

**July 2021**

**Monthly Summary Report  
Water Systems**

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

**Dated: August 9, 2021**

## 1) **Introduction:**

This report contains the major maintenance activities and operational events that occurred during the month of July 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 July Usage	6.5 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. 943 Third St. E.	2. 835 McKenzie Ave.	3. 1001 King's Hwy.	4. W. Tower
5. 218 Third St. E.	6. 900 Wright Ave.	7. 401 King's Hwy.	8. W. Tower
9. 943 Third St. E.	10. 715 Colonization Rd E.	11. 740 Sixth St. W.	12. W. Tower
13. 943 Third St. E.	14. 218 Third St. E.	15. 900 Wright Ave.	16. W. Tower

**4) Microbiological (Health Related) Water Analysis - Airport Groundwater Well No. 849N7DGE0:**

New drinking water system put on line 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 June 23, 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:**

July 02<sup>nd</sup> - Cleaned top and bottom tanks on the poly unit.  
- Cleaned the four check valves on the poly unit.

July 03<sup>rd</sup> - Changed East Cl2 tank

July 05<sup>th</sup> - Calibrated distribution chlorine analyzer.

July 08<sup>th</sup> - Cleaned top and bottom tanks on the poly unit.  
- Cleaned the four check valves on the poly unit.

July 11<sup>th</sup> - Installed refurbished Soda Ash transfer pump.

July 15<sup>th</sup> - Cleaned top and bottom tanks on the poly unit.  
- Cleaned the four check valves on the poly unit.  
- Installed refurbished Soda Ash transfer pump.

- July 20<sup>th</sup> - Took monthly TSS and Total chlorine samples from filter #1.  
- Installed High Lift motor #4.  
- Calibrated distribution chlorine analyzer.  
- Calibrated Fluoride analyzer.  
- Cleaned manifold, Installed new regulator and pig tail for West Cl2 tank.
- July 22<sup>nd</sup> - Cleaned top and bottom tanks on the poly unit.  
- Cleaned the four check valves on the poly unit.
- July 25<sup>th</sup> - Changed Poly Unit Chemical Feed belt.
- July 27<sup>th</sup> - Took grab samples of filters.  
-Ran the generator for 1 hour.
- July 28<sup>th</sup> - Calibrated distribution chlorine analyzer.
- July 29<sup>th</sup> - Cleaned top and bottom tanks on the poly unit.  
- Cleaned the four check valves on the poly unit.
- July 30<sup>th</sup> -Replaced membrane on Cl2 analyzer.

#### 8) **Water Complaints:**

- Poor Pressure – 0 complaints.
- Water quality – 1 complaint.
- 232 Scott St. **Bad Taste** - Tasted sample taken from customers tap. No problem found. Customer confirmed water tasted fine. Advised customer to call back if problem reoccurs. Cl2 was 1.38mg/L

#### 9) **Other Miscellaneous Information:**

- July 05<sup>th</sup> - Routine micro sample collection.  
-Sent back 18 empty Fluoride barrels to Brenntag.
- July 06<sup>th</sup> - Received a load of Soda Ash.
- July 08<sup>th</sup> - Ordered 15 barrels of Fluoride.

- July 12<sup>th</sup> - Routine micro sample collection.  
-Repair sample at 1530 King's Hwy.  
-Received 15 barrels of Fluoride.
- July 13<sup>th</sup> - Armit Ave. Temp main samples. First set.
- July 14<sup>th</sup> - Cody Vangel here looking at WTP documentation, for Internal Audit.  
- Armit Ave. Temp main samples. Second set.
- July 19<sup>th</sup> - Repaired Poly Unit valve control line.  
-JD Plumbing installed new Settled sample line faucet.  
- Routine micro sample collection.
- July 27<sup>th</sup> - Construction samples at Armit Ave./Church St. intersection. First Set.
- July 28<sup>th</sup> - Construction samples at Armit Ave./Church St. intersection. Second Set.

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.

