



July 9, 2024

Mr. Don Turner
Environmental Project Officer
Water Security Agency
Suite 300 – 2365 Albert Street
Regina, SK S4P 4K1

Dear Mr. Turner:

RE: Monthly Report: June 2024

In compliance with the City of Regina "Permit to Operate a Sewage Works" # 0050853-08-00 please find attached the monthly report for June 2024.

I trust this meets with your approval, should you have any questions please do not hesitate to contact me directly at [REDACTED].

Yours truly,

A handwritten signature in blue ink, appearing to read "Rynette Moore-Guillaume", is written over a light blue circular stamp.

Rynette Moore-Guillaume
Senior Manager, Capital, Growth & Operations
EPCOR Water Services

City of Regina - Wastewater Treatment Plant

| June 2024 | | | | | | | | | | | | | | | | |
|------------------------|---------------|----------------|----------------|-------------|-------------------------------|--------------------|-----------------|-----------------------|------------------|------------|------------------------|--------|------------------|---------------------------|-------------------------|----------------|
| Final Effluent Results | | | | | | | | | | | | | | | | |
| Permit# 00050853-08-00 | | | | | | | | | | | | | | | | |
| Date | Flow to Creek | Total Coliform | <i>E. coli</i> | Enterococci | Dissolved Oxygen (Field Test) | Temp. (Field Test) | pH (Field Test) | Chloride (Field Test) | Total Phosphorus | pH @15±1°C | Total Suspended Solids | CBOD | Ammonia Nitrogen | Unionized Ammonia @15±1°C | Total Kjeldahl Nitrogen | Total Nitrogen |
| | (ML) | (MPN /100mL) | | | (mg/L) | (°C) | (SU) | (mg/L) | (mg P/L) | (SU) | (mg/L) | (mg/L) | (mg N/L) | (mg N/L) | (mg N/L) | (mg N/L) |
| 01 | 63.03 | | | | 7.93 | 16.0 | 7.8 | | 0.16 | | 9.8 | 3.4 | 1.44 | | 4.0 | 8.4 |
| 02 | 56.29 | | | | 7.40 | 16.2 | 7.4 | 220 | 1.51 | 7.21 | 40.7 | 5.7 | 2.11 | < 0.030 | 6.9 | 10.9 |
| 03 | 52.28 | 37 | 1 | | 7.37 | 16.4 | 7.3 | 216 | 0.26 | 7.24 | 6.8 | 2.5 | < 0.30 | < 0.030 | 2.4 | 6.5 |
| 04 | 66.55 | 161 | 5 | 7 | 7.45 | 16.4 | 7.4 | 200 | 0.35 | 7.23 | 9.5 | 2.9 | 0.94 | < 0.030 | 3.1 | 7.8 |
| 05 | 69.15 | 261 | 13 | | 7.04 | 15.8 | 7.7 | 190 | 0.76 | 7.22 | 19.2 | 4.6 | < 0.30 | < 0.030 | 3.8 | 9.6 |
| 06 | 69.47 | 179 | 5 | | 7.86 | 16.1 | 7.8 | 202 | 0.50 | 7.27 | 13.0 | 3.1 | 0.54 | < 0.030 | 3.1 | 9.2 |
| 07 | 71.57 | 152 | 7 | | 7.62 | 16.3 | 7.9 | | 0.34 | 7.31 | 7.8 | 2.6 | 0.45 | < 0.030 | 3.2 | 8.1 |
| 08 | 70.67 | | | | 7.70 | 16.3 | 7.8 | | 0.25 | | 5.6 | 2.0 | 0.37 | | 2.8 | 7.8 |
| 09 | 69.77 | | | | 8.07 | 16.5 | 7.5 | 202 | 0.34 | 7.25 | 7.8 | 2.7 | < 0.30 | < 0.030 | 2.7 | 8.2 |
