PROVIDING MORE EPCOR

Gold Bar Wastewater Treatment Plant
Plant Performance Report
December 2019

Digested Sludge: Total Monthly Volume (ML)	69.3

Volume of Flow (ML)

DATE	Peak Flow (MLD)	Influent RAW	Effluent – Non UV Disinfected OUTFALL 30	Effluent – Non UV Disinfected OUTFALL 20	Effluent – Non UV Disinfected MPW	Effluent – UV Disinfected EPEPS	Effluent – UV Disinfected OUTFALL 10 FEC	Effluent – UV Disinfected OUTFALL 10 FE
Sun-01	377.8	261.5	0.0	0.0	12.7	0.0	248.8	248.8
Mon-02	346.5	265.1	0.0	0.0	12.0	0.0	253.1	253.1
Tue-03	341.6	260.4	0.0	0.0	11.6	0.0	248.8	248.8
Wed-04	337.1	256.5	0.0	0.0	10.7	0.0	245.8	245.8
Thu-05	342.0	253.9	0.0	0.0	9.9	0.0	244.0	244.0
Fri-06	337.8	259.8	0.0	0.0	11.2	0.0	248.6	248.6
Sat-07	358.5	253.5	0.0	0.0	9.8	0.0	243.7	243.7
Sun-08	370.0	255.7	0.0	0.0	8.0	0.0	247.7	247.7
Mon-09	350.3	259.2	0.0	0.0	9.0	0.0	250.2	250.2
Tue-10	340.8	255.7	0.0	0.0	7.7	0.0	248.0	248.0
Wed-11	339.6	255.1	0.0	0.0	9.6	0.0	245.5	245.5
Thu-12	335.1	253.9	0.0	0.0	8.7	0.0	245.2	245.2
Fri-13	332.0	257.0	0.0	0.0	10.2	0.0	246.8	246.8
Sat-14	360.0	252.0	0.0	0.0	7.8	0.0	244.2	244.2
Sun-15	356.1	250.5	0.0	0.0	8.0	0.0	242.5	242.5
Mon-16	342.0	254.7	0.0	0.0	7.9	0.0	246.8	246.8
Tue-17	335.5	250.5	0.0	0.0	8.5	0.0	242.0	242.0
Wed-18	332.5	251.2	0.0	0.0	8.7	0.0	242.5	242.5
Thu-19	332.6	251.0	0.0	0.0	9.7	0.0	241.3	241.3
Fri-20	334.6	253.9	0.0	0.0	9.4	0.0	244.5	244.5
Sat-21	347.8	245.9	0.0	0.0	11.1	0.0	234.8	234.8
Sun-22	351.0	244.0	0.0	0.0	12.0	0.0	232.0	232.0
Mon-23	343.6	249.9	0.0	0.0	11.8	0.0	238.1	238.1
Tue-24	371.8	254.3	0.0	0.0	12.4	0.0	241.9	241.9
Wed-25	327.2	224.4	0.0	0.0	12.5	0.0	211.9	211.9
Thu-26	328.3	226.8	0.0	0.0	12.0	0.0	214.8	214.8
Fri-27	353.6	244.6	0.0	0.0	12.6	0.0	232.0	232.0
Sat-28	355.1	243.3	0.0	0.0	11.9	0.0	231.4	231.4
Sun-29	351.8	238.8	0.0	0.0	12.2	0.0	226.6	226.6
Mon-30	348.2	245.9	0.0	0.0	12.2	0.0	233.7	233.7
Tue 31	366.2	252.2	0.0	0.0	13.0	0.0	239.2	239.2
Average	346.7	251.0	0.0	0.0	10.5	0.0	240.5	240.5
Minimum	327.2	224.4	0.0	0.0	7.7	0.0	211.9	211.9
Maximum	377.8	265.1	0.0	0.0	13.0	0.0	253.1	253.1
GeoMean	—	—	—	—	—	—	—	—
TOTAL	—	7,781	0	0.00	325	0	7,456	7,456