Flow Data JULY	Units	2019		2020		2021	
Total Raw Water	m <sup>3</sup>		165900		177490		214110
Raw Maximum Day	m <sup>3</sup>		5570		5950		8200
Raw Minimum Day	m <sup>3</sup>		5180		5400		5780
Raw Average Daily Consumption	m <sup>3</sup>		5350		5730		6910
Total Treated Water	m <sup>3</sup>		122360		139030		178930
Treated Water Maximim Day Consumption	m <sup>3</sup>		4560		5460		8010
Treated Water Minimim Day Consumption	m <sup>3</sup>		3350		3780		4210
Treated Water Average Day Consumption	m <sup>3</sup>		3950		4480		5770
Daily Average Per Household Consumption Rate	m <sup>3</sup>		1.044		1.184		1.525
* Daily Average Per Person Consumption Rate	m <sup>3</sup>		0.495		0.561		0.723
Monthly Averages - Operating Parameters WTP:							
FAC Residual - Treated Water	mg/L		2.07		2.17		2.35
Total Chlorine Residual - Treated Water	mg/L		2.29		2.43		2.71
Aluminum Sulphate - Raw Water	mg/L		35.0		34.0		37.1
Aluminum Sulphate - Treated Water Residual	mg/L		0.02		0.04		0.03
Fluoride - Treated Water	mg/L		0.71		0.73		0.64
Soda Ash - Raw Water	mg/L		35.0		37.0		37.0
pH - Adjusted	mg/L		7.18		6.94		6.93
Temperature	°C		21.4		22.6		21.3
Quantity of Chemical Used:							
Aluminum Sulphate	kg		5806.5		6034.7		7963.38
Polyelectrolyte	kg		62.5		75.0		125.0
Chlorine Gas	kg		815		944		1017
Soda Ash - Used for pH Adjustment	kg		5806.5		6567.1		7922.07
Fluoride	kg		775		750		681

\* The Canadian Average is 450 litres (0.45 m<sup>3</sup>) per day.

