PROVIDING MORE EPCOR

Gold Bar Wastewater Treatment Plant
Plant Performance Report
July 2018

Digested Sludge: Total Monthly Volume (ML)	66.22

Volume of Flow (ML)

DATE	Peak Flow (MLD)	Influent RAW	Effluent Non UV Disinfected OUTFALL 30	Non UV Disinfected OUTFALL 20	Non UV Disinfected MPW	UV Disinfected EPEPS	UV Disinfected OUTFALL 10 FEC	UV Disinfected OUTFALL 10 FE
Sun 01	348.66	252.98	0.00	0.00	11.45	0.00	241.53	241.53
Mon 02	339.59	246.24	0.00	0.00	11.21	0.00	235.03	235.03
Tue 03	530.53	274.44	6.73	0.00	11.17	0.00	256.54	256.54
Wed 04	334.17	264.95	0.00	0.00	11.32	0.00	253.63	253.63
Thu 05	340.83	265.89	0.00	0.00	10.76	0.00	255.13	255.13
Fri 06	343.58	265.88	0.00	0.00	10.61	0.00	255.27	255.27
Sat 07	640.51	300.56	39.35	0.00	10.45	0.00	250.76	250.76
Sun 08	351.09	251.36	0.00	0.00	10.61	0.00	240.75	240.75
Mon 09	471.48	290.84	1.88	0.00	10.23	0.00	278.73	278.73
Tue 10	690.61	265.80	9.06	0.00	10.30	0.00	246.44	246.44
Wed 11	1,218.63	389.23	59.21	0.00	10.39	0.00	319.63	319.63
Thu 12	358.28	270.63	0.00	0.00	9.94	0.00	260.69	260.69
Fri 13	1,261.14	439.51	93.29	0.02	9.27	0.00	336.93	336.93
Sat 14	674.88	308.52	9.06	0.00	9.14	0.00	290.32	290.32
Sun 15	365.33	270.63	0.00	0.00	9.55	0.00	261.08	261.08
Mon 16	356.99	269.29	0.00	0.00	9.96	0.00	259.33	259.33
Tue 17	355.56	268.65	0.00	0.00	9.76	0.00	258.89	258.89
Wed 18	520.57	305.97	10.19	0.00	10.33	0.00	285.45	285.45
Thu 19	728.68	286.92	9.68	0.00	9.31	0.00	267.93	267.93
Fri 20	1,259.20	473.57	141.39	0.00	9.33	0.00	322.85	322.85
Sat 21	575.42	342.42	14.26	0.00	10.59	0.00	317.57	317.57
Sun 22	575.89	306.16	11.64	0.00	10.17	0.00	284.35	284.35
Mon 23	353.50	281.07	0.00	0.00	9.75	0.00	271.32	271.32
Tue 24	338.06	270.57	0.00	0.00	9.23	0.00	261.34	261.34
Wed 25	338.19	270.12	0.00	0.00	9.96	0.00	260.16	260.16
Thu 26	346.55	266.57	0.00	0.00	10.71	0.00	255.86	255.86
Fri 27	353.95	268.08	0.00	0.00	9.23	0.00	258.85	258.85
Sat 28	352.75	250.30	0.00	0.00	10.64	0.00	239.66	239.66
Sun 29	354.03	256.83	0.00	0.00	10.40	0.00	246.43	246.43
Mon 30	361.09	272.62	0.00	0.00	9.48	0.00	263.14	263.14
Tue 31	357.65	266.14	0.00	0.00	10.11	0.00	256.03	256.03
Average	509.59	290.73	13.09	0.00	10.17	0.00	267.47	267.47
Minimum	334.17	246.24	0.00	0.00	9.14	0.00	235.03	235.03
Maximum	1,261.14	473.57	141.39	0.02	11.45	0.00	336.93	336.93
GeoMean	---	---	---	---	---	---	---	---
TOTAL	---	9,013	406	0	315	0	8,292	8,292

