



August 15, 2023

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

Dear Mr. Turner:

RE: Monthly Report: **July 2023**

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In compliance with the City of Regina "Permit to Operate a Sewage Works" # 0050853-07-00 please find attached the monthly report for July 2023.

I trust this meets with your approval, should you have any questions please do not hesitate to contact me directly at (306) 580-1204 or Rui Li at (306) 535-5874.

Yours truly,

A handwritten signature in blue ink that reads "V. Campbell".

Vicki Campbell  
Senior Manager, Capital, Growth & Operations  
EPCOR Water Services

# City of Regina - Wastewater Treatment Plant

July 2023 Final Effluent Results Permit# 00050853-07-00															
Date	Flow to Creek	Total Coliform	<i>E. coli</i>	Enterococci	Dissolved Oxygen (Field Test)	Temp. (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)	(mg/L)	(mg P/L)	(SU)	(mg/L)	(mg/L)	(mg N/L)	(mg N/L)	(mg N/L)	(mg N/L)
01	60.61				6.50	19.3		0.34		7.9	2.9	3.24		6.1	8.7
02	59.31				6.29	18.9	209	0.32	7.23	8.7	2.9	3.08	< 0.030	5.8	8.9
03	62.29	33	5	2	7.52	18.3	216	0.33	7.21	8.4	3.2	3.58	< 0.030	6.1	10.0
04	63.79	20	1		6.83	18.0	216	0.33	7.13	7.3	3.0	3.31	< 0.030	6.0	9.5
05	63.53	39	1		7.12	18.7	216	0.14	7.06	< 2.5	< 2.0	1.12	< 0.030	2.9	7.2
06	63.72	36	8		6.92	18.9	211	0.32	7.13	7.0	3.0	1.53	< 0.030	3.5	7.5
07	63.63	31	2		6.87	19.0		0.28		6.3		0.83		3.0	7.4
08	61.53				7.55	19.1		0.30		6.6	2.1	0.57		2.7	7.8
09	63.26				7.49	19.1	197	0.37	7.18	9.3	3.0	1.39	< 0.030	3.9	8.8
10	56.66	79	3		10.3	19.1	211	0.43	7.21	10.0	3.0	1.93	< 0.030	4.6	9.4
11	62.85	98	1	6	6.46	18.8	225	0.40	7.23	9.5	3.0	1.13	< 0.030	3.1	9.1
12	61.71	34	5		6.55	19.0	210	0.41	7.20	9.9	3.1	0.83	< 0.030	3.1	8.8
13	62.92	54	1		6.75	19.1	212	0.22	6.94	3.5	< 2.0	0.97	< 0.030	2.7	7.9
14	63.00	57	< 1		6.79	19.1		0.52		14.5		1.49		4.3	8.8
15	62.12				7.12	19.2		0.56		13.2	3.5	2.22		5.0	10.4
16	63.35				7.34	19.4	194	0.58	7.10	15.6	4.9	2.98	< 0.030	6.1	10.9
17	64.06	172	11	1	6.43	19.3	204	0.74	7.17	21.3	6.4	3.18	< 0.030	6.8	10.4
18	57.41	225	17		6.59	19.2	210	0.70	7.24	18.4	6.9	2.09	< 0.030	5.4	8.6
19	63.08	196	7		6.52	19.2	152	0.53	7.05	15.4	4.0	1.06	< 0.030	3.8	6.9
20	63.00	345	11		6.76	19.4	219	0.48	7.05	11.5	4.4	1.23	< 0.030	3.8	7.3
21	62.61	99	3		6.53	19.5		0.44		12.0		1.40		4.1	7.3
22	59.12				7.26	19.6		0.38		9.0	3.6	1.23		3.6	7.4
23	61.80				7.13	19.6	210	0.38	7.12	9.2	3.8	1.48	< 0.030	4.0	7.4
24	64.73	144	15	3	6.42	19.8	202	0.50	7.16	7.9	4.0	2.56	< 0.030	5.4	8.6
25	62.28	205	1		6.21	19.5	203	0.42	7.20	9.0	4.0	2.98	< 0.030	5.8	9.3
26	59.32	158	8		6.68	19.3	210	0.38	7.11	9.2	3.3	2.82	< 0.030	5.2	9.3
27	57.80	133	6		6.74	19.5	195	0.39	7.06	7.8	3.0	3.54	< 0.030	6.0	10.2
28	57.98	109	2		6.53	19.6		0.41		8.0		2.55		5.1	9.6
29	56.18				7.19	19.7		0.36		7.2	3.2	2.40		4.7	9.6
30	57.87				7.09	19.8	212	0.38	7.05	9.2	3.1	2.53	< 0.030	5.0	9.1
31	61.09	194	2		6.40	20.1	219	0.46	7.10	12.0	2.9	3.09	< 0.030	5.8	10.0
Sum	1902.61														
Avg	61.37				6.93	19.2	207	0.41	7.13	10	3	2	< 0.030	4.6	9
Min	56.18				6.21	18.0	152	0.14	6.94	< 2.5	< 2.0	0.57	< 0.030	2.7	6.9
Max	64.73		17		10.32	20.1	225	0.74	7.24	21.3	6.9	3.58	< 0.030	6.8	10.9
Permit Limits			≤1,000					≤0.75		≤15	≤15	≤4	≤1.24		≤10

