

June 2021

**Monthly Summary Report
Water Systems**

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

Dated: July 12, 2021

1) **Introduction:**

This report contains the major maintenance activities and operational events that occurred during the month of June 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 June 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. Hydrant at 902 Phair Ave.	2. 900 Wright Ave.	3. 1227 Fifth St. E.	4. W. Tower
5. 1227 Fifth St. E.	6. 900 Wright Ave.	7. 505 McIrvine Rd.	8. W. Tower
9. 218 Third St. E.	10. 401 King's Hwy	11. 900 Wright Ave.	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 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 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:

June 01st -Changed Soda Ash transfer pump

June 03rd -Calibrated distribution chlorine analyzer.
- Cleaned top and bottom tanks on poly unit.
- Cleaned all four (4) check valves on poly unit.

June 04th - Calibrated distribution chlorine analyzer.

June 07th - Calibrated distribution chlorine analyzer.
-Calibrated the Fluoride analyzer.

June 08th - Flushed Finished and Settled water sample pump lines.

June 10th - Cleaned top and bottom tanks on poly unit.
- Cleaned all four (4) check valves on poly unit.

June 16th - Installed a new settled water sample pump.

June 17th - Cleaned top and bottom tanks on poly unit.
- Cleaned all four (4) check valves on poly unit.

June 23rd – Took monthly TSS and Total chlorine samples from filter #4
-Took quarterly samples at the Water Tower, WTP and Airport

June 24th - Calibrated fluoride analyzer.
- Calibrated distribution chlorine analyzer.
- Installed a new finished water sample pump.
- Cleaned top and bottom tanks on poly unit.
- Cleaned all four (4) check valves on poly unit.
- Changed the oil, oil filter and air filters on compressor # 1.

June 25th - Took grab samples off the filters.
-Ran the generator for 1 hour.
- Changed the oil and air filters on compressor # 2.

June 29th – Changed the 9 air filters on the Soda Ash blower.

June 30th - Cleaned the Soda Ash feed line.

8) **Water Complaints:**

- Poor Pressure – 0 complaints.
- Water quality – 1 complaint.
- 1218 Third St. E. **Bad Taste and Smell** – Tasted sample taken from customers tap. No problem found. Customer confirmed problem gone. Advised customer to flush tap and call back if problem persisted. Cl2 was 2.04mg/L

9) **Other Miscellaneous Information:**

June 01st - Checked Media depth in filter # 4.
-started chlorine system at the Tower.

June 02nd – Checked Media depth in filter # 1.
-Cleaned Turbidity probe on filter # 1.

June 03rd -first set of bacti samples on Fifth St. E. (800,900,1000 blk.)
-Changed filters on rooftop AC unit.
-Changed chlorine tank.
-seasonal bacti sample at 401 Nelson

June 4th – Received a skid of poly.

June 07th - Routine micro sample collection.

- Second set of bacti samples on Fifth St. E. (800,900,1000 blk.)

June 09th – First set of bacti samples on Fifth St. E. (1000,1100 blk.)

- First set of bacti samples on Second St. E. (800,900 blk.)

June 10th -Second set of bacti samples on Fifth St. E. (1000,1100 blk.)

- Second set of bacti samples on Second St. E. (800,900 blk.)

- First set of bacti samples on Williams Ave. (1000 blk.)

June 14th - Routine micro sample collection.

- Second set of bacti samples on Williams Ave. (1000 blk.)

- First set of bacti samples on McIrvine Rd. (1000 blk.)

- Received 4 chlorine tanks, sent 4 empties back.

June 15th -Second set of bacti samples on McIrvine Rd. (1000 blk.)

June 21st - Routine micro sample collection.

June 28th - Routine micro sample collection.

June 29th – Received a load of Alum.

