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TOWN OF FORT FRANCES

July 15, 2013

Report To: Mayor & Council

From: Doug Brown, Manager of Operations & Facilities

**SUBJECT: June 2013 Drinking Water Systems Monthly Summary Report**

Please find attached the June 2013 Summary Report on the drinking water systems, prepared by Randy White, Senior WTP Operator.

Your Administration recommends that Operations & Facilities Executive Committee accept the June 2013 report as presented.

Respectfully submitted,
Operations & Facilities Division

Doug Brown

Doug Brown, P. Eng.
Manager of Operations & Facilities

**Council approval of this report will** accept the June 2013 Drinking Water Systems Monthly Summary Report and approve the report prior to it being made available to the general public.

c.c. – Doug Herr, Environmental & Facilities Supt.
Randy White, Senior WTP Operator

06 Council Water Report June 2013.doc

# June, 2013

# Monthly Summary Report
# Water Systems

**Prepared by: Randy White, ORO**
**Senior Water Treatment Plant Operator**

**Dated: July 11, 2013**

1) **Introduction -**

This report contains the major maintenance activities and operational events that occurred during the month of May 2013 at the Water Treatment Plant - Water Works # 220000978 and the Airport Groundwater Well Water Works # 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.

2) **Flow Data**

Water Treatment Plant: See attached spreadsheet. No flow data for Airport groundwater well.

3) **Microbiological (Health Related) Water Analysis– Main Water System #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.

4) **Microbiological (Health Related) Water Analysis– Airport Groundwater Well # 26002736**

No samples taken.

The Airport has signs posted in the men's and women's washroom stating that the water has not been tested or treated for drinking purposes in accordance with the Health Protection and Promotion Act – Section 7 of the Small Drinking Water Systems Regulation, O. Reg. 318/08 (*Amended to Safe Drinking Water Act, 2002 - Section 6 of Ontario Regulation 252/05)*. The operators do a visual inspection of the warning notices at a minimum of once per week to ensure that they are legible and comply with Ontario Regulation 318/08, Section 7(5).

5) **Free Available Chlorine Residual (FAC) – Main Water System – #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 # 26002736**

Signs posted, exempt from testing.

7) **Maintenance Activities at the WTP**

June 4 - flushed the poly lines to the clarifiers

June 5 - received a load of liquid alum

June 6 - cleaned top and bottom tanks on the poly unit
- cleaned all 4 check valves on the poly unit

June 11 - distribution chlorine analyzers calibration check

June 12 - distribution chlorine analyzers calibration check

June 19 - shut down plant, cleaned inline mixer

June 25 - flushed poly lines to the clarifiers
- unloaded shipment of chlorine
- installed new soda ash pump
- cleaned soda ash line from pump to chlorine chamber

June 27 - cleaned top and bottom tanks on the poly unit
- cleaned all 4 check valves on the poly unit

8) **Water Complaints –**

- Poor Pressure – 0 complaint.

- Water quality – 6 complaints.

  821 Williams Avenue – heavy chlorine smell in water – caused streaking to towels after washing.

703 Nelson Street – receiving "black" water – let cold water tap run and problem cleared up.

116 First Street East – water from taps and toilets is brown – flushed hydrant at First Street East and Central.

427 Mowat Avenue – water from taps is clear but in women's bathroom it is brown – flushed hydrant at First Street East and Central.

317 Butler Avenue – really dark thick browny coloured water from taps and toilet – flushed hydrant and had customer run cold water.

308 Butler Avenue – brown water from all taps and toilets – day care centre so they need clear water for lunch preparation – town will move to another location to flush hydrants and turn valves.

9) **Other Miscellaneous Information:**

June 3 - routine micro sample collection

June 5 - received a load of liquid alum

June 6 - water service repair samples – 308 Kerr Place – 1st set

June 10 - routine micro sample collection
- water service repair samples – 308 Kerr Place – 2nd set

June 17 - routine micro sample collection

June 19 - micro samples taken at Sunny Cove
- valve replacement samples – Scott and Armit – 1st set

June 24 - valve replacement samples – Scott and Armit – 2nd set
- routine micro sample collection
- seasonal water samples Lion's Park and Legion Park
- temporary main samples – 1st set (Wagner Construction)

June 25 - temporary main samples – 2nd set (Wagner Construction)

June 26 - hydrant and valve replacement samples – Holmes Avenue at Thompson Street ( in front of 654 Thompson Street) – 1st set

June 27 - hydrant valve replacement samples – Holmes Avenue at Thompson Street (in front of 654 Thompson Street) – 2nd 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:

- Randy White, ORO, Senior WTP Operator: _____ for Randy White
- Doug Herr, Environmental & Facilities Supt.: _____
- Doug Brown, Manager of Operations & Facilities: Doug Brown
- Mark McCaig, CAO: _____
- Rick Wiedenhoeft, Chair O& F Exec Committee: _____
- Roy Avis, Mayor: _____
- Paul Ryan, Councillor: _____
- John Albanese, Councillor: _____
- Andrew Hallikas, Councillor: _____
- Doug Kitowski, Councillor: _____
- Ken Perry, Councillor: Ken Perry

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 Randy White, Senior WTP Operator at 274-2325.

