PROVIDING MORE EPCOR

GOLD BAR WASTEWATER TREATMENT PLANT
PLANT PERFORMANCE REPORT
July 2014

Digested Sludge: Total Monthly Volume (ML)	63.24

Volume of Flow (ML)

DATE	Peak Flow (MLD)	Influent RAW	Effluent Non UV Disinfected BYPASS OUT-FAL 30	Effluent Non UV Disinfected BYPASS OUT-FAL 20 PRIM	OUT-FAL 20 SEC	OUT-FAL 20 Total	Effluent Non UV Disinfected MPW	UV Disinfected OUT-FAL 10 EPE[!]	UV Disinfected OUT-FAL 10 FEC
1-Jul-14	433.79	282.62	1.97	0.00	0.00	1.97	10.84		269.81
2-Jul-14	362.25	273.06	0.00	0.00	0.00	0.00	10.62		262.44
3-Jul-14	432.57	276.48	0.00	0.00	0.00	0.00	9.49		266.99
4-Jul-14	372.60	275.49	0.00	0.00	0.00	0.00	10.89		264.60
5-Jul-14	1,345.94	559.43	240.32	0.45	0.00	240.77	11.30		307.36
6-Jul-14	695.54	349.28	28.81	0.00	0.00	28.81	9.56		310.91
7-Jul-14	394.32	298.99	0.00	0.00	0.00	0.00	11.01		287.98
8-Jul-14	414.67	293.38	0.00	0.00	0.00	0.00	10.82		282.56
9-Jul-14	437.72	285.67	0.00	0.00	0.00	0.00	10.16		275.51
10-Jul-14	389.12	283.10	0.00	0.00	0.00	0.00	9.89		273.21
11-Jul-14	372.78	278.60	0.00	0.00	0.00	0.00	9.61		268.99
12-Jul-14	381.68	263.50	0.00	0.00	0.00	0.00	11.54		251.96
13-Jul-14	372.87	261.53	0.00	0.00	0.00	0.00	10.11		251.42
14-Jul-14	365.26	276.73	0.00	0.00	0.00	0.00	9.59		267.14
15-Jul-14	365.03	278.59	0.00	0.00	0.00	0.00	10.91		267.68
16-Jul-14	361.15	278.30	0.00	0.00	0.00	0.00	10.55		267.75
17-Jul-14	845.01	373.29	85.80	0.00	0.00	85.80	8.91		278.58
18-Jul-14	395.14	299.11	2.90	0.00	0.00	2.90	9.32		286.89
19-Jul-14	551.94	323.46	28.25	0.00	0.00	28.25	11.09		284.12
20-Jul-14	452.93	280.74	8.42	0.00	0.00	8.42	10.47		261.85
21-Jul-14	364.43	281.58	0.00	0.00	0.00	0.00	9.86		271.72
22-Jul-14	363.62	276.54	0.00	0.00	0.00	0.00	9.91		266.63
23-Jul-14	368.15	278.03	0.00	0.00	0.00	0.00	11.72		266.31
24-Jul-14	368.17	280.36	0.00	0.00	0.00	0.00	10.64		269.72
25-Jul-14	1,367.39	934.83	587.71	0.28	0.00	587.99	10.15		336.69
26-Jul-14	715.62	546.29	203.76	0.00	0.00	203.76	11.91		330.62
27-Jul-14	471.75	379.26	50.12	0.00	0.00	50.12	10.66		318.48
28-Jul-14	452.98	364.47	36.67	0.00	0.00	36.67	10.63		317.17
29-Jul-14	430.27	329.45	3.51	0.00	0.00	3.51	11.75		314.19
30-Jul-14	408.25	315.33	0.00	0.00	0.00	0.00	11.61		303.72
31-Jul-14	396.16	309.13	0.00	0.00	0.00	0.00	11.62		297.51
Average	498.36	335.05	41.23	0.02	0.00	41.26	10.55	---	283.24
Minimum	361.15	261.53	0.00	0.00	0.00	0.00	8.91	0.00	251.42
Maximum	1,367.39	934.83	587.71	0.45	0.00	587.99	11.91	0.00	336.69
GeoMean	---	---	---	---	---	---	---	---	---
TOTAL	---	10,387	1,278.24	0.73	0.00	1,278.97	327.14	0.00	8,781