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
- Travis Rob, P.Eng. Manager of Operations & Facilities: Travis Rob
- Doug Brown, P.Eng. CAO: Doug Brown
- 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
Jun-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	Total	Average
Flow rates																																		
Raw Water	1000 m³	17	4.93	5.16	5.61	5.64	5.55	5.59	5.68	6.36	6.06	6.06	6.06	5.67	6.20	6.37	6.06	6.10	6.12	6.12	5.93	6.05	6.16	5.81	6.10	6.07	6.19	5.95	6.16	6.15	6.42	6.06	178.39	5.95
Peak Instantaneous - Raw Water	l/s	n/a	60.84	60.96	65.74	65.79	65.84	65.89	66.17	70.92	70.78	70.64	70.86	71.49	71.69	71.14	70.99	71.42	71.56	71.47	71.05	70.67	70.81	70.97	71.07	71.15	71.16	71.34	71.47	71.50	71.46	71.33	69.61	
Treated Water	1000 m³	17	3.82	5.12	5.38	5.01	5.11	5.66	5.69	6.34	5.22	4.60	3.92	3.57	4.03	3.95	4.35	5.18	5.51	5.32	4.31	4.25	3.12	3.29	3.65	4.07	4.27	4.42	3.46	4.19	3.65	5.01	135.47	4.52
Peak Instantaneous - Treated Water	l/s	n/a	65.58	108.36	141.82	66.70	119.28	122.21	120.01	125.80	70.82	76.63	66.27	63.87	66.19	63.89	67.17	124.64	127.10	67.34	66.17	64.35	62.90	63.94	63.58	65.95	64.62	66.44	63.82	65.31	63.90	66.64	81.38	
BackWash Water	1000 m³	n/a	0.26	0.28	0.26	0.26	0.28	0.27	0.25	0.00	0.28	0.26	0.26	0.29	0.27	0.26	0.28	0.27	0.25	0.29	0.26	0.26	0.29	0.26	0.25	0.29	0.26	0.26	0.29	0.26	0.26	0.287	7.773	0.259
Fluoride Information																																		
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.67	0.69	0.68	0.69	0.70	0.70	0.60	0.59	0.59	0.60	0.60	0.60	0.63	0.63	0.63	0.63	0.63	0.63	0.64	0.63	0.63	0.60	0.59	0.59	0.59	0.60	0.62	0.62	0.75	0.75		0.64
Turbidity Information																																		
Raw Water	NTU	n/a	1.29	1.24	1.08	1.12	1.14	1.59	1.32	1.47	1.23	1.41	1.34	1.44	1.51	1.54	1.57	1.54	1.60	1.63	1.66	1.57	1.64	1.36	1.51	1.52	1.30	1.35	1.23	1.29	1.50	1.43		1.41
Settled Water	NTU	n/a	0.13	0.11	0.11	0.19	0.12	0.10	0.10	0.10	0.06	0.05	0.09	0.15	0.07	0.14	0.13	0.12	0.11	0.10	0.11	0.11	0.10	0.10	0.06	0.09	0.10	0.11	0.09	0.14	0.12	0.13		0.11
Treated Water	NTU	1	0.01	0.08	0.07	0.06	0.07	0.10	0.09	0.10	0.07	0.05	0.03	0.06	0.05	0.06	0.06	0.09	0.09	0.08	0.09	0.09	0.10	0.02	0.05	0.03	0.07	0.07	0.08	0.08	0.08	0.07		0.07
Other Operating Parameters																																		
pH - Treated Water	no units	6.5 to 8.5	7.13	7.12	7.02	7.02	7.14	7	7.01	6.76	6.90	6.89	6.87	6.87	6.89	6.89	7.11	6.88	7.05	6.91	6.98	6.97	6.91	6.97	7.02	6.99	7.01	6.99	7.00	7.00	6.89	6.90		6.97
pH - Settled water	no units	n/a	6.44	6.33	6.42	6.50	6.53	6.48	6.45	6.41	6.33	6.39	6.38	6.35	6.40	6.46	6.48	6.46	6.50	6.39	6.41	6.39	6.33	6.55	6.58	6.60	6.48	6.36	6.49	6.54	6.33	6.34		6.44
pH - Raw Water	no units	n/a	7.12	6.97	6.92	7.01	7.12	6.96	6.99	6.86	6.76	6.84	6.87	6.84	6.84	6.78	6.81	6.82	6.77	6.85	6.91	6.89	6.85	6.82	6.78	6.74	6.98	6.99	6.77	6.97	6.84	6.81		6.88
FAC - Treated Water	mg/l	0.2 to 4	2.01	2.05	2.27	1.71	2.10	2.24	2.41	2.47	2.41	2.25	2.11	2.03	2.03	2.01	2.15	2.35	2.24	2.28	2.22	2.26	2.31	2.30	2.27	2.31	2.21	2.05	2.04	2.10	2.10	2.29		2.19
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.33	2.34	2.57	2.01	2.48	2.59	2.73	2.68	2.79	2.69	2.49	2.45	2.39	2.46	2.40	2.69	2.56	2.65	2.62	2.66	2.60	2.71	2.67	2.69	2.53	2.56	2.42	2.45	2.53	2.55		2.54
Temperature	°C	15	15.0	15.0	15.0	16.0	16.0	17.00	18.0	18.0	18.0	18.0	18.0	18.0	19.0	19.0	19.0	20.0	20.0	20.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	19.0	19.0	19.0	20.0		18.0	
Fluoride used (Total Daily Consumption)	kg	n/a	15.0	15.0	17.0	16.0	18.0	19.00	20.0	22.0	21.0	21.0	20.0	19.0	20.0	20.0	19.0	19.0	19.0	19.0	17.0	19.0	18.0	18.0	18.0	17.0	19.0	19.0	22.0	22.0	22.0	22.0	572.00	19.1
Chlorine used (Total Daily Consumption)	kg	n/a	20.0	21.0	23.0	22.0	25.00	26.0	27.0	31.0	28.0	29.0	29.0	27.0	31.0	30.0	29.0	30.0	29.0	29.0	28.0	29.0	30.0	28.0	29.0	29.0	29.0	28.0	29.0	30.0	30.0	29.0	834.00	27.8
Soda Ash (Total Daily Consumption)	kg	n/a	182.4	190.9	207.6	208.7	205.4	206.8	210.2	235.3	224.2	224.2	224.2	209.8	229.4	235.7	224.2	225.7	226.4	226.4	219.4	223.9	227.9	215.0	225.7	224.6	229.0	220.2	227.9	227.6	237.5	224.2	6600.43	220.0
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	
Alum residual - (Total Daily Consumption)	kg	n/a	167.6	175.4	190.7	191.8	188.7	190.1	193.1	216.2	206.0	206.0	206.0	192.8	210.8	216.6	206.0	207.4	208.1	208.1	201.6	205.7	209.4	197.5	207.4	206.4	210.5	202.3	209.4	209.1	218.3	206.0	6065.26	202.2
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	
Alum residual - Treated Water	mg/l	0.1	0.03	0.04	0.09	0.09	0.02	0.04	0.02	0.02	0.03	0.03	0.03	0.04	0.01	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.05	0.05	0.03	0.05	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				0.5		87.5	