Town of Fort Frances - WTP - 220000978
June 2011/2012 vs. June 2013
Flow and Operating Data

| Flow Data JUNE | Units | 2011 | | 2012 | | 2013 | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | Day of the Month | | Day of the Month | | Day of the Month | |
| | | | | | | | |
| Total Raw Water | m^3 | | 168080 | | 174480 | | 144280 |
| Raw Maximum Day | m^3 | Thursday 23rd | 6780 | Friday 29th | 7830 | Friday 26th | 5590 |
| Raw Minimum Day | m^3 | Monday 13th | 4130 | Friday 01st | 5060 | Monday10th | 3970 |
| Raw Avgerage Daily Consumption | m^3 | | 5600 | | 5820 | | 4810 |
| | | | | | | | |
| Total Treated Water | m^3 | | 135140 | | 141540 | | 119730 |
| Treated Water Maximim Day Consumption | m^3 | Thursday 23rd | 6350 | Friday 29th | 6530 | Friday 26th | 5730 |
| Treated Water Minimim Day Consumption | m^3 | Sunday 19th | 3780 | Friday 01st | 3550 | Monday10th | 3230 |
| Treated Water Average Day Consumption | m^3 | | 4500 | | 4720 | | 3990 |
| Daily Average Per Household Consumption Rate | m^3 | | 1.190 | | 1.248 | | 1.055 |
| * Daily Average Per Person Consumption Rate | m^3 | | 0.563 | | 0.591 | | 0.500 |
| | | | | | | | |
| | | | | | | | |
| Monthly Averages - Operating Parameters WTP: | | | | | | | |
| FAC Residual - Treated Water | mg/L | | 1.88 | | 1.96 | | 1.72 |
| Total Chlorine Residual - Treated Water | mg/L | | 2.17 | | 2.18 | | 2.03 |
| Aluminum Sulphate - Raw Water | mg/L | | 34.5 | | 34.0 | | 34.0 |
| Aluminum Sulphate - Treated Water Residual | mg/L | | 0.06 | | 0.05 | | 0.06 |
| Fluoride - Treated Water | mg/L | | 0.58 | | 0.63 | | 0.57 |
| Soda Ash - Raw Water | mg/L | | 34 | | 34.0 | | 34.0 |
| PH - Adjusted | mg/L | | 7.22 | | 7.23 | | 7.17 |
| Temperature | C | | 16 | | 17.5 | | 15.8 |
| | | | | | | | |
| Quantity of Chemical Used: | kg | | | | | | |
| Aluminum Sulphate | kg | | 5831.5 | | 5932.3 | | 4905.5 |
| Polyelectrolyte | kg | | 50 | | 50.0 | | 62.5 |
| Chlorine Gas | kg | | 689 | | 722.0 | | 545.0 |
| Soda Ash - Used for PH Adjustment | kg | | 5747 | | 5932.3 | | 4905.5 |
| Fluoride | kg | | 452 | | 400.0 | | 327.0 |

* The Canadian Average is 450 Litres (0.45 m^3) per day.
* Population is 7986
* Number of Households is 3783

Town of Fort Frances - Water treatment Plant - Water Works # 220000978
Monitoring Record
June 2013

