

**November 2021**

**Monthly Summary Report  
Water Systems**

**Prepared by: Greg Wiedenhoeft  
Overall Responsible Operator**

**Dated: December 02, 2021**

## 1) **Introduction:**

This report contains the major maintenance activities and operational events that occurred during the month of November 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 November Usage	6.30 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. 943 Third St. E.	2. 1309 Kings Hwy.	3. 900 Wright Ave.	4. W. Tower
5. 943 Third St. E.	6. 715 Colonization Rd. E.	7. 740 Sixth St. W.	8. W. Tower
9. 218 Third St. E.	10. 601 Reid Ave.	11. 900 Wright Ave.	12. W. Tower
13. 401 Kings Hwy.	14. 835 McKenzie Ave.	15. 900 Wright Ave.	16. W. Tower
17. 715 Colonization Rd. E.	18. 601 Reid Ave.	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 September 21, 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:**

Nov. 2<sup>nd</sup> – Received a load of Soda Ash.

- Boiler and Generator inspection.
- Calibrated distribution chlorine analyzer.

Nov. 3<sup>rd</sup> – Replaced actuator and valve positioner on filter #3

Nov. 4<sup>th</sup> - Cleaned top and bottom tanks on poly unit.

- Cleaned all 4 check valves on the poly unit.
- Flushed settled sample pump water line.

Nov. 8<sup>th</sup> – Enbridge replaced the gas meter at the water tower.

Nov. 9<sup>th</sup> – Enbridge replaced the gas meter at the W.T.P.

Nov. 10<sup>th</sup> – Pryde's at the W.T.P. to reset boiler.

Nov. 11<sup>th</sup> - Calibrated distribution chlorine analyzer.

Nov. 12<sup>th</sup> -Cleaned top and bottom tanks on poly unit.

- Cleaned all 4 check valves on the poly unit.

Nov. 15<sup>th</sup> – Changed out cl2 tonner.

Nov. 16<sup>th</sup> - Calibrated distribution chlorine analyzer.

Nov. 17<sup>th</sup> – Cannect Electric, Eaton, MGM at the W.T.P. for the M.C.C. Infrascan.

Nov. 18<sup>th</sup> - Cleaned top and bottom tanks on poly unit.  
- Cleaned all 4 check valves on the poly unit.

Nov. 19<sup>th</sup> – Flushed and cleaned poly lines to the Clarifiers.

Nov. 22<sup>nd</sup> – Calibrated the Fluoride analyzer.  
- Changed all door locks at the W.T.P. and water Tower.

Nov. 24<sup>th</sup> – Flushed and cleaned Alum line.  
- Greased clarifier chains on # 1 & 2.

Nov. 25<sup>th</sup> – Flushed poly line on clarifier # 1.  
- Cleaned top and bottom tanks on poly unit.  
- Cleaned all 4 check valves on the poly unit.

Nov. 26<sup>th</sup> – Cleaned Clarifier # 1 & 2 launders.  
-Cleaned filters main water trough.

Nov. 29<sup>th</sup> – Ran generator for 1 hour.  
- Took grab samples off the filters.

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

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

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

Nov. 1<sup>st</sup> - Routine micro samples collection.

Nov. 8<sup>th</sup> - Routine micro samples collection.

Nov. 15<sup>th</sup> - Routine micro samples collection.

Nov. 23<sup>rd</sup> – Took monthly T.S.S. and Cl<sub>2</sub> samples on Filter #3.

Nov. 29<sup>th</sup> - Routine micro sample collection.

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 Greg Wiedenhoeft, Overall Responsible Operator, at 807-274-2325.

