAABAA6f_-X9_J9pToIVjh7wSHUQU_3clonwyw

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