Liquid Stream Quality

DATE	pH@25°C RAW	pH OUTFALL 30	pH OUTFALL 20	pH OUTFALL 10 FEC	TSS RAW	TSS OUTFALL 30	TSS OUTFALL 20	TSS EPEPS	TSS OUTFALL 10 FEC	TSS OUTFALL 10 FE	$BOD_5/cBOD_5$ RAW BOD_5	BOD_5 OUTFALL 30 BOD_5	BOD_5 OUTFALL 20 BOD_5	BOD_5 EPEPS BOD_5	BOD_5 OUTFALL 10 FEC $cBOD_5$	BOD_5 OUTFALL 10 FE $cBOD_5$
Sun 01	7.7			7.6	396				11.7	11.7	293				6	6
Mon 02	7.9			7.5	346				8.0	8.0	288				4	4
Tue 03	7.6	7.8		7.5	377	86			3.8	3.8	352	145			3	3
Wed 04	7.6			7.5	340				3.0	3.0	250				2	2
Thu 05	7.6			7.5	293				3.2	3.2	284				2	2
Fri 06	7.5			7.5	220				4.2	4.2	285				2	2
Sat 07	7.5	7.5		7.5	412	33			5.0	5.0	254	66			2	2
Sun 08	7.7			7.4	308				2.8	2.8	287				2	2
Mon 09	7.5	7.9		7.4	220	85			4.2	4.2	386	128			< 2	< 2
Tue 10	7.7	7.9		7.4	344	73			3.5	3.5	230	198			2	2
Wed 11	7.5	7.4		7.4	432	73			3.9	3.9	333	65			2	2
Thu 12	7.4			7.4	266				4.5	4.5	269				3	3
Fri 13	7.5	7.5		7.6	580	63			5.2	5.2	232	75			3	3
Sat 14	7.5	7.7		7.3	324	38			5.5	5.5	242	45			3	3
Sun 15	7.7			7.4	354				5.6	5.6	231				3	3
Mon 16	7.5			7.5	303				8.8	8.8	266				5	5
Tue 17	7.6			7.5	400				5.7	5.7	283				4	4
Wed 18	7.6	7.7		7.5	310	75			5.2	5.2	248	90			3	3
Thu 19	7.4	7.8		7.5	390	77			3.9	3.9	236	163			3	3
Fri 20	7.4	7.4		7.4	404	63			5.7	5.7	210	71			3	3
Sat 21	7.6	7.7		7.4	294	46			4.7	4.7	235	79			3	3
Sun 22	7.5	7.6		7.5	336	78			4.8	4.8	256	86			3	3
Mon 23	7.6			7.5	276				4.4	4.4	222				3	3
Tue 24	7.6			7.5	303				4.1	4.1	277				3	3
Wed 25	7.5			7.4	308				4.5	4.5	289				3	3
Thu 26	7.6			7.6	294				4.5	4.5	294				3	3
Fri 27	7.7			7.6	292				6.5	6.5	259				3	3
Sat 28	7.6			7.5	384				5.2	5.2	326				3	3
Sun 29	7.5			7.6	392				5.0	5.0	339				3	3
Mon 30	7.6			7.6	384				8.4	8.4	305				4	4
Tue 31	7.7			7.5	260				6.7	6.7	332				4	4
Average	7.6	7.7	---	7.5	340	66	---	---	5.2	5.2	277	101	---	---	3.0	3.0
Minimum	7.4	7.4	---	7.3	220	33	---	---	2.8	2.8	210	45	---	---	2	2
Maximum	7.9	7.9	---	7.6	580	86	---	---	11.7	11.7	386	198	---	---	6	6
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