| 10 | 72.48 | 197 | 21 | | 8.01 | 16.1 | 7.3 | 188 | 0.38 | 7.22 | 10.6 | 2.7 | < 0.30 | < 0.030 | 2.7 | 6.5 |
| 11 | 72.26 | 194 | 7 | 3 | 7.91 | 16.0 | 7.8 | 176 | 0.18 | 7.29 | 4.0 | < 2.0 | < 0.30 | < 0.030 | 2.3 | 7.4 |
| 12 | 74.62 | 40 | 2 | | 7.74 | 16.5 | 7.9 | 184 | 0.50 | 7.37 | 13.2 | 3.5 | < 0.30 | < 0.030 | 2.4 | 7.3 |
| 13 | 72.07 | 38 | 6 | | 7.91 | 16.6 | 7.5 | 184 | 0.26 | 7.34 | 6.2 | 2.1 | < 0.30 | < 0.030 | 1.7 | 7.5 |
| 14 | 69.57 | 43 | 3 | | 8.14 | 17.1 | 7.5 | | 0.19 | 7.39 | 5.3 | 2.2 | < 0.30 | < 0.030 | 1.9 | 7.7 |
| 15 | 70.77 | | | | 7.87 | 17.1 | 7.8 | | 0.22 | | 3.8 | < 2.0 | < 0.30 | | 2.0 | 7.9 |
| 16 | 71.56 | | | | 7.93 | 16.8 | 7.9 | 185 | 0.40 | 7.32 | 10.6 | 2.4 | < 0.30 | < 0.030 | 2.2 | 7.5 |
| 17 | 70.86 | 47 | 2 | | 8.11 | 16.8 | 7.9 | 192 | 0.26 | 7.33 | 5.1 | < 2.0 | < 0.30 | < 0.030 | 2.1 | 7.7 |
| 18 | 69.97 | 53 | 1 | 1 | 8.05 | 16.8 | 7.8 | 193 | 0.70 | 7.25 | 19.0 | 3.9 | 0.52 | < 0.030 | 2.8 | 8.5 |
| 19 | 70.47 | 205 | 16 | | 7.84 | 16.7 | 7.8 | 190 | 0.36 | 7.25 | 9.6 | 2.3 | 0.55 | < 0.030 | 2.6 | 9.3 |
| 20 | 73.59 | 152 | 7 | | 7.98 | 16.9 | 7.2 | 190 | 0.38 | 7.23 | 10.4 | 2.9 | 1.06 | < 0.030 | 3.5 | 10.7 |
| 21 | 73.36 | 240 | 21 | | 7.99 | 17.1 | 7.4 | | 0.46 | 7.41 | 12.8 | 3.3 | 0.83 | < 0.030 | 3.0 | 9.5 |
| 22 | 72.42 | | | | 7.86 | 17.3 | 7.6 | | 0.45 | | 12.0 | 3.4 | 0.56 | | 3.2 | 9.6 |
| 23 | 72.03 | | | | 7.88 | 17.6 | 7.8 | 203 | 0.54 | 7.33 | 16.0 | 3.7 | 0.60 | < 0.030 | 6.0 | 12.3 |
| 24 | 73.64 | 1,046 | 8 | | 7.78 | 17.8 | 7.8 | 208 | 1.17 | 7.31 | 39.3 | 6.7 | 0.70 | < 0.030 | 5.4 | 13.6 |
| 25 | 35.19 | | | | | 17.6 | | 202 | 1.71 | 7.30 | 50.0 | 8.0 | < 0.30 | < 0.030 | 2.6 | 4.8 |
| 26 | 69.49 | 201 | 16 | 40 | 7.68 | 17.9 | 7.8 | 203 | 0.42 | 7.29 | 11.0 | 3.6 | < 0.30 | < 0.030 | 2.9 | 6.3 |
| 27 | 70.35 | 102 | 19 | | 7.55 | 17.7 | 7.1 | 205 | 0.38 | 7.25 | 11.0 | 4.2 | 0.50 | < 0.030 | 2.7 | 7.1 |
| 28 | 70.10 | 58 | 2 | | 7.79 | 17.1 | 7.6 | | 0.28 | 7.23 | 6.4 | 2.6 | 0.35 | < 0.030 | 2.3 | 6.1 |
| 29 | 68.69 | 68 | 7 | | 7.56 | 16.9 | 7.6 | | 0.17 | | 5.2 | < 2.0 | < 0.30 | | 2.0 | 8.0 |
| 30 | 68.11 | | | | 8.16 | 17.2 | 7.6 | 184 | 0.24 | 7.19 | 7.2 | 2.3 | < 0.30 | < 0.030 | 2.2 | 9.2 |
| Sum | 2050.38 | | | | | | | | | | | | | | | |
| Avg | 68.35 | | | | 7.80 | 16.8 | 7.6 | 196 | 0.47 | 7.28 | 13 | 3 | 0.53 | < 0.030 | 3.0 | 8 |
| Min | 35.19 | | | | 7.04 | 15.8 | 7.1 | 176 | 0.16 | 7.19 | 3.8 | < 2.0 | < 0.30 | < 0.030 | 1.7 | 4.8 |
| Max | 74.62 | | 21 | | 8.16 | 17.9 | 7.9 | 220 | 1.71 | 7.41 | 50.0 | 8.0 | 2.11 | < 0.030 | 6.9 | 13.6 |
| Permit Limits | | | ≤1,000 | | | | | | ≤0.75 | | ≤15 | ≤15 | ≤4 | ≤1.24 | | ≤10 |

