EPCOR Water Services

Edmonton, Alberta

2025

Annual Wastewater System Report

Submitted to:

The Province of Alberta

Alberta Environment and Protected Areas (AEPA)

As per requirements of:

Approval to Operate No. 639-04-00

February 2026

Executive Summary

The following report contains two parts, Part I: Wastewater Treatment Plant and Part II: Wastewater Collection System, in order to meet the requirements of Approval to Operate No. 639-04-00.

The 2025 Annual Wastewater Treatment Plant Report is separated into an Annual Wastewater Treatment Report, an Annual Air Pollution Control System Report, an Annual Ambient Air Report, and a summary of contraventions reported, as outlined in the Approval to Operate.

The 2025 Annual Wastewater Collection System Report includes a summary of completed projects and planned major rehabilitation projects, the interconnection control strategy, and storm and CSO volumes and loadings in addition to other requirements outlined in the Approval to Operate.

Changes to the Operations Program

In line with the new approval issued in January 2026, the Wastewater Treatment Plant and Wastewater Collections programs will be consolidated into a single **Wastewater System Operations Program** in 2026.

Summary of changes to the current Operations Program are as follows:

Wastewater Treatment Plant

- Re-title document to Operations Program
- Updated references to Approval 639-04
- Section 5: clarified exceedance reporting protocol
- Section 6: added chemical to Table 6-1
    - Polymer: SLS 31259, provided by SLS Chemical Inc.
- Section 18: Administrative Information – added new section to include details regarding
    - Drawings
    - Maintenance Procedures
    - Emergency Response Plans
- Appendix A: updated 7-day letter waiver to latest version, issued January 16, 2026

Wastewater Collection

- The Wastewater Collection System Chemical Usage Protocol was updated to include reference to the MySDS chemical use approval tracking system, an updated list of chemicals that are used in the WWC system and an updated format to align with other EPCOR Water Services procedures.

Part I: Wastewater Treatment Plant Report

EPCOR Water Services

Gold Bar Wastewater Treatment Plant

Edmonton, Alberta

2025

Annual Wastewater Treatment Plant Report

Submitted to:

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Acronyms

AAAQO	Alberta Ambient Air Quality Objectives
AEPA	Alberta Environment and Protected Areas
AQMS	Air Quality Monitoring Station
CBBRF	Clover Bar Biosolids Recycling Facility
CBOD	Carbonaceous Biological Oxygen Demand
CSO	Combined Sewer Overflow
EPE	Enhanced Primary Effluent
EPEPS	Enhanced Primary Effluent Pumping Station
EPT	Enhanced Primary Treatment
FE	Final Effluent
FEC	Final Effluent Combined
GBWWTP	Gold Bar Wastewater Treatment Plant
H_2S	Hydrogen Sulfide
HSE	Health, Safety, and Environment
ISO	International Organization for Standardization
ML	Megalitres
MLD	Megalitres per Day
MLSS	Mixed Liquor Suspended Solids
NH_3-N	Ammonia-Nitrogen
NSR	North Saskatchewan River
ORP	Oxidation-Reduction Potential
PE	Primary Effluent
SOP	Standard Operating Procedure
TKN	Total Kjeldahl Nitrogen
TP	Total Phosphorus
TSS	Total Suspended Solids
UV	Ultraviolet
WELP	Wastewater Effluent Limit Performance
WWTP	Wastewater Treatment Plant

2025 Overview

The Gold Bar Wastewater Treatment Plant located on the banks of the North Saskatchewan River in Edmonton, Alberta maintains the ISO 14001:2015 (Environmental Management System) and the ISO 45001:2018 (Occupational Health and Safety Management System) certificates for its Integrated Management System.

Notable capital projects in 2025 include the completion of the PE Channel rehabilitation (Phase 1) and commissioning of Digester 4. Ongoing work continued on the Secondary Aeration Blowers Upgrades, Expanding Flare Capacity and Square 1 Biogas System Upgrade with their completion expected in 2026. Additional projects underway which will impact process include Odour Control Improvements, RAS/WAS 9-11 Pumping upgrades, Auxillary Control Room Electrical Upgrade EB-1 and Edmonton Waste Management Centre Groundwater Transfer will continue into 2027.

In 2025, there were several exceedances of the *Alberta Ambient Air Quality Objectives* (AAAQO) for H_2S. The majority of the exceedances occurred in August and September when there was minimal precipitation to flush the collection system, but the temperature remained warm. There were no exceedances for NO_2 or SO_2.

The true dry weather flow in 2025 was 283 MLD. 2025 hosted 5 significant wet weather events resulting in main plant bypasses and a total of 74 secondary bypasses. The plant performed well with a WWTP Effluent Limit Performance (WELP) index of 22.88%.

2025 Annual Wastewater Treatment Report

Gold Bar WWTP Performance

The Gold Bar WWTP final effluent discharge limits of Approval to Operate 639-04-00 are listed in Table 1 and the monitoring requirements are outlined in Table 2.

Table 1111: Limits for Treated Wastewater (Approval to Operate Table 5-1)

Parameter	Limit
$CBOD_5$	≤ 20 mg/L monthly arithmetic mean of daily composite samples
TSS	≤ 20 mg/L monthly arithmetic mean of daily composite samples
Total Phosphorus	≤ 1.0 mg/L monthly arithmetic mean of daily composite samples
Total Ammonia-nitrogen (December 1 to May 31)	≤ 10 mg/L monthly arithmetic mean of daily composite samples
Total Ammonia-nitrogen (June 1 to November 30)	≤ 5 mg/L monthly arithmetic mean of daily composite samples
E. Coli	≤ 126 per 100 mL/monthly geometric mean
pH	6.5-8.5

Table 2222: Monitoring - Wastewater System (Approval to Operate Table 6-1)

Parameter	Frequency (Minimum)	Sample Type	Sampling Location
UNTREATED WASTEWATER			
pH BOD_5 TSS Total Phosphorus Total Ammonia-nitrogen	Once per day	Composite	Untreated wastewater entering the wastewater treatment plant
Volume of Flow	Continuous, recorded daily	Calculated	Untreated wastewater entering the wastewater treatment plant
TREATED WASTEWATER			
pH BOD_5 TSS Total Phosphorus Total Ammonia-nitrogen	Once per day	Composite	Wastewater treated plant effluent prior to release to the North Saskatchewan River
E. Coli	Once per day	Grab	After ultraviolet (UV) disinfection
Acute Toxicity	Monthly	Grab	Wastewater treatment plant effluent prior to release to the North Saskatchewan River
Chronic Toxicity	Quarterly	Grab	Wastewater treatment plant effluent prior to release to the North Saskatchewan River
Volume	Continuous, recorded daily	Calculated	Wastewater treatment plant effluent prior to release to the North Saskatchewan River
Volume	Continuous, recorded daily	Calculated	Reuse water transmission main

Parameter	Frequency (Minimum)	Sample Type	Sampling Location
WASTEWATER TREATMENT PLANT BYPASS			
Release Volume	Continuous during bypass event, recorded daily	Calculated	Primary and secondary treatment bypass of wastewater at the wastewater treatment plant
pH BOD_5 TSS Total Phosphorus Total Ammonia-nitrogen	Any bypass event lasting > 2 hours	Composite	
E. Coli	Any bypass event lasting > 2 hours	Grab	
SLUDGE DISPOSAL			
Sludge Volume	Total volume	Estimated	Prior to leaving the wastewater treatment plant
Sludge Mass	Total mass	Estimated	Amount of sludge being disposed of as per the *Biosolids Management Plan*
CSO OUTFALLS AND UNAUTHORIZED RELEASE			
Release Volume	Total volume during each discharge event	Continuous during discharge event	Rat Creek CSO outfall; Hardisty-Capilano CSO outfall; Highlands CSO outfall; Cromdale CSO outfall; Strathearn CSO outfall; and unauthorized release point
pH BOD_5 TSS Total Phosphorus Total Ammonia-nitrogen *E. Coli*	Each discharge event	Composite	Rat Creek CSO outfall
		Grab	Unauthorized release point
The amount of any substance other than wastewater or storm water that is spilled or discharged accidentally or intentionally into the wastewater collection system	Each event	Estimated volume or mass	Unauthorized release point

Table 3 summarizes the monthly minimum, mean, and maximum values for parameters in Table 1 from January 1 to December 31, 2025. All analytical data in the table were developed on 24-hour composite samples collected using autosamplers at the sampling location specified in Table 2. The discrete samples for *Escherichia coli* (*E. coli*) determinations were collected at random times each day. Raw composite samples in April were run past the recommended holding time as noted in the April 2025 Plant Performance Report, but all sampling requirements were still met. Appendix A contains the monthly Plant Performance Reports.

