



June 22, 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: **May 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 May 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

May 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	75.23	99	13	4	6.87	13.6	215	0.22	7.34	5.2	4.3	0.61	< 0.030	2.5	8.9
02	76.11	17	5		7.29	13.5	195	0.16	7.41	3.3	3.0	0.70	< 0.030	2.0	7.6
03	75.40	32	8		7.76	13.8	206	0.18	7.34	3.3	2.4	< 0.30	< 0.030	2.1	8.2
04	73.72	111	12		6.96	14.1	202	0.21	7.31	4.1	4.0	< 0.30	< 0.030	2.2	7.8
05	72.50	517	28		6.98	13.7		0.19		6.0		< 0.30		1.9	8.9
06	71.70				7.12	13.6		0.22		5.5		0.70		2.7	8.6
07	74.02				7.23	14.0	203	0.48	7.43	12.6	4.7	1.12	< 0.030	3.6	8.3
08	72.89	187	15	9	6.81	14.2	201	0.36	7.49	14.1	5.2	1.54	< 0.030	4.3	6.8
09	70.24	165	17		7.49	14.4	205	0.71	7.40	18.1	5.3	1.28	< 0.030	5.0	7.4
10	67.98	84	16		6.95	14.5	194	0.50	7.31	14.9	3.9	1.60	< 0.030	3.9	6.1
11	63.87	225	4		6.87	14.4	234	0.52	7.59	7.0	3.0	1.00	< 0.030	3.3	7.1
12	69.42	39	3		5.67	14.6		0.26		5.6		1.71		4.1	8.3
13	66.69				7.01	14.9		0.24		5.1		1.72		3.9	7.8
14	67.99				7.07	15.0	224	0.20	7.29	4.2	2.5	1.60	< 0.030	3.5	6.8
15	68.36	161	5		6.72	15.2	229	0.19	7.17	4.3	2.3	0.78	< 0.030	2.7	5.9
16	62.41	61	4	6	6.56	15.3	229	0.22	7.30	5.3	2.2	0.58	< 0.030	2.6	6.2
17	66.91	84	6		6.54	14.7	224	0.26	7.36	4.1	2.4	1.23	< 0.030	3.4	7.2
18	64.31	70	15		7.00	14.8	165	0.24	7.17	4.6	3.3	0.97	< 0.030	3.0	7.2
19	65.60	99	20		6.72	15.2		0.23		4.6		1.02		3.4	7.5
20	63.81				7.22	15.3		0.20		4.6		1.22		3.4	7.4
21	61.91				7.08	15.4	192	0.24	7.43	5.0	2.8	1.02	< 0.030	3.3	7.2
22	65.13	141	4		6.55	15.6	194	0.25	7.21	4.5	2.5	2.77	< 0.030	4.0	7.6
23	66.66	308	12	6	6.23	15.7	203	0.36	7.38	8.6	3.8	2.88	< 0.030	4.8	8.7
24	63.99	308	12		6.50	15.8	200	0.49	7.38	9.0	4.9	3.69	< 0.030	6.0	9.1
25	64.95	165	15		6.52	16.1	199	0.38	7.33	9.2	4.2	2.20	< 0.030	5.3	8.7
26	66.29	65	14		6.53	15.8		0.28		5.0		1.61		4.2	8.0
27	71.26				6.37	15.9		2.12		51.8		2.89		8.0	11.6
28	76.27				6.27	15.4	172	0.79	7.18	17.8	3.4	1.23	< 0.030	4.1	9.6
29	67.90	165	13	< 1	6.60	15.6	186	0.26	7.34	4.1	< 2.0	2.91	< 0.030	5.0	10.3
30	76.22	68	6		6.59	16.2	152	0.24	7.32	5.0	2.1	7.10	0.040	8.9	12.0
31	68.33	55	8		6.28	16.6	206	0.42	7.38	9.7	3.7	3.43	< 0.030	6.5	11.0
Sum	2138.07														
Avg	68.97				6.79	14.9	201	0.37	7.34	9	3	2	0.030	4.0	8
Min	61.91				5.67	13.5	152	0.16	7.17	3.3	< 2.0	< 0.30	< 0.030	1.9	5.9
Max	76.27		28		7.76	16.6	234	2.12	7.59	51.8	5.3	7.10	0.040	8.9	12.0
Permit Limits			≤1,000					≤0.75		≤15	≤15	≤4	≤1.24		≤14

