



May 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: **April 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 April 2023.

I trust this meets with your approval, should you have any questions please do not hesitate to contact me directly at (306) 519-9054 or Justin Allan at (306) 551-3180.

Yours truly,

A handwritten signature in blue ink, appearing to read "J. Zimmer", with a long horizontal flourish extending to the right.

Joe Zimmer, P. Eng.  
Manager, Regina Operations  
EPCOR Water Services

# City of Regina - Wastewater Treatment Plant

April 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	70.30				6.16	13.0		0.63		16.8		1.63		3.8	8.6
02	59.90				6.20	12.6	244	0.14	7.52	3.2	2.4	< 0.30	< 0.030	2.3	7.6
03	66.30	37	3	2	8.03	12.6	251	0.18	7.38	3.9	2.3	< 0.30	< 0.030	1.8	6.9
04	63.60	56	12		8.71	12.3	249	0.15	7.27	3.2	< 2.0	< 0.30	< 0.030	1.6	6.6
05	58.40	51	7		8.90	11.9	246	0.12	7.31	2.5	< 2.0	< 0.30	< 0.030	1.9	7.5
06	64.96	16	1		8.73	12.0	239	0.16	7.33	2.6	< 2.0	0.70	< 0.030	2.5	9.0
07	68.44	50	10		8.73	11.3		0.25		5.0		1.73		3.8	9.1
08	66.61				7.76	11.7		0.19		3.4		1.52		3.5	9.3
09	66.33				8.40	12.4	245	0.18	7.39	< 2.5	< 2.0	0.91	< 0.030	2.7	7.3
10	66.30	517	26	10	8.25	12.3	237	0.11	7.07	2.6	2.7	0.49	< 0.030	2.2	5.8
11	66.50	194	26		7.01	12.4	232	0.18	7.50	3.4	2.4	< 0.30	< 0.030	1.8	4.9
12	65.94	148	33		7.68	12.3	213	0.15	7.11	2.4	< 2.0	< 0.30	< 0.030	1.8	5.4
13	67.35	50	14	3	7.57	12.6	217	0.13	7.09	< 2.5	2.3	< 0.30	< 0.030	1.4	6.6
14	85.66	172	20		7.01	12.8		0.11		< 2.5		1.53		3.1	7.2
15	99.35				7.03	12.2		0.13		2.6		5.27		6.3	10.0
16	94.10				7.35	12.1	233	0.16	7.32	2.9	3.5	5.58	0.032	7.3	11.3
17	97.02	359	79	27	7.51	12.0	240	0.16	7.36	3.4	2.9	3.27	< 0.030	4.6	9.5
18	96.33	409	76		6.75	11.6	228	0.18	7.26	4.3	3.5	4.76	< 0.030	7.3	11.8
19	95.25	522	140		7.30	10.8	232	0.22	7.39	5.6	4.8	6.81	0.045	8.6	12.8
20	82.36	1,010	78		7.33	11.5	241	0.20	7.39	4.9	5.4	6.01	0.040	7.9	13.0
21	75.48	172	47		7.12	12.8		0.18		4.1		0.89		2.9	8.9
22	80.81				7.31	13.2		0.16		3.6		1.42		2.9	7.8
23	83.35				6.55	13.2	218	0.16	7.37	3.8	2.9	1.56	< 0.030	3.3	8.6
24	83.15	196	41		6.12	13.0	223	0.16	7.47	3.9	2.8	0.62	< 0.030	2.8	8.8
25	71.66	158	14	5	7.53	12.9	226	0.17	7.48	3.5	2.9	< 0.30	< 0.030	1.9	8.3
26	77.85	91	22		8.03	13.2	224	0.19	7.39	3.5	3.1	0.32	< 0.030	2.3	9.0
27	78.70	84	28		7.13	13.5	226	0.22	7.44	4.8	3.1	< 0.30	< 0.030	2.2	9.0
28	75.92	37	5		8.10	13.6		0.19		4.5	<	0.30		2.2	9.4
29	73.72				8.04	13.4		0.20		4.6		0.63		2.7	9.6
30	73.83				8.06	13.5	210	0.19	7.39	5.4	3.9	1.72	< 0.030	3.9	9.5
Sum	2275.47														
Avg	75.85				7.55	12.5	232	0.19	7.34	4	3	1	0.031	3.4	9
Min	58.40				6.12	10.8	210	0.11	7.07	2.4	< 2.0	< 0.30	< 0.030	1.4	4.9
Max	99.35		140		8.90	13.6	251	0.63	7.52	16.8	5.4	6.81	0.045	8.6	13.0
Permit Limits			≤1,000					≤0.75		≤15	≤15	≤4	≤1.24		≤14