Table 3333: 2025 Gold Bar WWTP Performance

		Flows (ML)							pH				TSS (mg/L)					BOD$_5$ (mg/L)					CBOD$_5$ (mg/L)	TP (mg P/L)					NH$_3$ (mg N/L)					TKN (mg N/L)				$NO_2 + NO_3$ (mg N/L)	Chloride (mg/L)				*E. coli* (Counts/100 mL)				Digested Sludge	EPT Usage (YTD)		
		Raw	Outfall 30	OutFall 20	MPW	EPEPS	Outfall 10		Raw	Outfall 30	Outfall 20	Outfall1	Raw	Outfall 30	Outfall 20	EPEPS	Outfall10		Raw	Outfall 30	Outfall 20	EPEPS	Outfall10		Raw	Outfall 30	Outfall 20	EPEPS	Outfall10		Raw	Outfall 30	Outfall 20	EPEPS	Outfall10		Raw	Outfall 30	Outfall 20	Outfall1		Raw	Outfall 30	Outfall 20	Outfall10	Raw ($\times 10^3$)	Outfall 30 ($\times 10^3$)	Outfall 20 ($\times 10^3$)	Outfall10		Bypass (hr)	Usage (hr)	Usage (%)
							FEC	FE				FEC					FEC	FE					FEC	FE					FEC	FE					FEC	FE																	
January	Avg/Geomean	276.5	0.7	0.0	12.8	0.0	263.0	263.0	7.51	7.66		7.44	348	69			3.8	3.8	342	157			3	3	9.5	9.6			0.33	0.33	42.6	42.0			3.02	3.02	65.1	62.7		4.6	<0.01	0.1		11.9	136	426		142				9	68.3			
	Min	259.2	0.0	0.0	11.1	0.0	247.3	247.3	7.39	7.63		7.28	272	64			2.1	2.1	299	135			2	2	7.5	6.1			0.16	0.16	33.5	38.8			0.92	0.92	52.1	41.6		1.9	<0.01	0.1		8.3	84	385		89	2.0	0.5		3		5	5	100%
	Max	322.6	13.6	0.0	14.2	0.0	302.3	302.3	7.66	7.70		7.59	460	73			5.2	5.2	379	179			4	4	14.0	13.1			0.44	0.44	47.3	45.1			6.10	6.10	79.2	83.8		7.1	<0.01	0.1		13.6	297	467		290	2.1	2.1		19				
February	Avg/Geomean	291.9	14.7	0.0	11.1	0.0	266.1	266.1	7.44	7.45		7.45	294	86			4.3	4.3	319	130			3	3	8.2	7.3			0.37	0.37	42.6	37.3			5.39	5.39	57.4	48.1		5.9	<0.01	0.2		10.9	139	350		132	2.6	0.5		12				
	Min	265.7	0.0	0.0	7.7	0.0	254.6	254.6	7.32	7.36		7.28	228	60			2.6	2.6	201	89			2	2	5.4	5.5			0.16	0.16	26.1	15.5			3.33	3.33	36.1	36.1		1.7	<0.01	0.1		7.0	87	226		86	2.3	0.1		4	83.5	72	72	100%
	Max	464.6	157.5	0.0	11.8	0.0	313.4	313.4	7.54	7.53		7.57	400	134			6.7	6.7	391	169			4	4	9.6	8.5			0.53	0.53	48.9	47.7			8.13	8.13	68.7	55.3		7.4	<0.01	0.2		13.0	392	503		298	2.9	>6.0		200				
March	Avg/Geomean	306.0	12.8	0.0	11.9	0.0	281.3	281.3	7.40	7.52		7.41	280	90			3.6	3.6	306	144			3	3	8.0	8.1			0.30	0.30	39.2	41.0			5.76	5.76	52.2	58.0		9.7	<0.01	0.1		10.3	132	180		142	2.4	1.6		9				
	Min	274.3	0.0	0.0	10.9	0.0	261.9	261.9	7.29	7.39		7.17	68	67			1.2	1.2	169	116			<2	<2	6.1	7.0			0.22	0.22	29.0	31.2			2.94	2.94	35.9	39.3		2.8	<0.01	0.0		7.5	95	109		108	2.4	0.1		3	73	107	107	100%
	Max	381.9	69.6	0.0	12.4	0.0	309.7	309.7	7.55	7.77		7.64	376	110			5.5	5.5	358	181			3	3	9.9	10.0			0.50	0.50	45.3	46.4			9.76	9.76	62.4	61.7		69.3	<0.01	0.2		12.8	229	283		235	2.4	8.0		27				
April	Avg/Geomean	295.4	3.5	0.0	9.9	0.0	282.0	282.0	7.47	7.58		7.45	313	77			4.5	4.5	310	143			3	3	8.3	7.4			0.33	0.33	40.9	24.4			5.24	5.24	57.8	45.2		6.9	<0.01	0.1		9.8	105	132		110	3.0	1.5	0.0	13				
	Min	271.1	0.0	0.0	7.6	0.0	262.9	262.9	7.28	7.46		7.31	260	72			3.3	3.3	233	100			<2	<2	6.4	5.8			0.28	0.28	31.6	2.6			1.82	1.82	42.2	38.7		3.4	<0.01	0.1		7.1	89	117		93	2.9	0.9	0.0	4	78.1	21	21	100%
	Max	377.4	80.6	0.3	12.3	0.0	315.9	315.9	8.48	7.67		7.88	420	84			6.9	6.9	352	218			4	4	10.5	9.0			0.42	0.42	44.8	39.4			8.03	8.03	70.9	49.0		8.9	<0.01	0.2		11.7	152	158		183	3.0	4.0	0.0	55				
May	Avg/Geomean	287.9	7.7	0.0	8.2	0.0	271.9	271.9	7.44	7.51		7.53	369	74			4.3	4.3	277	141			3	3	8.4	6.4			0.34	0.34	38.4	32.8			2.74	2.74	56.9	41.0		4.4	<0.01	0.1		9.5	87	78		91	2.6	1.9		13				
	Min	259.3	0.0	0.0	4.7	0.0	252.6	252.6	7.33	7.38		7.35	288	43			3.0	3.0	213	74			<2	<2	5.9	3.7			0.26	0.26	30.3	20.8			0.66	0.66	39.9	24.9		2.1	<0.01	0.0		6.8	78	85		85	2.6	1.0		5	75.1	49	49	100%
	Max	351.2	38.8	0.0	13.5	0.0	319.5	319.5	7.82	7.72		7.75	496	105			6.1	6.1	341	251			5	5	10.2	10.0			0.99	0.99	44.0	40.8			4.99	4.99	68.3	57.2		6.3	<0.01	0.4		12.1	96	94		99	2.6	6.1		95				
June	Avg/Geomean	334.5	30.7	0.0	11.6	0.0	292.1	292.1	7.48	7.63		7.59	329	70			5.9	5.9	259	94			6	6	7.6	6.1			0.50	0.50	35.0	33.1			2.64	2.64	55.2	41.6		4.5	0.01	0.1		9.6	87	82		92	4.7	2.2		11				
	Min	277.6	0.0	0.0	8.5	0.0	264.8	264.8	7.06	7.30		7.29	172	34			3.9	3.9	142	54			3	3	3.9	3.1			0.28	0.28	16.3	20.8			0.30	0.30	26.8	24.3		1.9	<0.01	0.0		4.4	48	50		64	3.2	0.6		4	73.2	94	94	100%
	Max	618.2	275.9	0.0	13.4	0.0	334.3	334.3	7.72	7.82		8.17	584	180			9.7	9.7	312	170			12	12	9.3	8.9			1.01	1.01	44.1	40.9			6.24	6.24	66.8	54.5		8.3	0.02	0.5		12.6	109	107		107	6.7	9.0		34				
July	Avg/Geomean	318.4	15.4	0.0	11.8	0.0	289.2	289.2	7.51	7.59		7.65	329	70			6.3	6.3	252	89			6	6	7.7	6.5			0.47	0.47	34.8	32.4			0.88	0.88	54.2	39.5		2.8	<0.01	0.1		10.7	88	66		95		3.4		10				
	Min	281.6	0.0	0.0	10.8	0.0	269.9	269.9	7.26	7.46		7.43	248	46			4.3	4.3	156	73			3	3	4.6	4.4			0.34	0.34	20.1	20.5			0.24	0.24	31.2	25.4		1.9	<0.01	0.0		7.7	56	48		67		1.0		3	69.5	55	55	100%
	Max	508.2	178.0	0.0	13.9	0.0	334.1	334.1	7.70	7.86		7.90	392	108			10.9	10.9	344	114			10	10	9.9	9.2			1.11	1.11	40.9	43.0			2.57	2.57	63.1	55.9		5.2	<0.01	0.3		13.0	102	87		109		>80.0		33				
August	Avg/Geomean	317.3	13.4	0.0	11.4	0.0	292.5	292.5	7.50	7.66		7.56	338	85			4.2	4.2	256	107			3	3	7.7	5.4			0.36	0.36	34.6	29.3			0.84	0.84	54.1	38.2		2.4	<0.01	0.2		10.6	85	72		91	3.4	2.3		12				
	Min	283.0	0.0	0.0	9.7	0.0	270.0	270.0	7.39	7.32		7.34	228	40			1.8	1.6	194	48			2	2	5.6	2.4			0.25	0.25	22.6	11.8			0.26	0.26	35.7	18.6		1.7	<0.01	0.0		7.5	61	37		75	3.2	0.6		2	88.7	55	55	100%
	Max	542.8	182.1	0.0	13.0	0.0	349.7	349.7	7.63	7.88		7.76	436	166			5.9	5.9	357	186			4	4	9.1	8.1			0.62	0.62	41.8	43.7			1.58	1.58	63.7	54.7		3.1	<0.01	1.8		12.3	101	97		106	3.5	5.5		93				
September	Avg/Geomean	283.0	0.0	0.0	9.8	0.0	273.2	273.2	7.52			7.62	379				3.7	3.7	295				3	3	8.3				0.25	0.25	41.0				0.96	0.96	64.3			2.4	<0.01			9.1	79			84	4.8			6				
	Min	270.9	0.0	0.0	8.2	0.0	261.2	261.2	7.39			7.47	244				2.5	2.5	248				2	2	7.1				0.20	0.20	38.4				0.42	0.42	57.2			2.0	<0.01			7.2	68			77	4.8			2	67.3	0	0	100%
	Max	296.5	0.0	0.0	12.4	0.0	286.2	286.2	7.69			7.72	488				5.2	5.2	335				3	3	10.7				0.38	0.38	43.3				1.64	1.64	84.4			3.3	<0.01			10.9	87			90	4.8			15				
October	Avg/Geomean	283.2	2.6	0.0	12.0	0.0	268.7	268.7	7.53	7.54		7.64	374	146			4.5	4.5	282	136			3	3	8.2	5.1			0.27	0.27	41.7	25.0			0.95	0.95	59.8	34.2		2.4	<0.01	0.4		9.3	76	49		81	5.3	11.6		7				
	Min	264.9	0.0	0.0	10.9	0.0	253.5	253.5	7.41	7.27		7.49	312	115			2.5	2.5	206	92			2	2	5.7	2.6			0.17	0.17	25.1	16.9			0.21	0.21	37.6	23.1		1.2	<0.01	0.3		6.1	49	38		66	5.3	0.7		2	66.5	10	10	100%
	Max	417.3	78.9	0.0	13.3	0.0	326.9	326.9	7.64	7.81		7.94	496	176			8.7	8.7	367	180			4	4	9.7	7.5			0.50	0.50	46.0	33.0			3.34	3.34	69.3	45.2		5.2	<0.01	0.5		11.6	85	60		87	5.3	>80.0		21				
November	Avg/Geomean	282.5	1.3	0.0	11.3	0.0	269.9	269.9	7.63	7.65		7.63	461	129			4.4	4.4	286	161			3	3	9.0	4.7			0.25	0.25	37.7	32.6			2.05	2.05	59.3	38.8		3.4	<0.01	0.1		8.5	82	90		87	3.2	1.1		6				
	Min	269.0	0.0	0.0	3.0	0.0	256.9	256.9	7.50	7.63		7.38	296	124			1.8	1.8	211	126			<2	<2	7.0	3.9			0.19	0.19	27.6	25.2			1.28	1.28	48.0	29.7		2.4	<0.01	0.0		7.0	59	49		72	3.2	0.3		1	67.4	9	9	100%
	Max	337.4	23.0	0.0	13.1	0.0	310.7	310.7	7.75	7.86		7.88	1140	136			6.4	6.4	345	215			6	6	15.6	5.4			0.30	0.30	40.7	42.1			3.32	3.32	90.9	50.8		4.5	<0.01	0.1		10.4	116	131		116	3.2	2.7		28				
December	Avg/Geomean	281.5	1.0	0.0	11.7	0.0	268.8	268.8	7.52	7.30		7.52	330	228			4.2	4.2	286	172			4	4	8.1	4.4			0.25	0.25	41.5	34.3			2.59	2.59	59.6	42.9		3.8	<0.01	0.1		8.9	129	541		135	2.2	1.8		7				
	Min	258.0	0.0	0.0	10.7	0.0	247.1	247.1	7.34	7.30		7.36	200	228			2.2	2.2	195	172			3	3	5.9	4.4			0.20	0.20	35.2	34.3			1.83	1.83	48.2	42.9		3.1	<0.01	0.1		7.1	83	541		86	2.2	1.1		2	67.5	10	10	100%
	Max	335.5	31.4	0.0	12.5	0.0	292.1	292.1	7.65	7.30		7.71	644	228			5.4	5.4	432	172			4	4	9.3	4.4			0.32	0.32	45.1	34.3			3.49	3.49	74.9	42.9		4.7	<0.01	0.1		11.2	416	541		330	2.2	2.9		49				
YTD Average/Geomean								7.58	7.57		7.54	346	85			4.5	4.5	289	123			4	4	8.3	6.5			0.33	0.33	39.2	33.7			2.73	2.73	58.0	43.2		4.4	0.02	0.1		9.9	102	138		107	3.1	1.7	0	9				
YTD Totals		108173	3141	0.3	4063	0.0	100968	100968																																							836	487	487	100%