Liquid Stream Quality

DATE	pH@25°C OUT-FAL 30	pH@25°C OUT-FAL 20	pH@25°C OUT-FAL 10	TSS (mg/L) RAW	TSS (mg/L) OUT-FAL30	TSS (mg/L) OUT-FAL20	TSS (mg/L) OUT-FAL 10
1-Jul-14	-	-	7.5	280	-	-	5.9
2-Jul-14	-	-	7.7	272	-	-	7.4
3-Jul-14	-	-	7.6	237	-	-	13.1
4-Jul-14	-	-	7.5	291	62	-	12.3
5-Jul-14	-	-	7.5	324	136	-	9.5
6-Jul-14	-	-	7.6	332	67	-	4.3
7-Jul-14	-	-	7.4	268	-	-	6.2
8-Jul-14	-	-	7.6	376	-	-	10.2
9-Jul-14	-	-	7.5	300	-	-	9.3
10-Jul-14	-	-	7.6	564	-	-	8.1
11-Jul-14	-	-	7.5	317	-	-	5.9
12-Jul-14	-	-	7.6	320	-	-	5.6
13-Jul-14	-	-	7.7	242	-	-	4.1
14-Jul-14	-	-	7.7	256	-	-	4.9
15-Jul-14	-	-	7.6	262	-	-	4.2
16-Jul-14	-	-	7.5	260	-	-	4.6
17-Jul-14	-	-	7.6	356	63	-	3.6
18-Jul-14	-	-	7.6	347	-	-	4.1
19-Jul-14	-	-	7.6	272	75	-	2.6
20-Jul-14	-	-	7.6	268	56	-	3.6
21-Jul-14	-	-	7.4	256	-	-	4.0
22-Jul-14	-	-	7.6	202	-	-	5.0
23-Jul-14	-	-	7.6	288	-	-	5.0
24-Jul-14	-	-	7.7	388	-	-	5.1
25-Jul-14	-	-	7.6	426	252	390	6.3
26-Jul-14	-	-	7.7	47	34	-	3.0
27-Jul-14	-	-	7.6	304	26	-	2.9
28-Jul-14	-	-	7.6	253	45	-	5.5
29-Jul-14	-	-	7.6	302	-	-	5.1
30-Jul-14	-	-	7.6	290	-	-	4.0
31-Jul-14	-	-	7.6	218	-	-	4.4
Average	---	---	7.6	294	81.6	390	5.8
Minimum	---	---	7.4	47	26.0	390	2.6
Maximum	---	---	7.7	564	252.0	390	13.1
GeoMean	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---