Liquid Stream Quality – pH, TSS, BOD₅/cBOD₅

DATE	pH@25°C RAW	pH OUTFALL 30	pH OUTFALL 20	pH OUTFALL 10 FEC	TSS (mg/L) RAW	TSS OUTFALL 30	TSS OUTFALL 20	TSS EPEPS	TSS OUTFALL 10 FEC	TSS OUTFALL 10 FE	$BOD_5/cBOD_5$ (mg/L) RAW BOD_5	OUTFALL 30 BOD_5	OUTFALL 20 BOD_5	EPEPS BOD_5	OUTFALL 10 FEC $cBOD_5$	OUTFALL 10 FE $cBOD_5$
Sun-01	7.6			7.7	284				3.4	3.4	303				3.0	3.0
Mon-02	7.6			7.8	256				2.9	2.9	310				3.0	3.0
Tue-03	7.5			7.8	296				3.4	3.4	294				3.0	3.0
Wed-04	7.7			7.8	312				3.4	3.4	305				3.0	3.0
Thu-05	7.4			7.7	246				4.1	4.1	414				3.0	3.0
Fri-06	7.6			7.7	332				3.4	3.4	330				3.0	3.0
Sat-07	7.6			7.7	308				4.1	4.1	305				2.0	2.0
Sun-08	7.5			7.6	264				2.9	2.9	288				3.0	3.0
Mon-09	7.5			7.7	340				3.8	3.8	326				4.0	4.0
Tue-10	7.5			7.7	308				3.3	3.3	328				3.0	3.0
Wed-11	7.5			7.7	340				3.4	3.4	343				3.0	3.0
Thu-12	7.4			7.6	304				3.2	3.2	406				2.0	2.0
Fri-13	7.5			7.7	356				3.8	3.8	316				3.0	3.0
Sat-14	7.5			7.7	332				3.7	3.7	397				3.0	3.0
Sun-15	7.6			7.6	292				3.1	3.1	342				3.0	3.0
Mon-16	7.6			7.8	335				3.9	3.9	325				2.0	2.0
Tue-17	7.5			7.6	332				2.7	2.7	367				2.0	2.0
Wed-18	7.6			7.7	344				2.9	2.9	330				2.0	2.0
Thu-19	7.5			7.6	372				3.1	3.1	281				1.0	1.0
Fri-20	7.5			7.7	344				2.8	2.8	336				2.0	2.0
Sat-21	7.6			7.7	324				3.1	3.1	336				2.0	2.0
Sun-22	7.6			7.6	352				3.5	3.5	353				2.0	2.0
Mon-23	7.5			7.6	328				3.1	3.1	324				2.0	2.0
Tue-24	7.6			7.7	332				3.5	3.5	356				2.0	2.0
Wed-25	7.5			7.7	308				2.9	2.9	371				1.0	1.0
Thu-26	7.6			7.6	340				3.3	3.3	369				3.0	3.0
Fri-27	7.6			7.7	292				3.2	3.2	295				2.0	2.0
Sat-28	7.5			7.7	340				3.1	3.1	331				2.0	2.0
Sun-29	7.6			7.5	320				2.3	2.3	403				3.0	3.0
Mon-30	7.6			7.7	331				3.4	3.4	339				2.0	2.0
Tue 31	7.6			7.7	380				3.5	3.5	399				3.0	3.0
Average	7.5	—	—	7.7	321	—	—	—	3.3	3.3	339	—	—	—	2.5	2.5
Minimum	7.4	—	—	7.5	246	—	—	—	2.3	2.3	281	—	—	—	1.0	1.0
Maximum	7.7	—	—	7.8	380	—	—	—	4.1	4.1	414	—	—	—	4.0	4.0
GeoMean	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Liquid Stream Quality – TP, NH3-N, TKN

