



August 15, 2022

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 2022**

In compliance with the City of Regina "Permit to Operate a Sewage Works" # 0050853-07-00 please find attached the monthly report for July 2022.

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", is written over a light blue circular stamp.

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

City of Regina - Wastewater Treatment Plant

City of Regina - Wastewater Treatment Plant															
July 2022		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	56.51	178	18		7.35	17.7		0.31		6.0		0.60		2.4	9.3
02	56.53				7.30	17.6		0.36		8.2		1.20		3.2	9.2
03	58.81				7.37	17.8	190	0.35	7.49	8.6	3.4	0.88	< 0.030	2.7	9.9
04	64.02	461	34		6.52	17.6	196	0.54	7.48	12.0	3.9	1.20	< 0.030	3.5	10.7
05	68.67	866	47	78	7.15	17.6	185	0.89	7.42	22.6	6.8	1.96	< 0.030	5.1	11.6
06	60.69	1,840	260		7.75	17.8	183	0.92	7.50	23.2	6.5	1.94	< 0.030	5.3	12.4
07	52.52	1,300	98		8.28	17.8	180	0.98	7.48	24.6	6.9	1.06	< 0.030	4.5	11.5
08	61.96	1,630	161		8.94	18.2		0.69		15.4		0.93		4.0	11.6
09	58.16				7.81	18.5		0.58		12.9		0.52		2.8	10.6
10	58.74				8.17	18.3	180	0.50	7.51	10.8	4.3	0.73	< 0.030	3.0	11.6
11	60.83	461	51	33	8.07	18.1	184	0.60	7.49	13.4	5.0	0.40	< 0.030	3.1	9.1
12	59.75	727	69		7.43	18.4	188	0.38	7.48	7.4	4.1	1.02	< 0.030	3.2	8.4
13	59.75	821	161		7.27	18.7	195	0.91	7.54	26.8	6.1	1.08	< 0.030	4.6	9.1
14	54.90	1,540	56		5.22	18.7	197	0.62	7.44	16.4	5.0	2.50	< 0.030	5.5	10.3
15	61.28	3,970	118		6.12	18.9		0.61		9.4		1.32		4.1	9.3
16	58.48				7.94	19.0		0.47		13.4		0.80		3.4	7.6
17	59.70				8.18	19.1	189	0.63	7.52	18.0	5.3	1.40	< 0.030	4.6	8.5
18	56.68	172	12	15	7.13	18.9	182	0.90	7.30	27.2	8.5	4.12	< 0.030	7.1	10.5
19	133.45	6,870	921		7.28	17.6	102	0.38	7.39	10.2	4.9	0.90	< 0.030	3.2	7.6
20	90.21	102	10		9.31	17.0	129	0.34	7.53	9.2	3.6	0.47	< 0.030	2.6	8.7
21	81.68	194	4		8.87	17.8	175	0.24	7.49	6.2	2.6	2.07	< 0.030	4.3	8.9
22	68.61	613	65		8.55	18.1		0.13		2.8		2.43		4.1	8.6
23	64.36				8.72	18.2		0.11		2.7		1.81		3.3	8.1
24	64.77				8.60	18.6	195	0.12	7.43	2.6	< 2.0	2.03	< 0.030	3.8	9.5
25	65.36	488	16		7.62	18.6	200	0.13	7.51	4.0	2.4	1.81	< 0.030	3.6	9.0
26	70.92	649	43	23	7.88	18.9	196	0.13	7.52	3.4	2.3	1.71	< 0.030	3.4	7.0
27	80.53	109	4		7.27	19.0	195	0.11	7.45	3.2	< 2.0	1.92	< 0.030	3.5	7.6
28	75.96	47	2		7.31	19.2	194	0.12	7.57	2.9	< 2.0	1.58	< 0.030	3.4	8.3
29	73.52	121	5		6.69	19.3		0.13		3.4		0.83		2.6	7.2
30	72.37				6.84	19.5		0.13		3.3		1.19		3.0	7.5
31	70.69				8.13	19.7	197	0.12	7.49	4.0	2.1	1.41	< 0.030	3.3	7.6
Sum	2080.41														
Avg	67.11				7.65	18.4	182	0.43	7.48	11	4	1	< 0.030	3.7	9
Min	52.52				5.22	17.0	102	0.11	7.30	2.6	< 2.0	0.40	< 0.030	2.4	7.0
Max	133.45		921		9.31	19.7	200	0.98	7.57	27.2	8.5	4.12	< 0.030	7.1	12.4
Permit Limits			≤1000					≤0.75		≤15	≤15	≤4	≤1.24		≤10

E-Coli Geometric Mean = 35 MPN/100mL, Limit = 200 MPN/100mL

Plant Notes:

Jul 17 to 21 - Hydrocarbons were intermittently smelled in the primary influent.