DATE	TP RAW	TP OUTFALL 30	TP OUTFALL 20	TP EPEPS	TP OUTFALL 10 FEC	TP OUTFALL 10 FE	NH3-N RAW	NH3-N OUTFALL 30	NH3-N OUTFALL 20	NH3-N EPEPS	NH3-N OUTFALL 10 FEC	NH3-N OUTFALL 10 FE	TKN RAW	TKN OUTFALL 30	TKN OUTFALL 20	TKN OUTFALL 10 FEC
Sun 01	8.40				0.32	0.32	45.5				0.47	0.47	63.8			2.83
Mon 02	7.11				0.29	0.29	43.1				2.26	2.26	56.5			4.22
Tue 03	7.36	4.99			0.23	0.23	38.7	35.9			1.87	1.87	53.5	43.3		3.76
Wed 04	8.46				0.17	0.17	42.5				2.08	2.08	68.9			2.85
Thu 05	7.38				0.22	0.22	24.0				3.33	3.33	56.6			4.92
Fri 06	7.09				0.23	0.23	36.1				3.01	3.01	53.1			4.57
Sat 07	6.48	3.30			0.32	0.32	30.3	30.5			1.12	1.12	54.1	32.8		2.87
Sun 08	7.31				0.31	0.31	40.1				1.59	1.59	54.9			3.28
Mon 09	7.16	4.64			0.24	0.24	32.9	32.5			2.16	2.16	51.3	40.5		3.71
Tue 10	7.38	6.10			0.22	0.22	37.6	41.8			0.87	0.87	53.6	46.2		2.41
Wed 11	6.06	2.52			0.23	0.23	26.3	18.0			1.00	1.00	42.2	26.8		2.34
Thu 12	8.18				0.30	0.30	36.5				0.99	0.99	61.4			2.59
Fri 13	5.70	3.48			0.31	0.31	20.4	23.3			0.96	0.96	36.6	30.9		2.69
Sat 14	7.51	2.49			0.27	0.27	36.9	23.9			1.00	1.00	55.7	29.6		2.64
Sun 15	8.22				0.29	0.29	40.8				1.98	1.98	62.7			3.78
Mon 16	7.48				0.45	0.45	33.9				1.61	1.61	51.9			3.63
Tue 17	7.47				0.34	0.34	36.1				1.61	1.61	54.5			3.35
Wed 18	6.62	5.01			0.42	0.42	32.4	30.5			0.77	0.77	50.5	40.4		2.55
Thu 19	7.81	7.17			0.64	0.64	36.7	38.4			0.72	0.72	58.0	60.2		2.72
Fri 20	5.01	3.10			0.43	0.43	17.5	22.5			0.68	0.68	32.4	26.6		2.54
Sat 21	5.95	3.66			0.30	0.30	28.4	27.3			0.65	0.65	42.6	34.2		2.08
Sun 22	7.26	5.71			0.26	0.26	32.6	37.6			0.87	0.87	46.2	48.3		2.49
Mon 23	9.41				0.26	0.26	37.8				0.50	0.50	60.5			1.99
Tue 24	7.77				0.35	0.35	42.6				0.88	0.88	60.5			2.64
Wed 25	8.85				0.36	0.36	34.6				1.10	1.10	67.0			3.00
Thu 26	7.96				0.33	0.33	40.4				0.48	0.48	60.4			2.50
Fri 27	8.38				0.30	0.30	41.6				0.36	0.36	60.7			1.99
Sat 28	9.07				0.30	0.30	33.7				0.43	0.43	62.4			2.51
Sun 29	9.47				0.37	0.37	42.9				0.61	0.61	67.4			2.40
Mon 30	8.45				0.42	0.42	39.0				0.38	0.38	64.0			2.34
Tue 31	7.90				0.36	0.36	42.5				0.26	0.26	61.3			2.22
Average	7.57	4.35	---	---	0.32	0.32	35.6	30.2	---	---	1.18	1.18	55.7	38.3	---	2.92
Minimum	5.01	2.49	---	---	0.17	0.17	17.5	18.0	---	---	0.26	0.26	32.4	26.6	---	1.99
Maximum	9.47	7.17	---	---	0.64	0.64	45.5	41.8	---	---	3.33	3.33	68.9	60.2	---	4.92
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