***E. coli* Geometric Mean = 6 MPN/100mL, Limit = 200 MPN/100mL**

Plant Notes:

Chemical addition measures were initiated on June 1 - 21, and then again from June 26-30, with the aim of improving the settleability of the sludge within the secondary treatment process.

WSA Notes:

Jun 1, 2 - cBOD results qualified. The cBOD duplicate exceeded acceptance criteria.

Jun 7-11 - cBOD results qualified. Incubator temperature exceed acceptance criteria overnight for one of the five day incubation period.

Jun 11 - Acute lethality was tested by an external accredited laboratory and passed.

Jun 19, 20 - cBOD results qualified. The cBOD QC standard exceeded acceptance criteria.

| Creek Monthly Report to Water Security Agency | | | | | | |
|---|------------------|----------------|------------------------|------------------------------|------------------------------|---------|
| Tuesday, June 11, 2024 | | | Permit# 00050853-08-00 | | | |
| Test Description | Riske's Crossing | Final Effluent | Sidmar Crossing | Wascana above the Qu'Appelle | Qu'Appelle above the Wascana | Lumsden |
| Dissolved Oxygen (Field Test) | 6.42 | 7.91 | 7.17 | 9.44 | 9.02 | 9.63 |
| pH (Field Test) | 7.05 | 7.8 | 7.45 | 8.12 | 7.89 | 7.96 |
| Temperature (Field Test) | 13.8 | 16.0 | 15.2 | 14.8 | 15.0 | 14.6 |
| pH at 15±1°C | 7.44 | 7.29 | 7.50 | 8.11 | 7.97 | 8.10 |
| Total Suspended Solids | 95.0 | 4.0 | 57 | 38 | 66 | 63 |
| Carbonaceous Biochemical Oxygen Demand | 8.0 | <2.0 | 4.0 | 2.7 | <2.0 | 2.2 |
| Total Phosphorus | 0.42 | 0.18 | 0.39 | 0.31 | 0.19 | 0.23 |
| Total Kjeldahl Nitrogen | 2.2 | 2.3 | 2.0 | 1.8 | 0.6 | 1.5 |
| Ammonia Nitrogen | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 |
| Un-ionized Ammonia | <0.030 | | <0.030 | <0.030 | <0.030 | <0.030 |
| Nitrate Nitrogen | <0.25 | 5.03 | 0.54 | 1.46 | <0.25 | 0.45 |
| Total Nitrogen | 2.3 | 7.4 | 2.6 | 3.3 | 0.7 | 2.0 |
| Total Alkalinity | 112 | 178 | 127 | 174 | 177 | 181 |
| Carbonate | 0 | 0 | 0 | 0 | 0 | 0 |
| Bicarbonate | 137 | 218 | 155 | 212 | 215 | 221 |
| Chloride | 62 | 176 | 67 | 172 | 23 | 74 |
| Total Coliform | 130,000 | 194 | 19,500 | 3,650 | 1,990 | 1,730 |
| <i>E. coli</i> | 9,800 | 7 | 1,990 | 613 | 249 | 365 |
| Enterococci | 2,480 | 3 | 1120 | 121 | 114 | 166 |
| Total Hardness* | 152 | 353 | 188 | 332 | 228 | 267 |
| Calcium* | 38 | 84 | 44 | 77 | 52 | 61 |
| Magnesium* | 14 | 35 | 19 | 34 | 24 | 28 |
| Potassium* | 8 | 16 | 10 | 15 | 6.3 | 10 |
| Sodium* | 49 | 137 | 60 | 133 | 53 | 81 |
| Sulfate* | 72 | 240 | 100 | 230 | 130 | 170 |
| Fluoride* | 0.21 | 0.18 | 0.20 | | | |
| Total Dissolved Solids* | 352 | 859 | 426 | 819 | 446 | 579 |
| Conductivity at 25°C* | 584 | 1400 | 705 | 1340 | 691 | 918 |
| Mercury* | | 0.000001 | | | | |
| Aluminum* | | 0.062 | | | | |
| Antimony* | | 0.0006 | | | | |
| Arsenic* | | 0.0010 | | | | |
| Barium* | | 0.036 | | | | |
| Beryllium* | | <0.0001 | | | | |
| Boron* | | 0.23 | | | | |
| Cadmium* | | <0.00001 | | | | |
| Chromium* | | <0.0005 | | | | |
| Cobalt* | | 0.0003 | | | | |
| Copper* | | 0.010 | | | | |
| Iron* | | 0.04 | | | | |
| Lead* | | 0.0005 | | | | |
| Manganese* | | 0.17 | | | | |
| Molybdenum* | | 0.0099 | | | | |
| Nickel* | | 0.0018 | | | | |
| Selenium* | | 0.0022 | | | | |
| Silver* | | <0.00005 | | | | |
| Strontium* | | 0.47 | | | | |
| Thallium* | | <0.0002 | | | | |
| Tin* | | 0.0001 | | | | |
| Titanium* | | <0.0002 | | | | |
| Uranium* | | 0.0017 | | | | |
| Vanadium* | | 0.0055 | | | | |
| Zinc* | | 0.030 | | | | |

Notes:

* Tests conducted by an external accredited laboratory.

Results are in mg/L except total coliforms, *E.coli*, enterococci (MPN/100mL), temperature (°C), conductivity (µS/cm) and pH (SU).

Riske's Crossing was sampled June 4, 2024.

Jun 11 - cBOD results qualified for FE, Sidmar Crossing, Wascana above the Qu'Appelle, Qu'Appelle above the Wascana, and Lumsden. Incubator temperature exceed acceptance criteria overnight for one of the five day incubation period.

Jun 11 - Chronic toxicity for Sidmar Crossing was tested by an external accredited laboratory. The fathead minnows testing passed. The *C. dubia* testing was not valid due to external laboratory's quality control not meeting acceptance criteria. Another sample will be collected and submitted in July.