DATE	BOD$_5$/cBOD$_5$ (mg/L) RAW BOD$_5$	cBOD$_5$ OUT-FAL30	BOD$_5$ OUT-FAL30	cBOD$_5$ OUT-FAL20	BOD$_5$ OUT-FAL20	cBOD$_5$ OUT-FAL 10	TP (mg/L) RAW	TP OUT-FAL30	TP OUT-FAL20	TP OUT-FAL 10
1-Jul-14	284	-	-	-	-	4	6.41	-	-	0.291
2-Jul-14	255	-	-	-	-	5	7.72	-	-	0.408
3-Jul-14	241	-	-	-	-	6	7.42	-	-	0.557
4-Jul-14	270	39	-	-	-	5	5.97	2.97	-	0.562
5-Jul-14	181	83	120	-	-	4	3.80	2.80	-	0.388
6-Jul-14	220	79	90	-	-	3	4.11	5.03	-	0.252
7-Jul-14	235	-	-	-	-	4	5.37	-	-	0.474
8-Jul-14	202	-	-	-	-	4	6.42	-	-	0.662
9-Jul-14	243	-	-	-	-	5	6.00	-	-	0.533
10-Jul-14	564	-	-	-	-	* 4	9.21	-	-	0.475
11-Jul-14	317	-	-	-	-	* 4	6.23	-	-	0.426
12-Jul-14	320	-	-	-	-	* 4	5.92	-	-	0.365
13-Jul-14	266	-	-	-	-	4	6.87	-	-	0.359
14-Jul-14	245	-	-	-	-	4	6.73	-	-	0.325
15-Jul-14	296	-	-	-	-	* 3	6.71	-	-	0.258
16-Jul-14	266	-	-	-	-	4	7.25	-	-	0.275
17-Jul-14	* 278	* 78	* 77	-	-	* 3	5.34	4.46	-	0.261
18-Jul-14	176	59	75	-	-	3	5.25	-	-	0.199
19-Jul-14	176	59	75	-	-	3	4.42	4.44	-	0.169
20-Jul-14	259	86	103	-	-	3	5.24	4.77	-	0.231
21-Jul-14	286	-	-	-	-	3	7.64	-	-	0.299
22-Jul-14	269	-	-	-	-	4	5.31	-	-	0.397
23-Jul-14	286	-	-	-	-	3	5.94	-	-	0.211
24-Jul-14	315	-	-	-	-	3	7.35	-	-	0.202
25-Jul-14	80	30	37	23	33	3	1.83	1.36	2.17	0.206
26-Jul-14	* 54	52	59	-	-	2	1.4	3.68	-	0.130
27-Jul-14	198	* 64	* 70	-	-	2	3.58	5.57	-	0.167
28-Jul-14	182	80	88	-	-	< 2	4.09	5.17	-	0.303
29-Jul-14	228	-	-	-	-	2	5.21	-	-	0.632
30-Jul-14	216	-	-	-	-	3	5.16	-	-	0.469
31-Jul-14	229	-	-	-	-	3	5.64	-	-	0.273
Average	235	65	80	23	33	4	5.66	4.03	2.17	0.35
Minimum	54	30	37	23	33	< 2	1.36	1.36	2.17	0.13
Maximum	477	86	120	23	33	6	9.2	5.57	2.17	0.66
GeoMean	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---

DATE	NH3-N (mg/L) RAW	NH3-N OUT-FAL30	NH3-N OUT-FAL20	NH3-N OUT-FAL 10	un-ionied ammonia (mg/L) OUT-FAL 10	TKN (mg/L) RAW	TKN OUT-FAL30	TKN OUT-FAL20	TKN OUT-FAL 10
1-Jul-14	29.7	-	-	1.14	0.015	46.7	-	-	3.28
2-Jul-14	36.3	-	-	1.50	0.019	51.1	-	-	3.66
3-Jul-14	34.7	-	-	1.88	0.017	51.0	-	-	4.78
4-Jul-14	23.8	11.7	-	1.80	0.022	44.6	16.0	-	4.24
5-Jul-14	17.0	13.3	-	0.53	0.007	29.7	18.6	-	2.39
6-Jul-14	20.2	24.0	-	0.51	0.005	33.6	33.5	-	2.14
7-Jul-14	24.8	-	-	0.89	0.008	42.0	-	-	2.81
8-Jul-14	24.9	-	-	0.63	0.007	45.1	-	-	2.88
9-Jul-14	23.0	-	-	0.24	0.002	43.3	-	-	2.34
10-Jul-14	26.2	-	-	0.13	0.002	59.5	-	-	1.84
11-Jul-14	26.2	-	-	0.09	< 0.001	46.0	-	-	1.79
12-Jul-14	24.7	-	-	0.13	0.001	43.0	-	-	1.78
13-Jul-14	27.5	-	-	0.11	0.001	45.4	-	-	1.31
14-Jul-14	29.7	-	-	0.04	< 0.001	47.4	-	-	1.74
15-Jul-14	30.2	-	-	0.10	0.002	46.6	-	-	1.64
16-Jul-14	30.2	-	-	0.24	0.003	48.7	-	-	1.84
17-Jul-14	20.6	23.6	-	0.13	< 0.001	36.6	32.7	-	1.71
18-Jul-14	25.7	-	-	0.13	0.002	40.4	-	-	1.63
19-Jul-14	20.2	23.2	-	0.06	< 0.001	34.3	31.3	-	1.46
20-Jul-14	25.6	28.8	-	0.18	0.002	40.4	38.8	-	1.61
21-Jul-14	33.0	-	-	0.06	< 0.001	54.4	-	-	1.44
22-Jul-14	25.6	-	-	0.10	-	39.7	-	-	1.70
23-Jul-14	26.5	-	-	0.12	0.001	46.2	-	-	1.58
24-Jul-14	33.6	-	-	0.11	0.001	54.6	-	-	1.62
25-Jul-14	3.9	6.5	3.10	0.03	< 0.001	14.0	11.7	7.50	1.74
26-Jul-14	13.6	20.3	-	0.11	0.001	18.4	29.7	-	1.20
27-Jul-14	20.5	23.4	-	0.01	< 0.001	32.6	42.8	-	1.27
28-Jul-14	21.6	27.0	-	0.09	0.001	32.5	34.6	-	1.41
29-Jul-14	25.3	-	-	0.11	-	37.7	-	-	1.46
30-Jul-14	24.5	-	-	0.08	< 0.001	35.4	-	-	1.29
31-Jul-14	20.3	-	-	0.06	< 0.001	38.2	-	-	1.41
Average	24.8	20.2	3.10	0.37	0.004	41.3	29.0	7.50	2.03
Minimum	3.9	6.5	3.10	0.01	0.001	14.0	11.7	7.50	1.20
Maximum	36.3	28.8	3.10	1.88	0.022	59.5	42.8	7.50	4.78
GeoMean	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---