DATE	(NO_2+NO_{3-N}) RAW	(NO_2+NO_{3-N}) OUTFALL 30	(NO_2+NO_{3-N}) OUTFALL 20	(NO_2+NO_{3-N}) OUTFALL 10 FEC	Chloride RAW	Chloride OUTFALL 30	Chloride OUTFALL 20	Chloride OUTFALL 10 FEC	*E. coli* RAW X10^6	*E. coli* OUTFALL 30 X10^6	*E. coli* OUTFALL 20 X10^6	*E. coli* OUTFALL 10 FEC
Sun 01				7.49	75.3			74.7				11
Mon 02				10.7	77.4			79.6				15
Tue 03		3.53		10.3	75.5	79.8		82.7		2.0		24
Wed 04	< 0.15			9.66	76.8			81.6	1.8			30
Thu 05				10.2	74.8			84.8				23
Fri 06				8.60	79.2			80.5				15
Sat 07		1.35		8.89	64.5	69.9		80.5		1.3		5
Sun 08				10.1	68.7			69.6				5
Mon 09				9.75	69.8			73.4		2.0		7
Tue 10		2.06		10.3	75.6	81.0		76.4		2.8		22
Wed 11	< 0.01	0.53		9.18	56.3	50.5		70.4		0.5		50
Thu 12				11.8	77.1			79.7				21
Fri 13		0.81		9.22	54.8	61.5		72.2		1.8		27
Sat 14		1.15		10.1	71.2	55.3		67.0		1.3		10
Sun 15				12.6	75.0			76.5				24
Mon 16				12.2	81.4			81.8				42
Tue 17				8.70	75.2			86.2				15
Wed 18	< 0.15	1.60		9.22	81.3	85.1		85.8		2.0		14
Thu 19		0.96		10.8	70.5	73.0		83.2		2.9		13
Fri 20		0.75		8.87	49.3	51.7		76.6		1.7		8
Sat 21		0.80		7.83	65.0	62.1		58.5		1.6		8
Sun 22		4.22		9.44	74.3	83.3		74.6		1.8		4
Mon 23				9.87	80.0			76.2				3
Tue 24				13.0	80.4			87.0				4
Wed 25	< 0.15			11.3	75.6			90.2	3.4			5
Thu 26				11.0	77.9			92.4				9
Fri 27				11.8	76.8			87.2				4
Sat 28				12.1	70.2			84.8				2
Sun 29				12.9	71.0			79.2				3
Mon 30				12.3	76.2			77.7				6
Tue 31				11.2	75.9			88.8				8
Average	< 0.12	1.61	---	10.4	72.7	68.5	---	79.3	---	---	---	---
Minimum	< 0.01	0.53	---	7.49	49.3	50.5	---	58.5	1.8	0.5	---	2
Maximum	< 0.15	4.22	---	13.0	81.4	85.1	---	92.4	3.4	2.9	---	50
GeoMean	---	---	---	---	---	---	---	---	2.5	1.7	---	10
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---

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

Enhanced Primary Treatment (EPT) Usage

Total Bypass (hrs)	EPT Usage (hrs)	%	Total Bypass YTD (hrs)	EPT Usage YTD	% Usage YTD
51	51	100%	252	252	100.00%

Report Comments

1.	Outfall 10 test results for July 01 and July 03 through July 11 were determined from analysis of samples from the back-up auto-sampler. All other results were determined from samples from the lead auto-sampler.
2.	RAW - July 25, 2018: Test was repeated. Consequently, the recommended holding time was exceeded by five days prior to analysis.

AEP Ref #**

** AEP - Alberta Environment & Parks

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

Abhishek Bhargava
Senior Manager, Operations

Shane Harnish
Senior Manager, Analytical Operations