



October 13, 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: **September 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 September 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". The signature is written in a cursive, flowing style.

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

# City of Regina - Wastewater Treatment Plant

September 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	63.85	91	<	1	6.78	20.1		0.40		3.7		2.34		4.3	10.7	
02	63.03				6.82	20.3		0.53		9.4	3.2	1.34		3.6	10.7	
03	62.09				6.77	20.4	215	0.61	7.05	11.8	3.8	1.44	< 0.030	4.2	10.7	
04	67.40	99		3	6.63	20.1	210	0.74	7.09	13.2	3.9	4.72	< 0.030	7.1	10.8	
05	64.40	236		5	6.97	19.8	202	0.90	7.09	16.8	5.1	4.50	< 0.030	7.4	14.2	
06	62.91	214		3	7.13	19.8	210	0.95	7.08	17.2	4.5	1.60	< 0.030	4.4	9.9	
07	63.16	91		2	6.80	19.9	226	0.92	6.99	17.2	4.8	0.59	< 0.030	3.9	9.9	
08	67.45	649		4	7.20	19.8		0.90		16.0		0.56		3.7	9.7	
09	63.20				7.44	20.1		0.91		16.4	4.1	1.33		5.0	12.4	
10	64.60				7.19	20.2	244	0.89	7.12	16.4	5.1	1.92	< 0.030	5.7	12.3	
11	61.12	248		10	6.63	19.9	225	0.52	7.05	12.8	4.3	0.93	< 0.030	3.8	10.9	
12	64.21	122		8	7.15	19.6	276	0.31	7.15	8.7	3.3	1.33	< 0.030	3.7	8.7	
13	64.42	67		5	7.08	19.8	215	0.31	7.08	7.6	3.1	1.84	< 0.030	4.2	8.6	
14	66.44	133		6	7.25	19.7	197	0.30	7.08	8.3	2.8	1.64	< 0.030	4.3	9.4	
15	64.73	112		1	7.38	19.8		0.24		6.6		1.24		3.8	9.0	
16	62.80				7.28	19.8		0.23		6.0	<	2.0		3.9	8.9	
17	64.86				6.54	19.9	189	0.22	7.08	5.4	2.2	1.90	< 0.030	4.4	8.5	
18	63.96	88		3	7.16	19.9	247	0.18	7.06	5.8	2.2	0.78	< 0.030	3.0	7.3	
19	46.33	93		1	7.10	20.3	273	0.23	7.07	9.6	2.4	<	0.30	< 0.030	2.4	6.4
20	62.72	86	<	1	7.54	19.6	227	0.19	7.02	5.0	2.0	0.73	< 0.030	2.9	7.3	
21	63.56	93		1	7.50	19.4	219	0.20	7.00	5.4	2.4	0.97	< 0.030	2.8	7.6	
22	54.66	108	<	1	7.36	19.5		0.36		6.8		0.49		2.8	7.7	
23	58.46				7.45	19.7		0.40		6.4	2.9	1.08		2.7	7.3	
24	62.47				7.16	19.9	200	0.41	7.15	6.8	4.0	1.07	< 0.030	3.5	7.8	
25	63.16	276		3	6.71	19.9	196	0.46	7.19	8.4	3.3	<	0.30	< 0.030	2.7	7.1
26	60.02	196		2	7.58	19.8	207	0.48	7.13	8.2	3.5	<	0.30	< 0.030	2.7	7.1
27	60.76	126		3	6.75	19.8	222	0.36	7.09	5.8	2.2	<	0.30	< 0.030	2.3	6.6
28	63.62	461		4	7.48	19.8	234	0.27	7.15	5.3	2.4	<	0.30	< 0.030	2.1	6.4
29	62.46	121	<	1	7.76	19.6		0.29		4.5		1.19		2.1	6.5	
30	63.25				7.98	19.4		0.32		5.4	2.0	0.84		3.1	7.8	
Sum	1876.10															
Avg	62.54				7.15	19.9	222	0.47	7.09	9	3	1	< 0.030	3.8	9	
Min	46.33				6.54	19.4	189	0.18	6.99	3.7	<	2.0	< 0.030	2.1	6.4	
Max	67.45			10	7.98	20.4	276	0.95	7.19	17.2	5.1	4.72	< 0.030	7.4	14.2	
Permit Limits				≤1,000				≤0.75		≤15	≤15	≤4	≤1.24		≤10	