| 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 | 10^3 M^3 | 17 | 4.61 | 4.10 | 4.12 | 4.20 | 4.26 | 4.27 | 4.28 | 4.26 | 4.38 | 3.97 | 4.31 | 4.33 | 4.35 | 5.04 | 5.20 | 5.20 | 5.25 | 5.27 | 5.23 | 4.96 | 5.30 | 5.30 | 5.35 | 5.08 | 5.17 | 5.59 | 5.3 | 5.3 | 5.0 | 5.3 | 144.28 | 4.81 |
| Peak Instantaneous -Raw Water | L/s | n/a | 49.79 | 49.74 | 49.64 | 49.61 | 49.72 | 49.72 | 49.79 | 49.84 | 49.80 | 49.72 | 49.67 | 50.97 | 50.82 | 61.07 | 61.16 | 61.07 | 61.04 | 61.12 | 61.23 | **72.47** | 61.53 | 61.45 | 61.40 | 61.28 | 72.16 | 70.86 | 61.09 | 61.38 | 61.18 | 61.02 | 1721.34 | 57.38 |
| Treated Water | 10^3 M^3 | 17 | 3.86 | 3.25 | 3.76 | 4.49 | 3.49 | 3.96 | 3.99 | 3.48 | 4.10 | 3.23 | 3.97 | 3.78 | 4.14 | 4.35 | 4.11 | 4.01 | 3.66 | 3.66 | 4.30 | 4.01 | 3.71 | 3.78 | 3.64 | 3.86 | 4.77 | 5.73 | 3.89 | 4.99 | 3.55 | 4.21 | 119.73 | 3.99 |
| Peak Instantaneous - Treated Water | L/s | n/a | 62.45 | 60.85 | 60.81 | 66.35 | 62.88 | 63.75 | 64.44 | 60.99 | 60.90 | 59.97 | 61.89 | 72.65 | 64.74 | 65.15 | 64.25 | 61.53 | 64.25 | 61.86 | 64.65 | 61.95 | 69.61 | 61.55 | 61.59 | 61.36 | **122.38** | 80.28 | 62.13 | 81.37 | 62.44 | 62.97 | 1991.99 | 66.40 |
| BackWash Water | 10^3 M^3 | n/a | 0.215 | 0.228 | 0.214 | 0.214 | | 0.228 | 0.223 | 0.442 | 0.233 | 0.218 | 0.226 | 0.234 | 0.216 | 0.220 | 0.221 | 0.219 | 0.217 | 0.211 | 0.219 | 0.219 | 0.426 | 0.211 | 0.207 | 0.218 | 0.215 | 0.208 | 0.215 | 0.215 | 0.204 | 0.206 | 6.742 | 0.232 |
| **Fluoride Information** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fluoride Residual - Treated Water | mg/l | 0.5 to 0.8 | 0.65 | 0.67 | 0.65 | 0.51 | 0.50 | 0.52 | 0.54 | 0.50 | 0.54 | 0.51 | 0.60 | 0.61 | 0.60 | 0.60 | 0.59 | 0.61 | 0.63 | 0.62 | 0.61 | 0.55 | 0.52 | 0.55 | 0.60 | 0.61 | 0.51 | 0.51 | 0.52 | 0.54 | 0.51 | 0.55 | 17.03 | 0.57 |
| **Turbidity Information** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Raw Water | NTU | n/a | 1.10 | 1.15 | 1.39 | 1.16 | 1.25 | 1.27 | 1.28 | 1.23 | 1.10 | 1.21 | 1.31 | 1.28 | 1.41 | 1.23 | 1.19 | 1.26 | 1.31 | 1.43 | 1.50 | 1.45 | 1.35 | 1.32 | 1.37 | 1.35 | 1.38 | 1.21 | 1.47 | 1.54 | 1.17 | 1.15 | 38.82 | 1.29 |
| Settled Water | NTU | n/a | 0.09 | 0.07 | 0.09 | 0.13 | 0.14 | 0.12 | 0.09 | 0.08 | 0.10 | 0.09 | 0.08 | 0.07 | 0.09 | 0.07 | 0.07 | 0.08 | 0.09 | 0.09 | 0.07 | 0.11 | 0.09 | 0.08 | 0.06 | 0.06 | 0.06 | 0.12 | 0.06 | 0.09 | 0.14 | 0.09 | 2.67 | 0.09 |
| Treated Water | NTU | 1 | 0.06 | 0.04 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.07 | 0.06 | 0.06 | 0.05 | 0.06 | 0.05 | 0.04 | 0.05 | 0.06 | 0.07 | 0.06 | 0.09 | 0.07 | 0.06 | 0.05 | 0.03 | 0.06 | 0.06 | 0.05 | 0.06 | 0.06 | 0.05 | 1.73 | 0.06 |
| **Other Operating Parameters** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| pH - Treated Water | no units | 6.5 to 8.5 | 7.12 | 7.15 | 7.10 | 7.30 | 7.24 | 7.25 | 7.26 | 7.21 | 7.21 | 7.25 | 7.22 | 7.26 | 7.29 | 7.16 | 7.18 | 7.12 | 7.15 | 7.12 | 7.09 | 6.83 | 6.99 | 7.12 | 7.15 | 7.19 | 7.30 | 7.25 | 7.11 | 7.12 | 7.13 | 7.17 | 215.04 | 7.17 |