RAW	Untreated influent into the plant	OUTFALL 10	UV-disinfected, discharged via OUTFALL 10	TSS	Total Suspended Solids
INF	Untreated wastewater from collection system	OUTFALL 20	Combined Bypass (RAW + PE + EPE)	BOD_5	Biochemical Oxygen Demand - 5 Day Test
INFs	Influent, screened at the Headworks Diversion Structure	OUTFALL 30	Combined Bypass (INF + INFS + PE30 + EPE)	$CBOD_5$	Carbonaceous Biochemical Oxygen Demand
PE	Primary Effluent from conventional primaries	MPW	Membrane Product Water (Effluent re-use water)	TP	Total Phosphorus
PE 30	Primary Effluent from conventional primaries discharged via Outfall 30	ML	Megalitre (1,000,000 Litre)	NH_3	Ammonia as Nitrogen
EPT	Enhanced Primary Treatment	MPN	Most Probable Number	TKN	Total Kjeldhal Nitrogen
EPE	Enhanced Primary Effluent	NR	No Result	$NO_2 + NO_3$	Nitrite and Nitrate Nitrogen
EPEPS	Enhanced Primary Effluent Pump Station	NS	No Sample	mg/L	milligrams per litre
FE	Final Effluent from secondary treatment process (with biological nutrient removal). Pre-Ultraviolet disinfection.	INS	Insufficient Sample	Avg/Geomean	Average is for all parameters except E.coli which is Geomean
FEC	Combined post-UV disinfection (FE+EPEPS)	AEP	Alberta Environment & Parks		

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

Averages and geometric means may be calculated using only the numeric component of censored values.

Table 4 summarizes the reclaimed water quality sample data from January 1 to December 31, 2025. All parameters except *E. coli* were developed on daily 24-hour composite samples of the recycled water. The *E. coli* testing was conducted on discrete samples collected on a daily basis.

Table 4444: 2025 Reclaimed Water Quality

Month		Flow (ML)	Total Alkalinity (mg CaCO3/L)	Ammonia (mg N/L)	Biochemical Oxygen Demand (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg Cl/L)	Conductivity (mS/cm)	*E. coli* (Counts/100 mL)	pH	Total Suspended Solids (mg/L)	Total Organic Carbon (mg/L)	Total Phosphorus (mg P/L)	Total Dissolved Solids (mg/L)	Turbidity (NTU)
January	Avg	12.8	126	6	145.7	29	1050	< 1	0.90	1.9	7.9	602	9.3	0.13	< 1.0
	Min	11.1	118	5	93.6	20	870	< 1	0.21	1.0	7.8	508	8.4	0.07	< 1.0
	Max	14.2	130	8	294.0	38	1540	< 1	3.54	4.1	8.0	834	10.6	0.27	< 1.0
February	Avg	11.1	139	7	135.0	29	1026	< 1.2	2.60	2.6	7.9	582	9.5	0.14	< 1.0
	Min	7.7	126	6	88.6	<20	879	< 1	0.82	<0.1	7.6	517	8.6	0.07	< 1.0
	Max	11.8	152	9	293.0	39	1530	<10	4.86	5.4	8.1	772	10.1	0.42	< 1.0
March	Avg	11.9	156	7	148.0	30	1087	<1.3	6.23	6.1	7.9	608	9.1	0.10	< 1.0
	Min	10.9	145	5	109.0	<20	958	<1	2.18	0.6	7.6	408	7.9	0.03	< 1.0
	Max	12.4	181	9	247.0	45	1420	<10	11.20	11.5	8.1	791	10.0	0.14	< 1.0
April	Avg	9.9	137	9	115.0	33	1031	< 1	2.16	3.2	7.8	617	10.2	0.11	1.0
	Min	7.6	117	7	99.0	20	963	< 1	0.22	1.2	7.7	573	8.4	0.06	<1.0
	Max	12.3	153	11	188.0	41	1180	< 1	8.37	8.8	8.1	678	11.5	0.14	1.2
May	Avg	8.2	137	5	100.0	34	994	1	0.60	1.7	8.0	604	11.0	0.23	1.0
	Min	4.7	126	2	91.0	26	914	<1	0.06	0.8	7.9	548	9.4	0.08	<1.0
	Max	13.5	152	8	109.0	44	1070	4	2.26	3.4	8.3	648	13.0	2.84	1.3
June	Avg	11.6	134	2	99.0	30	1014	< 1	0.43	1.4	8.0	638	10.1	0.21	< 1.0
	Min	8.5	127	<2	71.0	20	714	< 1	0.11	0.1	7.7	428	8.1	0.03	< 1.0
	Max	13.4	140	3	114.0	46	1100	< 1	2.87	4.1	8.2	741	11.8	0.69	< 1.0
July	Avg	11.8	143	3	104.0	28	1010	3.3	0.24	1.3	8.0	624	10.2	0.19	< 1.0
	Min	10.8	138	<2	78.0	20	810	<1	0.10	0.8	6.4	495	9.1	0.08	< 1.0
	Max	13.9	147	5	118.0	39	1090	11	2.49	3.7	8.1	665	11.7	0.30	< 1.0
August	Avg	11.4	140	2	98.6	27	984	1	0.11	1.1	8.0	591	8.8	0.15	< 1.0
	Min	9.7	131	<2	81.1	<20	862	<1	0.06	1.0	7.9	477	8.0	0.11	< 1.0
	Max	13.0	147	4	115.0	69	1070	1	0.14	1.3	8.3	664	10.0	0.20	< 1.0
September	Avg	9.8	139	2	93.4	25	920	1	0.16	1.2	8.0	559	8.0	0.14	< 1.0
	Min	8.2	129	2	85.5	<20	863	<1	<0.05	1.0	7.9	465	7.6	0.05	< 1.0
	Max	12.4	146	3	99.7	34	975	1	0.78	1.9	8.2	601	8.7	0.23	< 1.0
October	Avg	12.0	134	3	88.2	30	879	4	0.21	1.2	8.0	535	8.2	0.14	< 1.0
	Min	10.9	129	2	71.4	21	754	<1	0.06	0.6	7.9	448	7.5	0.05	< 1.0
	Max	13.3	141	4	95.2	64	942	79	2.12	3.1	8.1	702	9.1	1.77	< 1.0
November	Avg	11.3	136	4	93.0	27	868	1	0.38	1.3	8.0	527	8.6	0.11	< 1.0
	Min	3.0	128	3	76.0	21	809	<1	0.06	0.9	7.9	487	8.2	0.06	< 1.0
	Max	13.1	144	5	125.0	58	962	1	2.87	3.5	8.1	574	10.1	0.15	< 1.0
December	Avg	11.7	153	3	138.0	32	1039	<1	0.35	1.3	8.0	604	8.4	0.09	< 1.0
	Min	10.7	136	3	89.4	20	873	<1	0.10	0.9	7.8	511	8.0	0.05	< 1.0
	Max	12.5	190	4	354.0	51	1670	<1	0.74	2.0	8.2	938	8.7	0.17	< 1.0
Annual Summary	Avg	11.1	140	4	113.2	30	992	2	1.20	2.0	8.0	591	9.3	0.15	< 1.0
	Min	3.0	117	2	71.0	<20	714	1	0.06	0.10	6.4	408	7.5	0.03	< 1.0
	Max	14.2	190	11	354.0	69	1670	79	11.20	11.50	8.3	938	13.0	2.84	1.3