Flow Data November	Units	2019	2020	2021
Total Raw Water	m <sup>3</sup>	149020	152030	152510
Raw Maximum Day	m <sup>3</sup>	5170	5350	5460
Raw Minimum Day	m <sup>3</sup>	4780	4770	4870
Raw Average Daily Consumption	m <sup>3</sup>	4970	5070	5080
Total Treated Water	m <sup>3</sup>	92820	98680	93590
Treated Water Maximim Day Consumption	m <sup>3</sup>	3410	3550	3580
Treated Water Minimim Day Consumption	m <sup>3</sup>	2650	2710	2770
Treated Water Average Day Consumption	m <sup>3</sup>	3090	3290	3120
Daily Average Per Household Consumption Rate	m <sup>3</sup>	0.817	0.870	0.825
* Daily Average Per Person Consumption Rate	m <sup>3</sup>	0.387	0.412	0.391
Monthly Averages - Operating Parameters WTP:				
FAC Residual - Treated Water	mg/L	2.34	2.4	2.26
Total Chlorine Residual - Treated Water	mg/L	2.67	2.67	2.55
Aluminum Sulphate - Raw Water	mg/L	35	34	37.0
Aluminum Sulphate - Treated Water Residual	mg/L	0.06	0.05	0.04
Fluoride - Treated Water	mg/L	0.72	0.66	0.53
Soda Ash - Raw Water	mg/L	35	37	37.5
pH - Adjusted	mg/L	7.41	7.28	7.2
Temperature	°C	3.3	4	6.4
Quantity of Chemical Used:				
Aluminum Sulphate	kg	5215.7	5169	5642.87
Polyelectrolyte	kg	50	62.5	87.5
Chlorine Gas	kg	671	635	574
Soda Ash - Used for pH Adjustment	kg	5215.7	5625.2	5711.78
Fluoride	kg	679	601	511