**E. coli Geometric Mean = 2 MPN/100mL, Limit = 200 MPN/100mL**

**Plant Notes:**

Sep 5 - There was a significant increase in ammonia levels, spiking from their usual range of approximately 2 to 10.4 mg/L. This spike resulted in elevated TN (Total Nitrogen) data for that particular day.

Sep 19 - The plant underwent a planned shutdown lasting approximately 7 hours and redirected around 15 million liters of raw influent into Lagoon 2A.

**WSA Notes:**

Sep 12 - Acute toxicity was tested by an external accredited laboratory and passed.

Sep 14 - Chloride result qualified. Duplicate analysis exceeded acceptance criteria on the initial analysis and reanalysis. Suspect sample heterogeneity.

Sep 20, 21 & 24 to 28 - Chlorides were tested by an external accredited laboratory.

# Creek Monthly Report to Water Security Agency

Tuesday, September 12, 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)	9.25	7.15	6.93	9.55	8.83	8.87
pH (Field Test for Creek Samples)	8.40	7.15	6.68	7.69	7.93	7.74
Temperature (Field Test)	12.5	19.6	14.3	12.8	16.9	15.4
Total Suspended Solids	34.3	8.7	9.8	28.0	60.8	51.3
Carbonaceous Biochemical Oxygen Demand	8.6	3.3	2.0	2.7	7.2	4.2
Total Phosphorus	0.34	0.31	0.35	0.26	0.22	0.29
Total Kjeldahl Nitrogen	2.5	3.7	2.6	1.8	1.7	2.0
Ammonia Nitrogen	<0.30	1.33	0.76	<0.30	<0.30	<0.30
Nitrate Nitrogen	<0.13	4.71	7.92	3.26	<0.13	1.48
Total Nitrogen	2.6	8.7	10.9	5.1	1.8	3.5
Phenol Alkalinity	9	0	0	0	5	0
Total Alkalinity	150	110	104	134	153	149
Carbonate	10	0	0	0	5	0
Bicarbonate	163	134	127	163	180	182
Chloride (Field Test)	79.6	276	197	237	21.6	129
Total Coliform	3,870	122	20,100	24,200	3,870	24,200
<i>E. coli</i>	54	8	517	308	548	248
Enterococci	54	8	727	196	248	160
Total Hardness*	226	284	284	298	184	251
Calcium*	51	61	63	65	36	53
Magnesium*	24	32	31	33	23	29
Potassium*	9.4	19	18	18	6.8	13
Sodium*	61	163	155	156	52	108
Sulfate*	120	220	220	230	110	180
Total Dissolved Solids*		757				
Conductivity at 25°C*		1390				
Mercury*		0.000001				
Aluminum*		0.280				
Antimony*		0.0008				
Arsenic*		0.0015				
Barium*		0.030				
Beryllium*		<0.0001				
Boron*		0.35				
Cadmium*		0.00001				
Chromium*		0.0005				
Cobalt*		0.0003				
Copper*		0.020				
Iron*		0.062				
Lead*		0.0010				
Manganese*		0.16				
Molybdenum*		0.0048				
Nickel*		0.0020				
Selenium*		0.0018				
Silver*		<0.00005				
Strontium*		0.38				
Thallium*		<0.0002				
Uranium*		0.0002				
Vanadium*		0.0006				
Zinc*		0.046				

**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)**

Sep 5 - 209; Sep 7 - 229; Sep 12 - 236; Sep 14 - 234; Sep 19 - 225; Sep 21 - 201; Sep 26 - 230; Sep 28 - 253