***E. coli* Geometric Mean = 9 MPN/100mL, Limit = 200 MPN/100mL**

**Plant Notes:**

- May 27 - A significant rainfall event resulted in elevated total suspended solids in the effluent.
- May 30 - The process experienced an inhibition event which resulted in a short term elevated ammonia concentration and poor secondary clarifier settling characteristics.

**WSA Notes:**

- May 16 - Enterococci result qualified. Incubator temperature briefly exceeded acceptance criteria.
- May 31 - CBOD result qualified. Quality control standard exceeded acceptance criteria.

# Creek Monthly Report to Water Security Agency

Tuesday, May 16, 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)	8.74	6.56	7.70	8.27	7.73	7.79
pH (Field Test for Creek Samples)	7.87	7.30	7.41	7.51	7.69	7.60
Temperature (Field Test)	17.3	15.3	17.4	16.9	17.5	20.2
Total Suspended Solids	26.0	5.3	22.5	128	168	178
Carbonaceous Biochemical Oxygen Demand	2.8	2.2	2.8	3.5	2.2	2.9
Total Phosphorus	0.56	0.22	0.44	0.53	0.49	0.58
Total Kjeldahl Nitrogen	2.5	2.6	2.3	1.4	1.4	1.7
Ammonia Nitrogen	<0.30	0.58	0.38	<0.30	<0.30	<0.30
Nitrate Nitrogen	<0.13	3.06	1.04	0.56	<0.13	0.21
Total Nitrogen	2.6	6.2	3.4	2.0	1.5	1.9
Phenol Alkalinity	0	0	0	0	0	0
Total Alkalinity	188	171	183	190	177	181
Carbonate	0	0	0	0	0	0
Bicarbonate	229	209	223	231	215	220
Chloride (Field Test)	55.3	229	104	65.6	26.9	44.2
Total Coliform	816	61	1,550	1,730	2,420	2,420
<i>E. coli</i>	25	4	41	79	14	32
Enterococci	11	6	16	17	9	20
Total Hardness*	274	334	302	286	242	262
Calcium*	57	78	65	62	54	59
Magnesium*	32	34	34	32	26	28
Potassium*	21	18	20	20	14	17
Sodium*	73	168	101	80	68	75
Sulfate*	170	230	200	190	180	180
Total Dissolved Solids*		894				
Conductivity at 25°C*		1470				
Phenolics*		0.011				
Mercury*		0.000001				
Aluminum*		0.050				
Antimony*		0.0011				
Arsenic*		0.001				
Barium*		0.036				
Beryllium*		<0.0001				
Boron*		0.25				
Cadmium*		0.00001				
Chromium*		0.0006				
Cobalt*		0.0004				
Copper*		0.011				
Iron*		0.082				
Lead*		0.0007				
Manganese*		0.069				
Molybdenum*		0.040				
Nickel*		0.0024				
Selenium*		0.0010				
Silver*		<0.00005				
Strontium*		0.42				
Thallium*		<0.0002				
Uranium*		0.0012				
Vanadium*		0.013				
Zinc*		0.043				

**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 15 May 2023.

Enterococci results for all six samples are qualified. Incubator temperature briefly exceeded acceptance criteria.

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

May 2 - 222; May 4 - 214; May 9 - 214; May 11 - 223; May 16 - 255; May 18 - 216; May 23 - 250; May 25 - 253; May 30 - 172