\* 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  
Nov-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	5.26	5.46	5.10	5.08	5.06	4.93	5.30	5.18	5.07	5.06	4.96	5.20	4.99	5.04	5.14	4.87	5.01	5.02	5.11	4.92	5.03	5.16	5.29	5.05	5.05	5.08	4.88	5.25	4.93	5.03	152.51	5.08
Peak Instantaneous - Raw Water	l/s	n/a	60.47	60.44	60.43	69.36	64.91	59.34	59.29	59.31	59.23	59.18	59.22	59.26	59.25	59.16	59.07	59.08	59.06	58.96	59.01	58.98	58.96	58.89	58.97	58.93	58.88	58.88	59.01	58.97	58.98	59.00		59.75
Treated Water	1000 m³	17	3.39	3.17	2.81	3.29	2.77	3.10	2.98	3.45	2.84	3.33	2.77	3.31	2.95	2.95	3.31	2.94	2.90	3.32	2.96	2.79	3.33	2.91	3.58	3.03	3.37	3.10	3.02	3.44	3.46	3.02	93.59	3.12
Peak Instantaneous - Treated Water	l/s	n/a	63.60	61.52	62.28	61.40	64.33	61.71	62.90	62.30	63.46	62.94	62.97	61.18	61.29	63.15	62.22	61.99	61.57	62.61	61.47	62.34	63.12	62.28	62.36	61.74	62.57	62.40	62.98	62.90	62.28	62.24		62.40
BackWash Water	1000 m³	n/a	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	0.26	0.25	0.28	0.26	0.25	0.28	0.26	0.25	0.28	0.26	0.253	7.957	0.265
Fluoride Information																																		
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.56	0.57	0.55	0.55	0.66	0.55	0.56	0.56	0.56	0.58	0.56	0.56	0.53	0.53	0.53	0.52	0.51	0.51	0.50	0.50	0.50	0.51	0.52	0.50	0.50	0.51	0.51	0.50	0.50	0.50		0.53
Turbidity Information																																		
Raw Water	NTU	n/a	1.65	1.67	1.65	1.83	1.55	1.47	1.42	1.44	1.48	1.51	1.47	1.55	1.48	1.47	1.66	1.71	1.93	1.65	1.66	1.49	1.47	1.28	1.64	1.49	1.79	1.24	1.33	1.23	1.26	1.30		1.53
Settled Water	NTU	n/a	0.08	0.09	0.10	0.11	0.11	0.13	0.11	0.14	0.12	0.11	0.11	0.10	0.11	0.12	0.11	0.09	0.12	0.11	0.11	0.14	0.10	0.07	0.09	0.13	0.12	0.13	0.12	0.12	0.12	0.10		0.11
Treated Water	NTU	1	0.05	0.08	0.08	0.10	0.07	0.08	0.08	0.09	0.09	0.07	0.07	0.06	0.06	0.07	0.07	0.05	0.03	0.07	0.01	0.01	0.08	0.01	0.07	0.08	0.10	0.07	0.10	0.07	0.08	0.08		0.07
Other Operating Parameters																																		
pH - Treated Water	no units	6.5 to 8.5	7.36	7.43	7.35	7.16	7.33	7.31	7.25	7.27	7.25	7.28	7.29	7.27	7.21	7.33	7.16	7.13	7.13	7.10	7.14	7.11	7.16	7.14	7.14	7.11	7.05	7.11	7.12	7.09	7.10	7.13		7.20
pH - Settled water	no units	n/a	6.30	6.40	6.40	6.39	6.47	6.41	6.44	6.32	6.41	6.34	6.45	6.42	6.47	6.58	6.55	6.46	6.37	6.36	6.39	6.42	6.44	6.51	6.51	6.40	6.43	6.30	6.33	6.43	6.35	6.54		6.42
pH - Raw Water	no units	n/a	7.05	7.12	7.14	7.07	7.07	7.02	7.05	6.98	7.01	6.96	7.01	7.00	6.97	6.87	6.96	7.01	7.08	7.07	7.10	7.07	7.12	7.09	7.06	6.97	6.97	6.93	6.97	6.96	6.99	6.96		7.02
FAC - Treated Water	mg/l	0.2 to 4	2.42	2.40	2.27	2.40	2.24	2.28	2.18	2.35	2.28	2.33	2.36	2.40	2.42	2.30	2.36	2.03	2.08	2.13	2.09	2.14	2.26	2.18	2.11	2.20	2.22	2.16	2.45	2.35	2.32	2.16		2.26
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.86	2.86	2.66	2.65	2.53	2.46	2.43	2.56	2.56	2.64	2.60	2.64	2.58	2.66	2.62	2.29	2.29	2.39	2.44	2.28	2.42	2.48	2.46	2.57	2.53	2.47	2.85	2.58	2.70	2.51		2.55
Temperature	°C	15	10.0	10.0	10.0	9.0	9.0	9.0	9.0	9.0	9.0	8.0	8.0	7.0	7.0	7.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0		6.4
Fluoride used (Total Daily Consumption)	kg	n/a	15.0	16.0	17.0	17.0	18.0	17.0	18.0	17.0	17.0	17.0	17.0	17.0	17.0	16.0	17.0	17.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	17.0	17.0	19.0	21.0	20.0	19.0	511.00	17.0
Chlorine used (Total Daily Consumption)	kg	n/a	22.0	23.0	21.0	20.0	20.0	19.0	21.0	20.0	20.0	20.0	19.0	21.0	19.0	20.0	20.0	16.0	17.0	17.0	19.0	17.0	18.0	19.0	19.0	18.0	18.0	19.0	17.0	19.0	18.0	18.0	574.00	19.1
Soda Ash (Total Daily Consumption)	kg	n/a	178.8	185.6	173.4	172.7	192.3	187.3	201.4	196.8	192.7	192.3	188.5	197.6	189.6	191.5	195.3	185.1	190.4	190.8	194.2	187.0	191.1	196.1	201.0	191.9	191.9	193.0	185.4	199.5	187.3	191.1	5711.78	190.4
Soda Ash - Dosage	mg/l	n/a	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	38.0	38.0		37.5
Alum residual - (Total Daily Consumption)	kg	n/a	194.6	202.0	188.7	188.0	187.2	182.4	196.1	191.7	187.6	187.2	183.5	192.4	184.6	186.5	190.2	180.2	185.4	185.7	189.1	182.0	186.1	190.9	195.7	186.9	186.9	188.0	180.6	194.3	182.4	186.1	5642.87	188.1
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	0.04	0.03	0.04	0.06	0.03	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.02	0.02	0.03	0.04	0.05	0.06	0.04	0.01	0.04	0.05	0.03	0.04	0.07	0.03	0.04	0.05	0.02	0.04		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			87.5

\* MAC - maximum acceptable range

Signature: Greg Wiedenhoef  
Greg Wiedenhoef (Feb 3, 2022 15:29 CST)

Email: gwiedenhoef@fortfrances.ca

Signature: Carly Miller

Email: cmiller@fortfrances.ca

Signature: Travis B.

Email: trob@fortfrances.ca

Minimum	Maximum
4.87	5.46
58.88	69.36
2.77	3.58
61.18	64.33












# WTP November 2021 Report Complete

Final Audit Report

2022-02-03

Created:	2022-02-03
By:	Craig Miller (cmiller@fortfrances.ca)
Status:	Signed
Transaction ID:	CBJCHBCAABAAgFlx91PPDOJQK-YgVLBeEhwifQz5k1Bs

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