***E. coli* Geometric Mean = 20 MPN/100mL, Limit = 200 MPN/100mL**

**Plant Notes:**

- Apr 1 to 14 - The lagoons were used to mitigate the effects of an upset condition that began in March.
- Apr 15 to 20 - Water was brought back from the lagoons to increase capacity for the snow melt.
- Apr 25 - Flow was diverted to the lagoon to perform annual flow meter verifications.

**WSA Notes:**

- Apr 16 - CBOD result qualified. Blank exceeded acceptance criteria.
- Apr 17 and 18 - CBOD results qualified. Bias may be present due to an issue with the DO meter.

# Creek Monthly Report to Water Security Agency

Tuesday, April 25, 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)	9.79	7.53	9.66	10.5	10.4	10.0
pH (Field Test for Creek Samples)	7.56	7.48	7.19	7.41	7.47	7.28
Temperature (Field Test)	0.7	12.9	3.0	4.3	5.7	5.1
Total Suspended Solids	48.0	3.5	69.0	472	276	308
Carbonaceous Biochemical Oxygen Demand	2.4	2.9	2.4	2.2	2.1	2.6
Total Phosphorus	0.62	0.17	0.62	0.86	0.52	0.57
Total Kjeldahl Nitrogen	2.5	1.9	2.6	2.4	1.3	1.5
Ammonia Nitrogen	1.06	<0.30	1.03	0.85	0.37	0.59
Nitrate Nitrogen	1.98	5.63	2.42	1.64	0.44	1.02
Total Nitrogen	4.6	8.3	5.2	4.1	1.8	2.6
Phenol Alkalinity	0	0	0	0	0	0
Total Alkalinity	123	207	124	131	115	123
Carbonate	0	0	0	0	0	0
Bicarbonate	151	253	151	160	140	150
Chloride (Field Test)	39.0	226	46.4	49.3	13.9	20.5
Total Coliform	2,420	158	2,100	2,380	1,040	1,520
<i>E. coli</i>	199	14	156	153	29	69
Enterococci	140	5	73	67	93	64
Total Hardness*	164	404	175	170	131	140
Calcium*	36	96	39	40	31	33
Magnesium*	18	40	19	17	13	14
Potassium*	18	18	18	18	12	14
Sodium*	41	186	48	46	28	34
Sulfate*	94	280	100	92	72	78
Total Dissolved Solids*		1060				
Conductivity at 25°C*		1680				
Phenolics*		0.0084				
Mercury*		<0.000001				
Aluminum*		0.084				
Antimony*		0.0008				
Arsenic*		0.0011				
Barium*		0.030				
Beryllium*		<0.0001				
Boron*		0.25				
Cadmium*		<0.00001				
Chromium*		0.0005				
Cobalt*		0.0004				
Copper*		0.006				
Iron*		0.046				
Lead*		0.0007				
Manganese*		0.17				
Molybdenum*		0.014				
Nickel*		0.0027				
Selenium*		0.0031				
Silver*		<0.00005				
Strontium*		0.53				
Thallium*		<0.0002				
Uranium*		0.0033				
Vanadium*		0.0015				
Zinc*		0.031				

**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).

FE nitrate nitrogen sample date is 24 Apr 2023.

FE phenol alkalinity, total alkalinity, carbonate, and bicarbonate sample date is 23 Apr 2023.

Apr 18 - PI BOD result qualified. Bias may be present due to an issue with the DO meter.

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

Apr 2 - 250; Apr 6 - 220; Apr 11 - 229; Apr 13 - 201; Apr 18 - 203; Apr 20 - 218; Apr 25 - 195; Apr 27 - 257