Table 5 summarizes the effluent chronic and acute toxicity testing. Both acute and chronic toxicity tests were carried out by contract laboratories in accordance with the Environment Canada Biological Test Methods (Environment Canada 1990 and 1992). The acute testing included 48-hour Rainbow Trout static toxicity, 48-hour static toxicity using *Daphnia magna* and 15-minute Microtox tests using luminescence bacteria. Seven-day *Ceriodaphnia dubia*, *Fathead minnows* and three-day P. Subcapitata survival and reproductive impairment tests were used to determine chronic toxicity. No effluent toxic events were observed in 2025.

Table 5555: 2025 Effluent Toxicity

Dates	Quarter	Microtox	Daphnia Magna	Rainbow Trout	Ceriodaphnia Dubia	Fathead Minnows	Pseudokirchneriella				
					Survival	Survival					
		% of Control	LC_{50} (% vol/vol)[1]	LC_{50} (% vol/vol)	LC_{50} (% vol/vol)	LC_{50} (% vol/vol)	IC_{25} (% vol/vol)[2]	NOEL (%)[3]	LOEL (%)[4]	TOEL (%)[5]	Toxic Units(TU)[6]
1/13/2025	1	>82	>100	>100							
2/11/2025		>91	>100	>100	>100	>100	39.1	91	>91	NR	1.1
3/11/2025		>91	>100	>100							
4/18/2025	2	>91	>100	>100							
5/6/2025		>91	>100	>100	>100	>100	79.1	91	>91	NR	1.1
6/10/2025		>81.9	>100	>100							
7/8/2025	3	>81.9	>100	>100							
8/12/2025		>81.9	>100	>100	>100	>100	>91	91	>91	NR	1.1
9/9/2025		>91	>100	>100							
10/7/2025	4	>91	>100	>100							
11/4/2025		>91	>100	>100	>100	>100	>90.91	90.91	>90.91	NR	1.1
12/9/2025		>91	>100	>100							

[1]LC_{50} - % effluent concentration at which there is a 50% mortality of test organisms; [2]IC_{25} - % effluent concentration at which there is a 25% reduction in growth or reproduction of test organisms; [3]NOEL - the concentration at which there was no observed effect level; [4]LOEL - the concentration at which you start seeing the lowest observable effect; [5]TOEL = NOEL/LOEL; [6]TU - the ratio of the concentration observed divided by the concentration for 50% inhibition. *Collection date 02/13/2024.

Table 6 summarizes the proficiency testing of the Gold Bar WWTP Laboratory. It includes the Laboratory z-scores achieved from analyzing proficiency testing (PT) samples for constituents required by the Approval to Operate. The 2025 PT samples were provided by the Canadian Association for Laboratory Accreditation (CALA). A PT scores greater than or equal to 70 or z-scores less than or equal to 3.000 are considered acceptable for CALA PT.

Table 6666: 2025 Summary of Gold Bar Wastewater Proficiency Testing

Study	Date	pH		BOD		C-BOD		TSS		NH3-N		TP		*E.coli*	
		PT Score	Avg. z-score	PT Score	Avg. z-score	PT Score	Avg. z-score	PT Score	Avg. z-score	PT Score	Avg. z-score	PT Score	Avg. z-score	PT Score	Avg. z-score
PTC	Mar-23	96	0.3	97	-0.33	94	-0.32	97	0.15	96	-0.27	99	0.10	92	0.01
PTC	Oct-23	95	0.0	93	-0.45	88	-0.78	98	0.14	91	0.09	97	0.16	92	-0.41

pH by manual meter; NH3-N by AA3; TP by AA3; E.coli by MF

In 2025, a total of 108,173 million litres (ML) of wastewater was conveyed to the plant. Secondary treatment and UV disinfection was provided to 100,969 ML (93.3%) of the total raw influent flow with 4,063 ML (3.8%) of reclaimed water provided to industrial customers.

Assessment of Annual Monitoring Results

The Gold Bar WWTP Effluent Limit Performance (WELP) index for 2025 was 22.88% (Figure 1). The 2025 index was higher than the five-year average of 20.2% due to a continued focus on sustaining system reliability with maintenance and capital work reducing the number of process tanks/equipment in service. Additionally, high supernatant return at the beginning of the year to manage lagoon levels was offset by low return at the end of the year bringing the index below the 2024 value. Figure 2 shows the annual WELP from 2005 to 2024, including the five-year average.

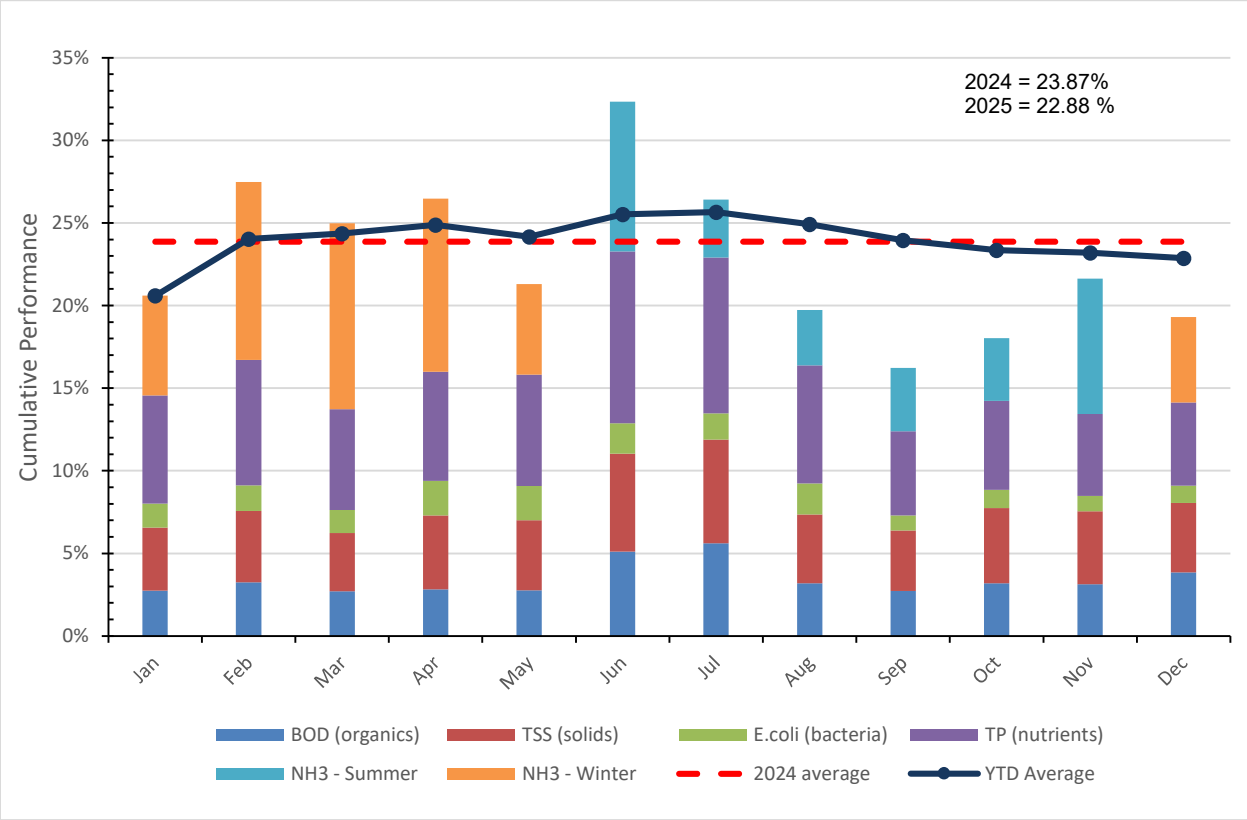

Figure 1111: 2025 Monthly Gold Bar WWTP Wastewater Effluent Limit Performance (WELP) Index