*E. coli* Geometric Mean = 3 MPN/100mL, Limit = 200 MPN/100mL

## Plant Notes:

Between July 15-21, the FE experienced a sudden and significant drop in UVT. At the same time, ammonia levels in the FE increased, and foaming was also observed in the bioreactors.

## WSA Notes:

Jul 15 & 16 - CBOD results qualified. Quality control standard exceeded acceptance criteria.

Creek Monthly Report to Water Security Agency						
Tuesday, July 11, 2023			Permit# 00050853-07-00			
Test Description	Riske's Crossing	Final Effluent	Sidmar Crossing	Wascana above the Qu'Appelle	Qu'Appelle above the Wascana	Lumsden
Dissolved Oxygen (Field Test)	7.62	6.46	6.97	12.2	7.12	10.60
pH (Field Test for Creek Samples)	8.41	7.23	7.27	8.85	7.89	8.47
Temperature (Field Test)	17.4	18.8	16.6	17.3	18.1	17.9
Total Suspended Solids	44.0	9.5	6.6	64.0	59.0	74.0
Carbonaceous Biochemical Oxygen Demand	5.4	3.0	2.4	11.5	2.9	10.3
Total Phosphorus	0.63	0.40	0.29	0.34	0.25	0.32
Total Kjeldahl Nitrogen	2.0	3.1	2.6	2.5	1.2	2.1
Ammonia Nitrogen	<0.30	1.13	0.74	<0.30	<0.30	<0.30
Nitrate Nitrogen	<0.13	4.51	3.52	<0.13	<0.13	<0.13
Total Nitrogen	2.1	9.1	6.5	2.6	1.3	2.2
Phenol Alkalinity	22	0	0	36	0	24
Total Alkalinity	217	164	158	176	205	152
Carbonate	27	0	0	43	0	28
Bicarbonate	210	200	193	127	250	127
Chloride (Field Test)	78.5	225	186	181	34.2	151
Total Coliform	24,900	98	9,210	19,900	10,500	141,000
<i>E. coli</i>	225	1	248	219	162	179
Enterococci	276	6	88	166	64	133
Total Hardness*	317	324	328	315	249	288
Calcium*	66	74	74	62	52	56
Magnesium*	37	34	35	39	29	36
Potassium*	14	18	17	17	9.0	15
Sodium*	89	170	152	153	73	136
Sulfate*	200	270	260	270	170	250
Total Dissolved Solids*		935				
Conductivity at 25°C*		1430				
Mercury*		0.000002				
Aluminum*		0.14				
Antimony*		0.0010				
Arsenic*		0.0020				
Barium*		0.027				
Beryllium*		<0.0001				
Boron*		0.32				
Cadmium*		0.00001				
Chromium*		0.0007				
Cobalt*		0.0003				
Copper*		0.016				
Iron*		0.11				
Lead*		0.0006				
Manganese*		0.22				
Molybdenum*		0.011				
Nickel*		0.0022				
Selenium*		0.0022				
Silver*		<0.00005				
Strontium*		0.43				
Thallium*		<0.0002				
Uranium*		0.0007				
Vanadium*		0.0027				
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).

Final effluent nitrate-N result is from sample date 10 Jul 2023.

**Primary Influent BOD Results (mg/L)**

Jul 4 - 230; Jul 6 - 224; Jul 11 - 227; Jul 13 - 247; Jul 18 - 232; Jul 20 - 220; Jul 25 - 226; Jul 27 - 214