* MAC - maximum acceptable range

Minimum	Maximum
4.93	6.42
60.84	71.69
3.12	6.34
62.90	141.82

Flow Data JUNE	Units	2019		2020		2021	
Total Raw Water	m ³		160760		155620		178390
Raw Maximum Day	m ³		6200		5280		6420
Raw Minimum Day	m ³		4890		4720		4930
Raw Average Daily Consumption	m ³		5190		5020		5950
Total Treated Water	m ³		115440		108720		135470
Treated Water Maximim Day Consumption	m ³		4850		4240		6340
Treated Water Minimim Day Consumption	m ³		2810		3040		3120
Treated Water Average Day Consumption	m ³		3710		3520		4520
Daily Average Per Household Consumption Rate	m ³		0.981		0.930		1.195
* Daily Average Per Person Consumption Rate	m ³		0.465		0.441		0.566
Monthly Averages - Operating Parameters WTP:							
FAC Residual - Treated Water	mg/L		2.24		2.12		2.19
Total Chlorine Residual - Treated Water	mg/L		2.46		2.35		2.54
Aluminum Sulphate - Raw Water	mg/L		35.0		35.0		34.0
Aluminum Sulphate - Treated Water Residual	mg/L		0.03		0.07		0.03
Fluoride - Treated Water	mg/L		0.62		0.75		0.64
Soda Ash - Raw Water	mg/L		35.0		35.0		37.0
pH - Adjusted	mg/L		7.19		6.98		6.97
Temperature	°C		2.0		2.0		18.0
Quantity of Chemical Used:							
Aluminum Sulphate	kg		5626.6		5446.7		6065.26
Polyelectrolyte	kg		75		62.5		87.5
Chlorine Gas	kg		621		617		834
Soda Ash - Used for pH Adjustment	kg		5626.6		5446.7		6600.43
Fluoride	kg		581		693		572

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

* Population is 7986

* Number of Households is 3783

Signature: 
Greg Wiedenhoef (Jul 28, 2021 13:40 CDT)

Email: gwiedenhoef@fortfrances.ca

Signature: 

Email: trob@fortfrances.ca

Signature: 

Email: cmiller@fortfrances.ca

Signature: 
Doug Brown (Jul 30, 2021 09:50 CDT)

Email: dbrown@fortfrances.ca












June 2021 WTP Report

Final Audit Report

2021-07-30

Created:	2021-07-28
By:	Craig Miller (cmiller@fortfrances.ca)
Status:	Signed
Transaction ID:	CBJCHBCAABAAXr-oJchMQVmTLpCJjDQK8fxaSq_O7Re

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