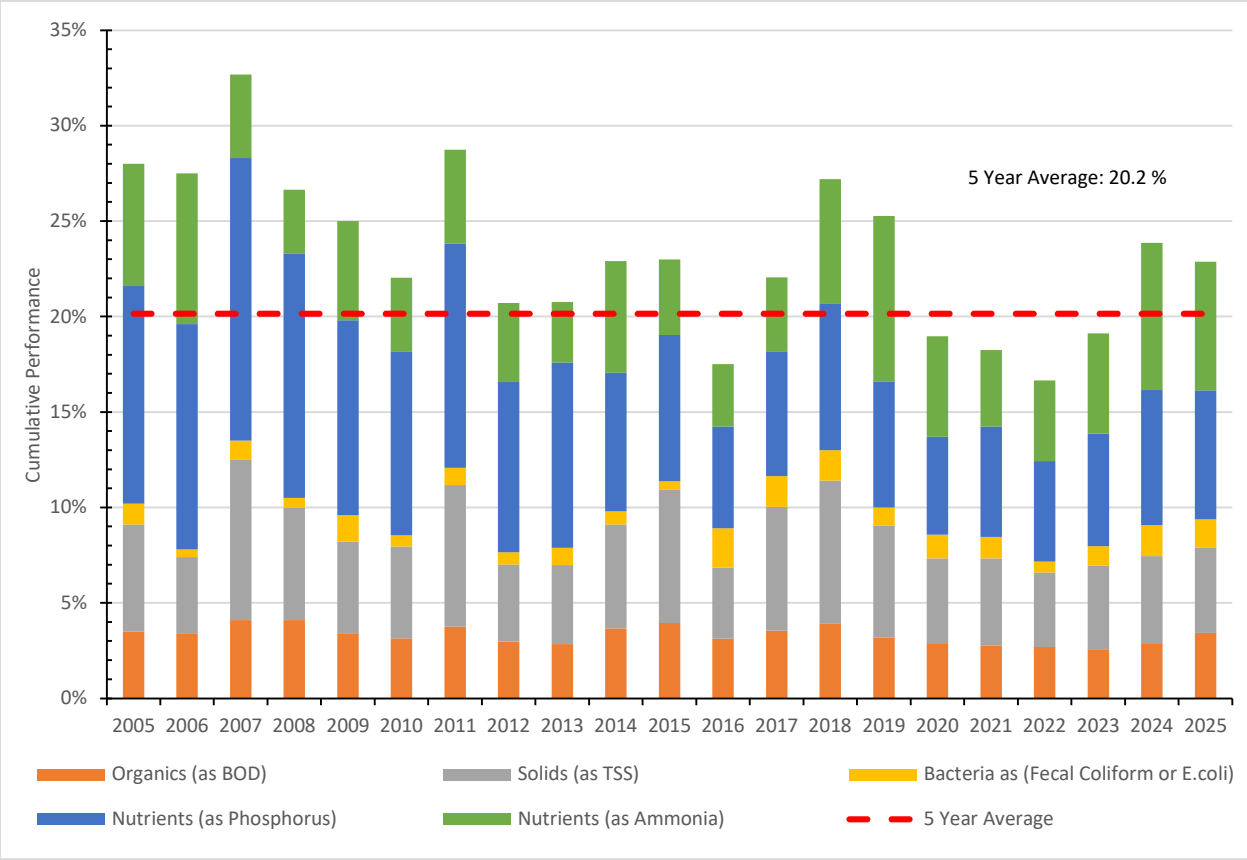

Figure 2222: Gold Bar WWTP Wastewater Effluent Limit Performance (WELP Index) 2005-2025

For 2025, all of the monthly limits for Approval to Operate discharge parameters (Table 1) were met.

Chemicals Added to the Wastewater Treatment Process

As per Section 6 of the Operations Plan, the following chemicals are used in the wastewater treatment process:

- Secondary Alum
- EPT Alum
- EPT Polymer
- DAF Polymer
- Membrane Bleach
- Ostara Magnesium Chloride
- Ostara Caustic Soda

Daily and monthly consumption of these chemicals is summarized in Appendix B.

Names of Supervising Operators

Table 7 lists all certified wastewater treatment operators, their level of certification, and their positions at Gold Bar WWTP as of December 2025. Supervising operators are also listed in the Operations Monthly Summaries in Appendix C.

Table 7777: List of Certified Wastewater Treatment Operators (as of December 2025)

Name	Title	Wastewater Treatment Certification Level
Jones, Kira I	Coordinator, Hazardous Energy Isolation	IV
Lekamwasam, Janaka	Operator Crew Leader	IV
Nunes, Michael	Operator Crew Leader	IV
Penner, Jody	WWTP Lead Operator	IV
Sanche, Dagny	Coordinator, Operations Training	IV
Sandouga, Sam	Operator Crew Leader	IV
Baker, Cole	Operator Crew Leader	IV
Nieuwenhuis, Andrew	Operator Crew Leader	IV
Kelly, Adam	WWTP Operator	IV
Jama, Yusuf	WWTP Operator	IV
Omeragic, Armen	WWTP Lead Operator	IV
Holden, Derek	WWTP Operator	IV
Vogelgesang, Ryan	WWTP Operator	IV
Rees, Emma	WWTP Lead Operator	IV
Paglicauan, Jermine	Engineer, Operations	IV
Downey, Anthony	WWTP Lead Operator	IV
Barrett, Jeremy L	Manager, Process Risk & Integration	III
Li, Bing (Frank)	WWTP Operator	III
Budden, Curt	Coordinator, Operations Shutdown	III
Rindero, Billy	Clover Bar Operations Crew Leader	III
Hahn, Kevin	Coordinator, Operations Shutdown	III
Jordan, Bradley	Coordinator, Operations Shutdown	III
Diletzoy, Kyle	WWTP Lead Operator	III
Lorenz, Tory	WWTP Operator	III
Ozimko, Michael	WWTP Operator	III
Price, Jeremy	WWTP Operator	III
Cousins, Kenzie	Manager, Operations Support & Training	II
Gordon, Allan	Manager, Operations	II
Gilker, Michael	WWTP Operator	II
Furber, Brandyn	WWTP Operator	II
Marling, Connor	WWTP Operator	II
Craig, Aric	WWTP Operator	II
Polowek, Cooper	WWTP Operator	I

Uncommitted Hydraulic Reserve Capacity

In 2025, Gold Bar WWTP received a total dry weather volume of 105,032 ML. This volume is the sum total of Outfall 10 effluent (100,969 ML) and membrane reclaimed water (4,063 ML). Outfall 10 effluent also includes wet weather flow that did not result in secondary bypass and any additional wet weather flow that had secondary treatment during secondary bypass events.

The average dry weather flow in 2025 was 288 million litres per day (MLD). However, the true dry weather flow was lower than 288 MLD and was approximately 283 MLD. The true dry weather average flow excludes additional flow to the plant during snow melt or rainfall, but includes inflow and infiltration (I&I). The total true dry weather volume was approximately 103,171 ML.

Based on 310 MLD of average secondary treatment capacity and a true dry weather average flow of 283 MLD, the uncommitted hydraulic reserve capacity for secondary treatment in 2024 was 27 MLD.

Wet Weather Summary

In 2025, Gold Bar WWTP had 74 days of secondary and primary plant bypasses. The total volume of secondary bypass was 3,141 ML. In addition, the total primary bypass volume was 15.7 ML.

There were 5 significant wet weather events with inflows to the plant greater than 1,200 MLD, all 5 resulted in a main plant bypass. The plant received a peak flow rate of approximately 2,100 MLD on June 13, 2025. The record peak flow of 2,298 MLD occurred on June 28, 2022.

Summary of Operational Issues

Key operational activities, issues, and remedial actions are outlined in the Operations Monthly Summaries in Appendix C.

2025 Annual Air Pollution Control System Report

Table 8 and Table 9 describe the air pollution control system and ambient air monitoring limits and monitoring requirements.

Table 8888: Air Pollution Control System Operating Limits (Approval to Operate Table 5-2)

Air Pollution Control System	Monitoring Location	Parameter	Limit
East scrubber-scrubber 1; West scrubber-scrubber 2; EPT scrubber-scrubber 3; Fermenter scrubber-scrubber 4 Scrubber 5 Scrubber 6	Blowdown recirculation line before chemical makeup of each wet scrubber	pH	≥ 8.0
		ORP	≥ 300 mV
N/A	Ambient air monitoring station	H_2S, NO_2, and SO_2	After ambient air monitoring station commissioned: Meet the latest *Alberta Ambient Air Quality Objectives*

Table 9999: Monitoring and Reporting - Air Pollution Control Systems and Ambient Air (Approval to Operate Table 6-2)

Source	Parameter	Frequency	Method of Monitoring	Sample Location
Carbon scrubber for grit recovery facility, during operation seasons	Temperature	Continuous	Online temperature transmitter, record daily average	Influent air stream
	Differential air pressure	Continuous	Online differential air pressure gauge, record daily average	Influent and effluent air stream
Carbon scrubber for grit recovery facility, during operation seasons; Carbon scrubber for screening building 2/3; Carbon scrubber for grit building 2	H_2S	Continuous, effective July 1, 2020	Online H_2S sensor, record daily average	Effluent air stream of each carbon scrubber
	H_2S	Annually	Manual stack survey, as per the latest *Alberta Stack Sampling Code*	Effluent air stream of each carbon scrubber
Carbon scrubber for Clover Bar biosolids dewatering building	H_2S	Weekly	Portable low range H_2S analyzer, as per the manufacturer's specifications, grab sample	Effluent air stream of the carbon scrubber
	H_2S	Annually	Manual stack survey, as per the latest *Alberta Stack Sampling Code*	Effluent air stream of the carbon scrubber
East scrubber-scrubber 1; West scrubber-scrubber 2; EPT scrubber-scrubber 3; Fermenter scrubber-scrubber 4 Scrubber 5 Scrubber 6	pH	Continuous	Online pH sensor, record daily average	Recirculation blowdown line, before addition of chemical makeup of each wet scrubber
	ORP	Continuous	Online ORP sensor, record daily average	

Source	Parameter	Frequency	Method of Monitoring	Sample Location
East scrubber-scrubber 1; West scrubber-scrubber 2; EPT scrubber-scrubber 3; Fermenter scrubber-scrubber 4 Scrubber 5 Scrubber 6	H_2S	Continuous, effective July 1, 2020	Online H_2S sensor, record daily average	Influent air stream of each wet scrubber
	H_2S	Continuous, effective July 1, 2020	Online H_2S sensor, record daily average	Effluent air stream of each wet scrubber
	H_2S	Annually	Manual stack survey, as per the latest *Alberta Stack Sampling Code*	Effluent air stream of each wet scrubber
Ambient air	H_2S, NO_2, and SO_2	After ambient air monitoring station commissioned: Continuous	*Air Monitoring Directives*, as amended, record 1-hour average and 24-hour average	Ambient air monitoring station
	Temperature			
	Wind speed			
	Wind direction			
Public odour complaints	N/A	When occurring	Document when Gold Bar Wastewater Treatment Plant is alleged and confirmed to be odour source	N/A

Summary of Air Pollution Control System Monitoring

Table 10 and Table 11 contain a monthly summary of the air pollution control system monitoring data. The data is split into two tables for ease of viewing. Appendix D contains the daily air pollution control system data.