DATE	TP (mg/L) RAW	TP OUTFALL 30	TP OUTFALL 20	TP EPEPS	TP OUTFALL 10 FEC	TP OUTFALL 10 FE	NH3-N (mg/L) RAW	NH3-N OUTFALL 30	NH3-N OUTFALL 20	NH3-N EPEPS	NH3-N OUTFALL 10 FEC	NH3-N OUTFALL 10 FE	TKN (mg/L) RAW	TKN OUTFALL 30	TKN OUTFALL 20	TKN OUTFALL 10 FEC
Sun-01	7.00				0.25	0.25	43.3				3.82	3.82	64.7			6.14
Mon-02	7.43				0.24	0.24	38.0				3.58	3.58	72.0			5.60
Tue-03	7.65				0.24	0.24	38.7				2.78	2.78	66.7			4.69
Wed-04	7.31				0.26	0.26	35.4				2.24	2.24	63.4			4.47
Thu-05	7.98				0.26	0.26	36.4				1.51	1.51	63.9			3.73
Fri-06	6.90				0.22	0.22	40.1				1.33	1.33	62.5			3.07
Sat-07	7.01				0.23	0.23	39.7				2.59	2.59	63.0			4.44
Sun-08	7.14				0.22	0.22	40.6				2.99	2.99	65.4			4.45
Mon-09	7.78				0.24	0.24	41.8				2.47	2.47	65.0			4.62
Tue-10	7.74				0.24	0.24	34.2				1.43	1.43	66.6			3.79
Wed-11	7.44				0.24	0.24	41.5				1.75	1.75	67.2			3.90
Thu-12	6.99				0.24	0.24	39.0				1.24	1.24	63.7			2.85
Fri-13	7.38				0.25	0.25	41.4				1.16	1.16	62.9			2.97
Sat-14	7.97				0.24	0.24	43.5				1.63	1.63	72.9			3.39
Sun-15	6.98				0.22	0.22	40.5				1.99	1.99	63.5			3.81
Mon-16	7.19				0.22	0.22	45.1				1.80	1.80	63.5			3.80
Tue-17	7.28				0.21	0.21	45.3				1.32	1.32	64.4			3.13
Wed-18	6.96				0.20	0.20	42.4				0.97	0.97	63.1			2.75
Thu-19	7.22				0.21	0.21	42.2				0.71	0.71	64.5			2.44
Fri-20	7.19				0.21	0.21	40.9				0.75	0.75	62.7			2.34
Sat-21	7.55				0.21	0.21	41.1				1.13	1.13	60.8			2.93
Sun-22	7.06				0.20	0.20	42.7				1.76	1.76	64.9			3.61
Mon-23	7.54				0.18	0.18	40.4				1.12	1.12	62.0			2.35
Tue-24	7.31				0.21	0.21	40.9				1.02	1.02	57.9			2.60
Wed-25	7.63				0.18	0.18	43.9				0.99	0.99	62.6			2.43
Thu-26	7.66				0.17	0.17	46.2				1.78	1.78	68.0			3.28
Fri-27	7.63				0.18	0.18	43.1				2.32	2.32	67.1			4.00
Sat-28	7.67				0.20	0.20	40.2				1.80	1.80	61.5			3.49
Sun-29	8.04				0.19	0.19	46.0				1.74	1.74	63.8			3.20
Mon-30	7.73				0.20	0.20	44.5				1.90	1.90	61.0			3.74
Tue 31	8.65				0.25	0.25	39.9				1.81	1.81	64.1			3.35
Average	7.46	—	—	—	0.22	0.22	41.3	—	—	—	1.79	1.79	64.4	—	—	3.59
Minimum	6.90	—	—	—	0.17	0.17	34.2	—	—	—	0.71	0.71	57.9	—	—	2.34
Maximum	8.65	—	—	—	0.26	0.26	46.2	—	—	—	3.82	3.82	72.9	—	—	6.14
GeoMean	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Liquid Stream Quality – NO_2+NO_3, Chloride, *E. coli*