Jul 19 - The hydrocarbon smell was reported to the Water Security Agency.

Jul 21 - The hydrocarbon smell was reported to the provincial Spill Report Line when the smell was identified in the final effluent.

Jul 26 - Results were received from an external lab showing toluene, ethylbenzene, and xylene exceeding the Discharge and Discovery Standard July 18-20, 2022. A summary of the results is provided below.

WSA Notes:

Jul 6, 7, and 10 - CBOD results qualified. Incubator temperature briefly exceeded acceptance criteria.

Jul 13 and 29 - Total coliform and *E. coli* results qualified. Incubator temperature briefly exceeded acceptance criteria.

Parameter	D&D Limit (ug/L)	July 18 th	19 th	20 th	21 st	22 nd
Benzene	5	2.7	1.3	<0.5	<0.5	<0.5
Toluene	0.5	35	27	3.2	<0.5	<0.5
Ethylbenzene	2.4	5.6	11	6.6	2	<0.5
Xylene	30	43	108	16	8	<0.5

Creek Monthly Report to Water Security Agency

Tuesday, July 5, 2022

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)	5.80	7.15	5.95	8.11	7.96	8.09
pH (Field Test for Creek Samples)	7.57	7.42	6.95	7.71	7.87	7.74
Temperature (Field Test)	17.6	17.6	16.4	17.4	18.4	17.8
Total Suspended Solids	56.8	22.6	7.2	47.8	107	92.0
Carbonaceous Biochemical Oxygen Demand	6.8	6.8	3.1	<2.0	2.4	<2.0
Total Phosphorus	0.34	0.89	0.26	0.18	0.22	0.21
Total Kjeldahl Nitrogen	2.5	5.1	4.2	1.4	1.3	1.2
Ammonia Nitrogen	<0.30	1.96	2.12	<0.30	<0.30	<0.30
Nitrate Nitrogen	0.13	6.05	4.95	2.07	<0.13	0.39
Total Nitrogen	2.6	11.6	9.7	3.5	1.4	1.6
Phenol Alkalinity	0	0	0	0	5	0
Total Alkalinity	185	153	159	143	164	169
Carbonate	0	0	0	0	5	0
Bicarbonate	225	186	194	174	197	206
Chloride (Field Test)	79.4	185	171	176	22.0	73.2
Total Coliform	51,700	866	3,650	19,200	4,110	24,200
<i>E. coli</i>	548	47	361	2,420	102	1,050
Enterococci	1,410	78	387	866	249	687
Total Hardness*	302	334	334	304	218	251
Calcium*	65	78	78	64	48	53
Magnesium*	34	34	34	35	24	29
Potassium*	12	16	16	16	6.9	9.8
Sodium*	80	160	144	146	64	96
Sulfate*	180	260	250	240	160	200
Total Dissolved Solids*		938				
Conductivity at 25°C*		1500				
Phenolics*		0.012				
Mercury*		0.000004				
Aluminum*		0.093				
Antimony*		0.0008				
Arsenic*		0.0008				
Barium*		0.045				
Beryllium*		<0.0001				
Boron*		0.28				
Cadmium*		0.00002				
Chromium*		0.0007				
Cobalt*		0.0004				
Copper*		0.033				
Iron*		0.14				
Lead*		0.0014				
Manganese*		0.13				
Molybdenum*		0.0058				
Nickel*		0.0026				
Selenium*		0.0022				
Silver*		<0.00005				
Strontium*		0.45				
Thallium*		<0.0002				
Uranium*		0.0006				
Vanadium*		0.0023				
Zinc*		0.048				

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).

Primary Influent BOD Results (mg/L)

Jul 3 - 239; Jul 7 - 256; Jul 10 - 202; Jul 14 - 254; Jul 17 - 264; Jul 21 - 170; Jul 24 - 199; Jul 28 - 223