Table 10101010: Air Pollution Control System Report - Part I

Month	Parameter	January	February	March	April	May	June	July	August	September	October	November	December
		Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg
Scrubber 1 (East)	*pH*	N/A	N/A	N/A	N/A	9.4	9.5	9.5	9.5	9.5	9.5	9.5	9.5
	ORP (mV)	N/A	N/A	N/A	N/A	663.7	671.1	670.1	670.5	672.0	672.9	671.4	685.1
	H2S In (ppm)	N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	H2S Out (ppb)	N/A	N/A	N/A	N/A	0.6	0.6	4.8	0.0	0.0	0.0	4.6	51.8
Scrubber 2 (West)	*pH*	N/A	N/A	9.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	9.5
	ORP (mV)	N/A	N/A	571.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	652.9	665.1
	H2S In (ppm)	N/A	N/A	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	0.7
	H2S Out (ppb)	N/A	N/A	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	106.3	526.5
Scrubber 3 (EPT)	*pH*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.0	9.0
	ORP (mV)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	665.3	670.5
	H2S In (ppm)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0	3.9
	H2S Out (ppb)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1172.2	2783.4
Scrubber 4 (Fermenter)	*pH*	9.9	9.9	9.8	9.9	9.7	9.7	9.6	9.8	9.9	9.8	9.7	9.8
	ORP (mV)	682.0	690.1	686.9	690.1	663.3	682.1	688.3	683.5	691.5	673.5	676.1	673.4
	H2S In (ppm)	13.3	16.1	5.9	18.1	16.7	20.0	25.8	21.9	20.2	21.2	17.2	20.9
	H2S Out (ppb)	985.9	1905.4	1243.7	1948.4	1447.7	2157.4	1948.9	1894.0	2595.7	2395.2	4743.6	8576.9
Scrubber 5	*pH*	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	6.3
	ORP (mV)	683.8	684.2	688.9	680.1	669.8	671.9	657.0	667.8	669.8	671.7	673.3	307.8
	H2S In (ppm)	2.4	2.8	3.5	4.1	7.1	7.5	11.0	13.5	17.7	13.2	7.5	0.0
	H2S Out (ppb)	1.1	0.2	7.5	2.1	0.1	0.2	0.0	0.1	0.0	0.0	0.0	2.6
Scrubber 6	*pH*	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	6.6
	ORP (mV)	697.8	685.3	690.5	684.8	670.7	676.1	656.9	668.7	669.8	672.1	678.3	303.2
	H2S In (ppm)	2.6	3.9	3.3	4.4	7.5	7.9	12.1	14.2	18.5	13.6	7.8	0.0
	H2S Out (ppb)	2.2	0.0	0.0	4.2	0.8	0.1	0.7	0.0	0.0	0.0	0.0	0.1

Table 11111111: Air Pollution Control System Report - Part II

Month		Grit 6/7 Building Scrubber	Screen 4-8 Building Scrubber	Dewatering Facility Scrubber
		H_2S Out (ppb)	H_2S Out (ppb)	H_2S Out (ppb)
January	Avg	3.7	43.1	N/A
February	Avg	2.2	37.3	N/A
March	Avg	2.3	203.1	N/A
April	Avg	7.9	179.1	N/A
May	Avg	93.3	333.8	N/A
June	Avg	124.9	508.6	N/A
July	Avg	16.9	743.5	N/A
August	Avg	4.6	74.0	N/A
September	Avg	17.9	473.4	N/A
October	Avg	34.8	7781.0	N/A
November	Avg	202.0	4150.7	N/A
December	Avg	1081.7	165.9	N/A

The annual manual stack survey was submitted to AEPA on October 30, 2025.

Assessment of Monitoring Results

For each wet scrubber, the daily average ORP and pH was maintained above 300 mV and 8, respectively throughout the year in 2025. Refer to Table 12, Summary of Scrubber Operational Issues for more information.

Chemicals Consumed by Scrubbers

As per Section 6 of the Operations Plan, sodium hypochlorite (bleach) and caustic soda are used in the scrubbers for oxidization of H_2S and pH control, respectively. Daily and monthly consumption of these chemicals is summarized in Appendix E.

Summary of Air Pollution Control System Operational Issues

Table 12 is a summary of operational issues encountered by each air pollution control system, and the remedial actions taken to resolve the issues. Scrubber 1 is operational only during the summer months with Channel 1 in service and shutdown in the winter months to prevent freezing with no load to the Scrubber. On September 23, 2025 a 24-hour H_2S exceedance occurred at the Air Quality Monitoring Station (AQMS) during a scrubber outage which was investigated and determined to not be a result of the outage. On September 28, 2025 a failure in the Nox gas analyzer resulted in invalid results until the analyzer pump was replaced on October 2, 2025. Additional information on contraventions is listed in Table 16.

Table 12121212: Summary of Scrubber Operational Issues

Scrubber Name	Date/Time of Shutdown	Date/Time Returned to Service	Total Time Shutdown (hr)	Fence Line H2S Readings Taken?	Operational Issue	Actions Taken
Scrubber 4 (Fermenter)	1/14/2025 5:00	1/14/2025 15:00	10.0	Yes	Planned Maintanance - Replace/Fix leaking pipes and valving. Pumps PM.	Scrubber shut down and Maintenance completed
Scrubber 5	1/15/2025 13:01	1/15/2025 13:58	0.9	No - shutdown less than 2 hours	Shutdown as part for MCC 14009/140005 work	Scrubber shut down as part of MCC work
Scrubber 6	1/23/2025 9:40	1/23/2025 11:14	1.6	No - shutdown less than 2 hours	Shutdown for mechanical alignment on recirc pump	Scrubber temporarily shut down to align recirc pump
Scrubber 4 (Fermenter)	2/13/2025 12:39	2/13/2025 13:40	1.0	No - shutdown less than 2 hours	Bleach pump failure for both pumps	Scrubber temporarily shut down for mechanical to repair pumps
Scrubber 4 (Fermenter)	2/14/2025 8:29	2/14/2025 9:28	1.0	No - shutdown less than 2 hours	DeltaV update required	Scrubber temporarily shut down for CAE to push update
Scrubber 4 (Fermenter)	2/21/2025 9:54	2/21/2025 12:08	2.2	Yes	Hardisty power feed lost, switched to Kennedale automatically tripping equipment	Scrubber temporarily shut down until Hardisty power restored and restarted after power switch
Scrubber 5	2/21/2025 9:54	2/21/2025 12:07	2.2	Yes	Hardisty power feed lost, switched to Kennedale automatically tripping equipment	Scrubber temporarily shut down until Hardisty power restored and restarted after power switch
Scrubber 6	2/21/2025 9:54	2/21/2025 12:07	2.2	Yes	Hardisty power feed lost, switched to Kennedale automatically tripping equipment	Scrubber temporarily shut down until Hardisty power restored and restarted after power switch
Scrubber 4 (Fermenter)	2/24/2025 7:51	2/24/2025 12:29	4.6	Yes	Shutdown for maintenance - belts, pump alignment, bleach leak	Scrubber shut down and Maintenance completed
Scrubber 4 (Fermenter)	3/17/2025 7:12	3/17/2025 8:18	1.1	No - shutdown less than 2 hours	Power switch, to test Kennedale Feed	Scrubber shut down during power switch then restarted