DATE	NO_2+NO_3 (mg/L) RAW	NO_2+NO_3 OUTFALL 30	NO_2+NO_3 OUTFALL 20	NO_2+NO_3 OUTFALL 10 FEC	Chloride (mg/L) RAW	Chloride OUTFALL 30	Chloride OUTFALL 20	Chloride OUTFALL 10 FEC	*E. coli* (Counts/100 mL) RAW X10^6	*E. coli* OUTFALL 30 X10^6	*E. coli* OUTFALL 20 X10^6	*E. coli* OUTFALL 10 FEC
Sun-01				8.73	93.0			101				7
Mon-02				9.18	100			99.9				10
Tue-03				9.98	112			106				13
Wed-04	< 0.01			10.9	229			139				10
Thu-05				10.2	142			207				5
Fri-06				8.74	121			155				5
Sat-07				9.56	102			132				5
Sun-08				11.3	101			113				5
Mon-09				11.5	104			98.7				16
Tue-10				10.4	105			104				4
Wed-11	< 0.005			7.94	107			110				5
Thu-12				7.47	108			115	3			5
Fri-13				7.61	116			123				5
Sat-14				7.91	123			124				3
Sun-15				8.66	118			125				2
Mon-16				9.36	122			119				6
Tue-17				9.68	136			127	2			5
Wed-18	< 0.01			10.0	119			133				2
Thu-19				9.69	121			136				5
Fri-20				9.49	112			128				4
Sat-21				9.95	114			118				4
Sun-22				9.82	128			123				4
Mon-23				10.6	140			126				3
Tue-24				9.02	119			139				5
Wed-25				7.70	96.6			123				5
Thu-26				8.90	93.4			108				8
Fri-27				10.6	102			98.7				4
Sat-28				9.94	97.3			104				7
Sun-29				9.90	89.4			97.9				10
Mon-30				10.6	100			93.0				10
Tue 31				9.17	101			101				5
Average	< 0.01	—	—	9.50	115	—	—	120	—	—	—	—
Minimum	< 0.01	—	—	7.47	89.4	—	—	93.0	2	—	—	2
Maximum	—	—	—	11.5	229	—	—	207	3	—	—	16
GeoMean	—	—	—	—	—	—	—	—	2	—	—	5
TOTAL	—	—	—	—	—	—	—	—	—	—	—	—

* Contact Laboratory for information about the quality assurance associated with the results

RAW	Untreated Influent into the plant
INF	Untreated Wastewater from collection system
INFs	Influent, screened at the Headworks Diversion Structure
PE	Primary Effluent from conventional primaries
PE 30	Primary Effluent from conventional primaries discharged via Outfall 30
EPT	Enhanced Primary Treatment
EPE	Enhanced Primary Effluent
EPEPS	Enhanced Primary Effluent and Pump Station
FE	Final Effluent from secondary treatment process (with biological nutrient removal).
FEC	Combined pre-UV disinfection (FE+EPEPS)
OUTFALL 10	UV-disinfected, discharged via OUTFALL 10
OUTFALL 20	Combined Bypass (RAW + PE + EPE)
OUTFALL 30	Combined Bypass (INF + INFS + PE30 + EPE)
MPW	Membrane Product Water (Effluent re-use water)
ML	Megalitre (1,000,000 Litre)
MPN	Most Probable Number
NR	No Result
NS	No Sample
INS	Insufficient Sample

Enhanced Primary Treatment (EPT) Usage					
Total Bypass (hrs)	EPT Usage (hrs)	% Usage	Total Bypass YTD (hrs)	EPT Usage YTD (hrs)	% Usage
0	0	100%	673	673	100.00%

Report Comments

1	Outfall 10 - December 5: Analysis of the sample exceeded the recommended hold time for Chloride

AEP Ref #**

** AEP - Alberta Environment & Parks

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