DATE	NO$_2$+NO$_3$ (mg/L) RAW	NO$_2$+NO$_3$ OUT-FAL30	NO$_2$+NO$_3$ OUT-FAL20	NO$_2$+NO$_3$ OUT-FAL 10	Chloride (mg/L) RAW	Chloride OUT-FAL30	Chloride OUT-FAL20	Chloride OUT-FAL 10
1-Jul-14	< 0.01	-	-	8.1	62	-	-	68
2-Jul-14	-	-	-	9.8	71	-	-	68
3-Jul-14	-	-	-	12.4	69	-	-	75
4-Jul-14	-	0.032	-	12.2	69	32	-	75
5-Jul-14	-	0.079	-	7.9	52	35	-	64
6-Jul-14	-	0.027	-	9.9	55	57	-	60
7-Jul-14	-	-	-	10.6	70	-	-	67
8-Jul-14	0.09	-	-	10.8	67	-	-	78
9-Jul-14	-	-	-	10.7	71	-	-	79
10-Jul-14	-	-	-	10.3	72	-	-	83
11-Jul-14	-	-	-	10.8	72	-	-	78
12-Jul-14	-	-	-	10.2	68	-	-	78
13-Jul-14	-	-	-	9.8	64	-	-	74
14-Jul-14	-	-	-	8.9	68	-	-	70
15-Jul-14	-	-	-	8.6	71	-	-	74
16-Jul-14	-	-	-	8.5	72	-	-	75
17-Jul-14	-	0.274	-	7.6	55	60	-	73
18-Jul-14	-	-	-	7.5	67	-	-	65
19-Jul-14	-	0.230	-	8.8	58	59	-	71
20-Jul-14	-	0.237	-	9.6	58	63	-	66
21-Jul-14	-	-	-	10.4	72	-	-	65
22-Jul-14	< 0.10	-	-	10.4	68	-	-	73
23-Jul-14	-	-	-	11.0	66	-	-	75
24-Jul-14	-	-	-	10.8	70	-	-	78
25-Jul-14	-	1.920	1.04	5.9	27	20	7.4	65
26-Jul-14	-	0.666	-	5.1	58	60	-	46
27-Jul-14	-	1.600	-	9.1	70	66	-	71
28-Jul-14	-	0.374	-	10.3	72	70	-	73
29-Jul-14	0.11	-	-	11.3	73	-	-	80
30-Jul-14	-	-	-	10.0	72	-	-	81
31-Jul-14	-	-	-	10.0	75	-	-	81
Average	0.08	0.54	1.040	9.6	66	52	7.4	72
Minimum	0.01	0.03	1.040	5.10	27	20	7.4	46
Maximum	0.11	1.92	1.040	12.4	75	70	7.4	83
GeoMean	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---