Scrubber Name	Date/Time of Shutdown	Date/Time Returned to Service	Total Time Shutdown (hr)	Fence Line H2S Readings Taken?	Operational Issue	Actions Taken
Scrubber 5	3/17/2025 7:13	3/17/2025 8:13	1.0	No - shutdown less than 2 hours	Power switch, to test Kennedale Feed	Scrubber shut down during power switch then restarted
Scrubber 6	3/17/2025 7:13	3/17/2025 8:13	1.0	No - shutdown less than 2 hours	Power switch, to test Kennedale Feed	Scrubber shut down during power switch then restarted
Scrubber 4 (Fermenter)	3/19/2025 1:35	3/19/2025 2:20	0.8	No - shutdown less than 2 hours	Bleach pump failure for both pumps	Scrubber temporarily shut down for mechanical to repair pumps
Scrubber 4 (Fermenter)	3/24/2025 7:01	3/24/2025 7:47	0.8	No - shutdown less than 2 hours	Power switch to Kennedale Feed	Scrubber shut down during power switch then restarted
Scrubber 5	3/24/2025 7:02	3/24/2025 8:21	1.3	No - shutdown less than 2 hours	Power switch to Kennedale Feed, Shutdown to facilitate West Scrubber testing	Shutdown to change damper configuration then restarted
Scrubber 6	3/24/2025 7:02	3/26/2025 12:26	53.4	No - Planned shutdown with Standby Scrubber restarted	Power switch to Kennedale Feed, Shutdown to test West Scrubber	Shutdown to test run the West Scrubber from 48 hours, then restarted Scrubber 6
Scrubber 4 (Fermenter)	3/28/2025 7:15	3/28/2025 7:56	0.7	No - shutdown less than 2 hours	Power switch to Hardisty Feed	Scrubber shut down during power switch then restarted
Scrubber 5	3/28/2025 7:16	3/28/2025 8:00	0.7	No - shutdown less than 2 hours	Power switch to Hardisty Feed	Scrubber shut down during power switch then restarted
Scrubber 6	3/28/2025 7:16	3/28/2025 8:00	0.7	No - shutdown less than 2 hours	Power switch to Hardisty Feed	Scrubber shut down during power switch then restarted
Scrubber 4 (Fermenter)	3/31/2025 10:59	3/31/2025 11:27	0.5	No - shutdown less than 2 hours	Low Scrubber Efficiency	Scrubber temporarily shutdown for troubleshooting and calibrating sensors
Scrubber 4 (Fermenter)	4/23/2025 9:51	4/23/2025 11:22	1.5	No - shutdown less than 2 hours	Planned Maintenance for potable water backflow inspection	Scrubber shut down and Inspection completed
Scrubber 5	4/23/2025 9:51	4/23/2025 11:37	1.8	No - shutdown less than 2 hours	Planned Maintenance for potable water backflow inspection	Scrubber shut down and Inspection completed
Scrubber 6	4/23/2025 9:51	4/23/2025 11:37	1.8	No - shutdown less than 2 hours	Planned Maintenance for potable water backflow inspection	Scrubber shut down and Inspection completed
Scrubber 1 (East)	6/9/2025 10:24	6/9/2025 10:55	0.5	No - shutdown less than 2 hours	Shutdown for blower belt changes	Scrubber shut down, maintenance completed and scrubber restarted.
Scrubber 1 (East)	6/15/2025 20:05	6/15/2025 23:21	3.3	No - shutdown less than 2 hours	Foaming	Closed odour ducts from Grit 1-3. Multiple scrubber shut downs required. Scrubber drained and refilled during shut downs. Operations trouble shooted scrubber for +3 hrs but no single shutdown was greater than 2 hours.

Scrubber Name	Date/Time of Shutdown	Date/Time Returned to Service	Total Time Shutdown (hr)	Fence Line H2S Readings Taken?	Operational Issue	Actions Taken
Scrubber 5	7/3/2025 6:52	7/3/2025 7:02	0.2	No - shutdown less than 2 hours	MCC – 14019E in Aux Control Room Tie Ins	Two separate 15 minute outages
Scrubber 6	7/3/2025 6:52	7/3/2025 7:02	0.2	No - shutdown less than 2 hours	MCC – 14019E in Aux Control Room Tie Ins	Two separate 15 minute outages
Scrubber 5	7/3/2025 13:00	7/3/2025 13:11	0.2	No - shutdown less than 2 hours	MCC – 14019E in Aux Control Room Tie Ins	Two separate 15 minute outages
Scrubber 6	7/3/2025 13:00	7/3/2025 13:11	0.2	No - shutdown less than 2 hours	MCC – 14019E in Aux Control Room Tie Ins	Two separate 15 minute outages
Scrubber 6	7/7/2025 7:58	7/7/2025 8:17	0.3	No - shutdown less than 2 hours	Planned Maintenance for recirculation oil change	Scrubber temporarily shutdown to change oil
Scrubber 5	7/7/2025 9:07	7/7/2025 10:29	1.4	No - shutdown less than 2 hours	Temporary bleach totes set up for day tank repairs	Scrubber temporarily shutdown to modify scaffolding holding bleach totes
Scrubber 6	7/7/2025 9:07	7/7/2025 10:29	1.4	No - shutdown less than 2 hours	Temporary bleach totes set up for day tank repairs	Scrubber temporarily shutdown to modify scaffolding holding bleach totes
Scrubber 4 (Fermenter)	7/10/2025 6:57	7/10/2025 13:48	6.8	Yes	Planned Maintenance for Scrubber Repairs/Media Inspections	Scrubber temporarily shutdown to complete repairs and media inspection
Scrubber 5	7/14/2025 6:59	7/14/2025 7:36	0.6	No - shutdown less than 2 hours	Capital Work - Isolate Aux Control Room TFR – 18021	Scrubber temporarily shutdown for electrical work
Scrubber 6	7/14/2025 6:59	7/14/2025 7:36	0.6	No - shutdown less than 2 hours	Capital Work - Isolate Aux Control Room TFR – 18021	Scrubber temporarily shutdown for electrical work
Scrubber 1 (East)	7/14/2025 7:00	7/14/2025 7:32	0.5	No - shutdown less than 2 hours	Capital Work - Isolate Aux Control Room TFR – 18021	Scrubber temporarily shutdown for electrical work
Scrubber 4 (Fermenter)	7/14/2025 7:00	7/14/2025 7:30	0.5	No - shutdown less than 2 hours	Capital Work - Isolate Aux Control Room TFR – 18021	Scrubber temporarily shutdown for electrical work
Scrubber 5	7/19/2025 12:55	7/19/2025 13:10	0.2	No - shutdown less than 2 hours	Low ORP	Scrubber temporarily shutdown to make adjustments on bleach pump
Scrubber 6	7/19/2025 12:55	7/19/2025 13:10	0.2	No - shutdown less than 2 hours	Low ORP	Scrubber temporarily shutdown to make adjustments on bleach pump
Scrubber 5	7/19/2025 13:27	7/19/2025 13:37	0.2	No - shutdown less than 2 hours	Low ORP	Scrubber temporarily shutdown to make adjustments on bleach pump
Scrubber 6	7/19/2025 13:27	7/19/2025 13:37	0.2	No - shutdown less than 2 hours	Low ORP	Scrubber temporarily shutdown to make adjustments on bleach pump
Scrubber 6	8/27/2025 13:02	8/27/2025 15:01	2.0	Yes	Sediment buildup in sump, recirc pump seizing	Temporary shutdown to blowdown scrubber, mechanical unseized pumps
Scrubber 5	8/27/2025 13:43	8/27/2025 15:56	2.2	Yes	Sediment buildup in sump, recirc pump seizing	Temporary shutdown to blowdown scrubber, mechanical unseized pumps
Scrubber 4 (Fermenter)	9/4/2025 10:30	9/4/2025 11:00	0.5	No - shutdown less than 2 hours	VFD Bypass Alarm	Scrubber temporarily shutdown for VFD inspection, VFD required new module
Scrubber 4 (Fermenter)	9/23/2025 6:20	9/23/2025 13:43	7.4	Yes	High recirculation flows due to broken nozzle	Shutdown to scrubber to cap broken nozzle

Scrubber Name	Date/Time of Shutdown	Date/Time Returned to Service	Total Time Shutdown (hr)	Fence Line H2S Readings Taken?	Operational Issue	Actions Taken
Scrubber 5	10/21/2025 13:11	10/21/2025 13:25	0.2	No - shutdown less than 2 hours	Planned Maintenance for potable water backflow inspection	Scrubber shut down and Inspection completed
Scrubber 6	10/21/2025 13:11	10/21/2025 13:25	0.2	No - shutdown less than 2 hours	Planned Maintenance for potable water backflow inspection	Scrubber shut down and Inspection completed
Scrubber 1 (East)	10/23/2025 7:56	10/23/2025 8:16	0.3	No - shutdown less than 2 hours	Planned Maintenance for oil change	Scrubber temporarily shutdown to change oil
Scrubber 5	11/10/2025 7:34	11/10/2025 8:10	0.6	No - shutdown less than 2 hours	Scrubber recirculation pump tripping	Scrubber shutdown to repair
Scrubber 5	11/10/2025 11:26	11/10/2025 14:46	3.3	Yes	Low ORP due to issue to bleach dosing pumps	Shutdown to repair bleach dosing pumps
Scrubber 5	11/12/2025 8:19	N/A	N/A	N/A	Fouled - Due for acid clean	Shutdown to complete acid clean in 2026
Scrubber 6	11/12/2025 9:54	N/A	N/A	N/A	Fouled - Due for acid clean	Shutdown to complete acid clean in 2026
Scrubber 1 (East)	11/30/2025 6:52	11/30/2025 7:07	0.2	No - shutdown less than 2 hours	Low Sump Level Tripping Scrubber	Increase water flowrate and restarted scrubber
Scrubber 4 (Fermenter)	12/2/2025 7:38	12/2/2025 9:00	1.4	Yes	Capital Work - Electrical Tie Ins	Temporary shutdown to complete tie ins
Scrubber 1 (East)	12/2/2025 7:39	12/2/2025 9:01	1.4	Yes	Capital Work - Electrical Tie Ins	Temporary shutdown to complete tie ins
Scrubber 4 (Fermenter)	12/2/2025 9:14	12/2/2025 9:58	0.7	Yes	Capital Work - Electrical Tie Ins	Temporary shutdown to complete tie ins
Scrubber 1 (East)	12/3/2025 14:00	N/A	N/A	No - shutdown less than 2 hours	No loading to scrubber, potential freezing	Scrubber shutdown for the season and AEPA informed will restart in spring 2026
Scrubber 2 (West)	12/16/2025 6:53	12/16/2025 10:32	3.6	Yes	Capital Work - Potable and Utility Water Upgrades	Temporary shutdown to complete upgrades
Scrubber 3 (EPT)	12/16/2025 6:57	12/16/2025 14:48	7.9	Yes	Capital Work - Potable and Utility Water Upgrades	Temporary shutdown to complete upgrades
Scrubber 2 (West)	12/16/2025 12:50	12/16/2025 13:31	0.7	Yes	Capital Work - Potable and Utility Water Upgrades	Temporary shutdown to complete upgrades
Scrubber 3 (EPT)	12/17/2025 10:19	12/17/2025 11:01	0.7	No - shutdown less than 2 hours	Low ORP	Scrubber temporarily shutdown to make adjustments on bleach pump
Scrubber 2 (West)	12/23/2025 6:30	12/23/2025 9:34	3.1	Yes	Capital Work - Potable Water Tie Ins	Temporary shutdown to complete water tie ins
Scrubber 3 (EPT)	12/23/2025 6:30	12/23/2025 10:05	3.6	Yes	Capital Work - Potable Water Tie Ins	Temporary shutdown to complete water tie ins
Scrubber 2 (West)	N/A	11/12/2025 8:58	N/A	N/A	N/A	Standby Scrubber 2 returned to duty to allow shutdown of Scrubber 5/6
Scrubber 3 (EPT)	N/A	11/23/2025 10:07	N/A	N/A	N/A	Standby Scrubber 3 returned to duty to allow shutdown of Scrubber 5/6