| pH - Settled water | no units | n/a | 6.05 | 6.10 | 6.00 | 6.06 | 6.18 | 6.09 | 6.29 | 6.41 | 6.13 | 6.21 | 6.19 | 6.14 | 6.16 | 6.19 | 6.20 | 6.24 | 6.09 | 6.01 | 6.10 | 6.29 | 6.15 | 6.22 | 6.15 | 6.09 | 6.30 | 6.09 | 6.05 | 6.27 | 6.15 | 6.09 | 184.69 | 6.16 |
| pH - Raw Water | no units | n/a | 7.15 | 7.21 | 7.12 | 7.11 | 7.07 | 7.08 | 7.08 | 6.99 | 6.99 | 7.05 | 7.08 | 7.02 | 7.00 | 7.07 | 7.04 | 7.01 | 7.10 | 7.12 | 7.15 | 7.02 | 7.00 | 7.10 | 7.05 | 7.01 | 7.29 | 7.13 | 6.91 | 7.00 | 7.03 | 7.08 | 212.06 | 7.07 |
| FAC - Treated Water | mg/l | 0.2 to 4 | 2.00 | 1.94 | 1.85 | 1.45 | 1.34 | 1.43 | 1.44 | 1.54 | 1.54 | 1.58 | 1.60 | 1.61 | 1.63 | 1.81 | 1.86 | 1.80 | 1.81 | 1.83 | 1.90 | 1.80 | 1.83 | 1.91 | 1.85 | 1.89 | 1.81 | 1.90 | 1.71 | 1.71 | 1.60 | 1.71 | 51.68 | 1.72 |
| Total Chlorine Residual Treated | mg/l | 0.3 to 7 | 2.20 | 2.05 | 1.99 | 1.82 | 1.69 | 1.80 | 1.86 | 1.96 | 1.92 | 1.92 | 1.99 | 1.94 | 1.99 | 2.15 | 2.17 | 2.11 | 2.15 | 2.17 | 2.20 | 2.00 | 2.01 | 2.17 | 2.15 | 2.01 | 2.21 | 2.30 | 2.06 | 2.05 | 1.95 | 2.01 | 61.00 | 2.03 |
| Temperature | C | 15 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 13.00 | 13.0 | 13.0 | 14.0 | 15.0 | 14.0 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 15.0 | 17.0 | 17.0 | 17.0 | 18.0 | 19.0 | 19.0 | 18.0 | 18.0 | 18.0 | 19.0 | 19.0 | 19.0 | 20.0 | 473.0 | 15.8 |
| Fluoride used (Total Daily Consumption) | kg | n/a | 10.0 | 8.0 | 9.0 | 8.0 | 11.0 | 10.00 | 11.0 | 10.0 | 11.0 | 10.0 | 10.0 | 11.0 | 10.0 | 12.0 | 12.0 | 12.0 | 11.0 | 12.0 | 12.0 | 13.0 | 12.0 | 12.0 | 12.0 | 11.0 | 11.0 | 11.0 | 12.0 | 11.0 | 11.0 | 11.0 | 327.0 | 10.9 |
| Chlorine used (Total Daily Consumption) | kg | n/a | 15.0 | 14.0 | 15.0 | 14.0 | 14.00 | 15.0 | 15.0 | 15.0 | 16.0 | 15.0 | 15.0 | 16.0 | 16.0 | 20.0 | 19.0 | 21.0 | 21.0 | 21.0 | 20.0 | 20.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 20.0 | 22.0 | 21.0 | 19.0 | 21.0 | 545.0 | 18.1 |
| Soda ash (Total Daily Consumption) | kg | n/a | 156.7 | 139.4 | 140.1 | 142.8 | 144.8 | 145.2 | 145.5 | 144.8 | 148.9 | 135.0 | 146.5 | 147.2 | 147.9 | 171.4 | 176.8 | 176.8 | 178.5 | 179.2 | 177.8 | 168.6 | 180.2 | 180.2 | 181.9 | 172.7 | 175.8 | 190.1 | 181.6 | 178.8 | 170.7 | 179.5 | 4905.5 | 163.0 |
| Soda Ash - 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 | 1020.0 | 34.0 |
| Alum residual - (Total Daily Consumption) | kg | n/a | 156.7 | 139.4 | 140.1 | 142.8 | 144.8 | 145.2 | 145.5 | 144.8 | 148.9 | 135.0 | 146.5 | 147.2 | 147.9 | 171.4 | 176.8 | 176.8 | 178.5 | 179.2 | 177.8 | 168.6 | 180.2 | 180.2 | 181.9 | 172.7 | 175.8 | 190.1 | 181.6 | 178.8 | 170.7 | 179.5 | 4905.5 | 163.0 |
| 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 | 1020.0 | 34.0 |
| Alum residual - Treated Water | mg/l | 0.1 | 0.06 | 0.08 | 0.06 | 0.06 | 0.06 | 0.07 | 0.06 | 0.05 | 0.09 | 0.06 | 0.07 | 0.06 | 0.04 | 0.06 | 0.06 | 0.07 | 0.06 | 0.06 | 0.05 | 0.09 | 0.08 | 0.06 | 0.05 | 0.05 | 0.05 | 0.06 | 0.06 | 0.06 | 0.05 | 0.06 | 1.85 | 0.06 |
| Poly bags added (25 kg bags ) | kg | | | | | | | | 0.5 | | | 0.5 | | | | 0.5 | | | | | | | 0.5 | | | | 0.5 | | | | | | 62.5 | |