\* Population is 7986

\* Number of Households is 3783

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


Operating Data	Units	*MAC or Range	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
Flow rates																																			
Raw Water	1000 m³	17	5.80	6.44	5.78	6.32	6.15	6.24	6.47	6.52	6.51	6.44	6.62	6.67	6.61	7.50	7.80	7.72	7.66	7.88	7.93	8.20	7.81	7.10	6.93	6.66	6.78	7.28	6.86	6.88	6.88	6.89	6.78	214.11	6.91
Peak Instantaneous - Raw Water	l/s	n/a	71.34	71.11	71.32	71.67	71.42	75.94	75.04	76.12	76.26	76.52	77.27	76.92	85.63	91.31	90.53	90.39	91.29	91.36	91.18	91.29	91.16	91.10	80.56	80.53	80.72	80.60	80.48	80.41	80.30	80.41	80.33	81.31	
Treated Water	1000 m³	17	5.36	5.22	5.93	5.95	5.81	6.20	4.92	5.87	6.03	5.77	6.00	6.64	7.36	7.32	7.30	7.48	7.52	7.13	8.01	5.22	4.56	4.21	4.98	4.32	4.23	5.85	4.37	5.12	4.33	4.82	5.10	178.93	5.77
Peak Instantaneous - Treated Water	l/s	n/a	128.81	115.94	124.69	119.26	87.18	119.96	110.99	85.44	89.17	86.40	87.17	121.67	129.87	129.40	132.84	131.79	132.19	128.20	137.19	97.66	95.45	82.03	83.73	86.37	84.55	85.78	84.06	88.98	87.22	85.78	83.52	104.62	
BackWash Water	1000 m³	n/a	0.27	0.26	0.29	0.00	0.25	0.28	0.25	0.27	0.25	0.29	0.27	0.26	0.28	0.00	0.19	0.19	0.20	0.26	0.25	0.28	0.27	0.26	0.29	0.27	0.26	0.29	0.27	0.26	0.29	0.259	0.255	7.520	0.243
Fluoride Information																																			
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.70	0.71	0.66	0.59	0.60	0.63	0.65	0.63	0.66	0.64	0.65	0.68	0.62	0.61	0.61	0.62	0.66	0.67	0.67	0.65	0.64	0.65	0.65	0.60	0.59	0.60	0.60	0.62	0.62	0.62	0.61	0.64	
Turbidity Information																																			
Raw Water	NTU	n/a	1.30	1.36	1.36	1.39	1.23	1.37	1.40	1.43	1.46	1.44	1.40	1.11	1.17	1.25	1.21	1.32	1.22	1.29	0.97	1.11	1.08	1.26	1.23	1.33	1.25	1.40	1.34	1.36	1.41	1.53	1.81	1.32	
Settled Water	NTU	n/a	0.10	0.08	0.06	0.08	0.08	0.08	0.12	0.11	0.12	0.11	0.11	0.10	0.11	0.08	0.06	0.10	0.14	0.11	0.16	0.09	0.14	0.16	0.08	0.09	0.09	0.10	0.10	0.10	0.11	0.10	0.11	0.10	
Treated Water	NTU	1	0.06	0.06	0.06	0.08	0.08	0.07	0.08	0.08	0.08	0.09	0.09	0.08	0.09	0.04	0.01	0.09	0.06	0.08	0.11	0.15	0.08	0.11	0.07	0.08	0.08	0.09	0.10	0.09	0.09	0.08	0.08	0.08	
Other Operating Parameters																																			
pH - Treated Water	no units	6.5 to 8.5	6.89	6.90	6.85	6.86	6.92	6.87	6.82	7.01	6.96	7.00	7.01	6.93	6.78	6.85	6.82	6.80	6.85	6.98	7.01	6.89	6.93	6.92	6.99	7.00	7.05	6.99	6.98	7.01	6.97	6.94	7.04	6.93	
pH - Settled water	no units	n/a	6.33	6.31	6.33	6.24	6.28	6.24	6.29	6.33	6.28	6.40	6.38	6.34	6.32	6.44	6.41	6.38	6.48	6.49	6.49	6.32	6.29	6.32	6.20	6.27	6.26	6.24	6.26	6.29	6.32	6.28	6.32	6.33	
pH - Raw Water	no units	n/a	6.85	6.85	6.84	6.75	6.87	6.81	6.80	6.77	6.53	6.26	6.81	6.85	6.64	6.75	6.70	6.60	6.78	6.64	6.82	6.79	6.74	6.82	6.82	6.83	6.83	6.79	6.66	6.72	6.75	6.76	6.80	6.75	
FAC - Treated Water	mg/l	0.2 to 4	2.20	1.80	1.64	2.12	2.50	2.67	2.65	2.60	2.52	2.40	2.36	2.61	2.30	2.64	2.50	2.35	2.51	2.32	2.32	2.29	2.13	2.32	2.33	2.31	2.20	2.51	2.38	2.46	2.34	2.26	2.33	2.35	
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.64	2.13	1.97	2.52	3.03	3.13	2.93	3.00	2.92	2.72	2.66	3.04	2.56	3.03	2.95	2.82	2.87	2.75	2.66	2.61	2.55	2.74	2.68	2.69	2.55	2.93	2.68	2.72	2.66	2.46	2.56	2.71	
Temperature	°C	15	20.0	20.0	21.0	21.0	20.0	20.0	21.0	21.0	22.0	22.0	22.0	22.0	20.0	20.0	20.0	20.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	21.0	22.0	21.0	21.0	22.0	21.3	
Fluoride used (Total Daily Consumption)	kg	n/a	20.0	22.0	19.0	21.0	19.0	20.0	22.0	21.0	21.0	20.0	20.0	20.0	21.0	22.0	22.0	23.0	25.0	28.0	28.0	28.0	27.0	23.0	22.0	21.0	22.0	22.0	21.0	21.0	20.0	20.0	20.0	681.00	
Chlorine used (Total Daily Consumption)	kg	n/a	27.0	27.0	22.0	28.0	30.0	31.0	32.0	32.0	32.0	31.0	32.0	32.0	32.0	32.0	37.0	37.0	38.0	38.0	38.0	40.0	35.0	34.0	33.0	32.0	33.0	36.0	33.0	33.0	34.0	33.0	34.0	33.0	1017.00
Soda Ash (Total Daily Consumption)	kg	n/a	214.6	238.3	213.9	233.8	227.6	230.9	239.4	241.2	240.9	238.3	244.9	246.8	244.6	277.5	288.6	285.6	283.4	291.6	293.4	303.4	289.0	262.7	256.4	246.4	250.9	269.4	253.8	254.6	254.9	250.9	7922.07	255.6	
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	37.0	
Alum residual - (Total Daily Consumption)	kg	n/a	197.2	219.0	196.5	214.9	209.1	212.2	220.0	247.8	247.4	244.7	251.6	253.5	251.2	285.0	296.4	293.4	291.1	299.4	301.3	311.6	296.8	269.8	263.3	253.1	257.6	276.6	260.7	261.4	261.4	261.8	257.6	7963.38	
Alum residual - Dosage	mg/l	n/a	34.0	34.0	34.0	34.0	34.0	34.0	34.0	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	37.1	
Alum residual - Treated Water	mg/l	0.1	0.03	0.01	0.04	0.04	0.02	0.02	0.01	0.05	0.07	0.05	0.05	0.01	0.05	0.04	0.04	0.03	0.04	0.06	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	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						0.5		125.0	

\* MAC - maximum acceptable range

Minimum	Maximum
5.78	8.20
71.11	91.36
4.21	8.01
82.03	137.19

Signature:   
Greg Wiedenhoef (Sep 3, 2021 12:58 CDT)  
Email: gwiedenhoef@fortfrances.ca

Signature:   
Email: cmiller@fortfrances.ca

Signature:   
Email: trob@fortfrances.ca














# WTP July 2021 Report

Final Audit Report

2021-09-03

Created:	2021-09-03
By:	Craig Miller (cmiller@fortfrances.ca)
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