DATE	Chloride OUT-FAL 10	E.Coli (Counts/100 mL) RAW X10^6	E.Coli OUT-FAL30 X10^6	E.Coli OUT-FAL20 X10^6	E.Coli OUT-FAL 10
1-Jul-14	269.81	2.91	1.5	-	20
2-Jul-14	262.44	-	-	-	12
3-Jul-14	266.99	-	-	-	27
4-Jul-14	264.60	-	-	-	30
5-Jul-14	307.36	-	0.4	0.9	16
6-Jul-14	310.91	-	4.7	-	8
7-Jul-14	287.98	-	-	-	4
8-Jul-14	282.56	-	-	-	12
9-Jul-14	275.51	-	-	-	24
10-Jul-14	273.21	4.11	-	-	9
11-Jul-14	268.99	-	-	-	12
12-Jul-14	251.96	-	-	-	33
13-Jul-14	251.42	-	-	-	4
14-Jul-14	267.14	-	-	-	7
15-Jul-14	267.68	-	-	-	10
16-Jul-14	267.75	-	-	-	11
17-Jul-14	278.58	-	-	-	13
18-Jul-14	286.89	-	2.0	-	68
19-Jul-14	284.12	-	2.2	-	25
20-Jul-14	261.85	-	-	-	5
21-Jul-14	271.72	-	1.8	-	3
22-Jul-14	266.63	-	-	-	17
23-Jul-14	266.31	-	-	-	4
24-Jul-14	269.72	-	-	-	* 14
25-Jul-14	336.69	-	1.2	0.5	* 10
26-Jul-14	330.62	-	1.3	-	* 3
27-Jul-14	318.48	-	7.7	-	* 21
28-Jul-14	317.17	-	3.6	-	4
29-Jul-14	314.19	-	3.9	-	22
30-Jul-14	303.72	-	-	-	17
31-Jul-14	297.51	-	-	-	3
Average	283.24	---	---	0.7	---
Minimum	251.42	2.91	0.40	0.5	3
Maximum	336.69	4.11	7.70	0.9	68
GeoMean	---	3.46	2.11	---	11
TOTAL	---	---	---	---	---

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

! The values in EPE (flow) column indicate wet weather events, then the OUT FAL 10 Average calculation exclude numbers for that day (grey/italics)

x - analysis performed at an ISO 17025 Accredited external laboratory.

Report Comments

AESRD Ref #

---	Standard Method Code B - Dilution water blanks exceeded 0.20 mg/L depletion.
---	Standard Method Code A - GGA reference recovery not within acceptable QC limits
---	Standard Method Code C - %Range of sample replicate not within acceptable QC limits
---	Standard Method Code H - Sample overaged (>48 hours from final sample collection time).
---	Standard Method Code I - Sample volume < 100% and < 2 mg/L depletion.
---	Sample incubation temperature outside acceptance limits.

* AESRD - Alberta Environment & Sustainable Resource and Development

RAW ⇨ Plant Influent (Untreated Wastewater)
PRIM ⇨ Primary
SEC ⇨ Secondary
EPT ⇨ Enhanced Primary Treatment
EPEPS ⇨ Enhanced Primary Effluent and Pump St.
MPW ⇨ Membrane Product Water (Effluent re-use water)
OUT FAL 10 ⇨ Combined, UV-disinfected (FE +EPEPS)
OUT FAL 20 ⇨ Combined Bypass (RAW + PE + EPE)
OUT FAL 30 ⇨ Combined Bypass (INF + INFS + PE30 + EPE)
ML ⇨ Megalitres (1,000,000 Litres)
MPN ⇨ Most Probable Number
E ⇨ Estimated Value
A ⇨ Average
nr ⇨ No Result
ns ⇨ No Sample
ws ⇨ Wrong Sample

9/11/2014

Geoff Heise
Senior Manager, Operations
Date (mm/dd/yyyy)

Debra Long
Senior Manager, Analytical Operations
09/08/2014
Date (mm/dd/yyyy)