2025 Annual Ambient Air Report

Summary of Ambient Air Monitoring

The ambient air quality monitoring station (AQMS) was commissioned as of June 30, 2022. For 2025, all ambient air monitoring was completed using the AQMS. Table 13 shows the monthly summary of results from the AQMS including H_2S, NO_2, SO_2, temperature, wind speed, and wind direction. The table shows the results of the 1-hour average data for 2025.

Table 13131313: Summary of Ambient Air Monitoring Results - Ambient Air Quality Monitoring Station

Month	Parameter	Min	Avg	Max
January	SO_2 (ppbv)	0.2	2.5	36.1
	NO_2 (ppbv)	0.9	13.9	46.6
	H_2S (ppbv)	0.2	0.8	8.1
	Wind Speed (m/s)	0.0	1.7	6.8
	Wind Direction (°)	-	226.5	-
	Temperature (°C)	-27.4	-5.9	7.9
February	SO_2 (ppbv)	0.0	1.6	18.8
	NO_2 (ppbv)	1.3	17.7	53.6
	H_2S (ppbv)	0.0	0.3	7.2
	Wind Speed (m/s)	0.1	1.4	6.0
	Wind Direction (°)	-	208.1	-
	Temperature (°C)	-30.0	-12.7	11.9
March	SO_2 (ppbv)	0.0	1.8	23.4
	NO_2 (ppbv)	0.9	12.1	42.9
	H_2S (ppbv)	0.2	0.4	7.9
	Wind Speed (m/s)	0.0	1.4	5.2
	Wind Direction (°)	-	195.4	-
	Temperature (°C)	-16.7	-1.1	11.9
April	SO_2 (ppbv)	0.0	1.0	33.5
	NO_2 (ppbv)	0.4	7.1	33.5
	H_2S (ppbv)	0.0	0.3	5.9
	Wind Speed (m/s)	0.0	1.9	6.4
	Wind Direction (°)	-	241.3	-
	Temperature (°C)	-8.6	7.4	22.1
May	SO_2 (ppbv)	0.0	2.2	28.9
	NO_2 (ppbv)	0.5	5.2	28.6
	H_2S (ppbv)	0.0	0.6	13.4
	Wind Speed (m/s)	0.0	1.7	5.9
	Wind Direction (°)	-	186.5	-
	Temperature (°C)	1.2	14.4	32.6
June	SO_2 (ppbv)	0.0	1.5	29.0
	NO_2 (ppbv)	0.4	5.1	21.5
	H_2S (ppbv)	0.0	1.1	15.6
	Wind Speed (m/s)	0.0	1.7	5.2
	Wind Direction (°)	-	225.0	-
	Temperature (°C)	4.7	15.9	27.0

Month	Parameter	Min	Avg	Max
July	SO_2 (ppbv)	0.2	1.4	19.1
	NO_2 (ppbv)	0.1	4.5	17.8
	H_2S (ppbv)	0.0	1.7	66.0
	Wind Speed (m/s)	0.0	1.4	4.5
	Wind Direction (°)	-	195.2	-
	Temperature (°C)	7.4	18.2	31.9
August	SO_2 (ppbv)	0.2	1.3	35.2
	NO_2 (ppbv)	0.6	5.8	27.7
	H_2S (ppbv)	0.0	2.4	41.9
	Wind Speed (m/s)	0.0	1.4	5.6
	Wind Direction (°)	-	222.6	-
	Temperature (°C)	8.3	19.0	33.2
September	SO_2 (ppbv)	0.4	1.9	34.8
	NO_2 (ppbv)	0.5	8.1	28.2
	H_2S (ppbv)	0.0	3.8	41.8
	Wind Speed (m/s)	0.0	1.2	5.6
	Wind Direction (°)	-	209.5	-
	Temperature (°C)	3.1	16.3	29.1
October	SO_2 (ppbv)	0.4	1.1	20.5
	NO_2 (ppbv)	0.3	8.6	35.3
	H_2S (ppbv)	0.0	1.5	22.6
	Wind Speed (m/s)	0.0	1.8	6.7
	Wind Direction (°)	-	236.7	-
	Temperature (°C)	-4.0	6.8	23.4
November	SO_2 (ppbv)	0.7	1.7	11.2
	NO_2 (ppbv)	1.3	15.5	36.8
	H_2S (ppbv)	0.0	1.2	21.1
	Wind Speed (m/s)	0.0	1.2	6.3
	Wind Direction (°)	-	215.5	-
	Temperature (°C)	-19.3	-1.4	12.9
December	SO_2 (ppbv)	0.8	11.0	40.9
	NO_2 (ppbv)	0.1	15.2	43.3
	H_2S (ppbv)	0.0	0.9	9.4
	Wind Speed (m/s)	0.1	1.5	4.7
	Wind Direction (°)	-	182.4	-
	Temperature (°C)	-27.9	-13.8	8.6

Assessment of Monitoring Results

Table 14 shows an assessment of the monthly results from the AQMS for H_2S, NO_2, and SO_2, as compared to the *Alberta Ambient Air Quality Objectives* (AAAQO). In 2025, there were a total of 201 1-hour H_2S exceedances and 37 24-hour H_2S exceedances of the AAAQO. There were no 1-hour or 24-hour exceedances for NO_2 or SO_2. 2025 was a relatively dry year, with the lowest precipitation of all the years the AQMS has been in service. The exceedances tended to occur in the evenings and nights when the influent flows dipped and there was less wind. A similar trend was observed in 2024.

Table 14141414: Assessment of Results of Ambient Air Monitoring

Month	Parameter	1-hour AAAQO	# of 1-hour Exceedances	24-hour AAAQO	# of 24-hour Exceedances
January	H_2S (ppbv)	10	0	3.0	0
	NO_2 (ppbv)	159	0	N/A	N/A
	SO_2 (ppbv)	172	0	48.0	0
February	H_2S (ppbv)	10	0	3.0	0
	NO_2 (ppbv)	159	0	N/A	N/A
	SO_2 (ppbv)	172	0	48.0	0
March	H_2S (ppbv)	10	0	3.0	0
	NO_2 (ppbv)	159	0	N/A	N/A
	SO_2 (ppbv)	172	0	48.0	0
April	H_2S (ppbv)	10	0	3.0	0
	NO_2 (ppbv)	159	0	N/A	N/A
	SO_2 (ppbv)	172	0	48.0	0
May	H_2S (ppbv)	10	2	3.0	0
	NO_2 (ppbv)	159	0	N/A	N/A
	SO_2 (ppbv)	172	0	48.0	0
June	H_2S (ppbv)	10	7	3.0	0
	NO_2 (ppbv)	159	0	N/A	N/A
	SO_2 (ppbv)	172	0	48.0	0
July	H_2S (ppbv)	10	22	3.0	6
	NO_2 (ppbv)	159	0	N/A	N/A
	SO_2 (ppbv)	172	0	48.0	0
August	H_2S (ppbv)	10	45	3.0	9
	NO_2 (ppbv)	159	0	N/A	N/A
	SO_2 (ppbv)	172	0	48.0	0
September	H_2S (ppbv)	10	92	3.0	17
	NO_2 (ppbv)	159	0	N/A	N/A
	SO_2 (ppbv)	172	0	48.0	0
October	H_2S (ppbv)	10	27	3.0	5
	NO_2 (ppbv)	159	0	N/A	N/A
	SO_2 (ppbv)	172	0	48.0	0
November	H_2S (ppbv)	10	6	3.0	0
	NO_2 (ppbv)	159	0	N/A	N/A
	SO_2 (ppbv)	172	0	48.0	0
December	H_2S (ppbv)	10	0	3.0	0
	NO_2 (ppbv)	159	0	N/A	N/A
	SO_2 (ppbv)	172	0	48.0	0

There were also no exceedances of the 30-day objective for SO_2 (11 ppbv), the annual objective for SO_2 (8.0 ppbv), or for the annual objective for NO_2 (24 ppbv).

Summary of Public Odour Complaints

Table 15 shows the number of odour complaints received within the Gold Bar WWTP Odour Response Boundaries and number of complaints where Gold Bar WWTP is the confirmed source of odour based on wind direction, scrubber operation, corroboration with odour model software, ambient H_2S monitoring results, and plant operations/maintenance.

Table 15151515: Summary of Gold Bar WWTP Odour Complaints

Month	Number of Odour Complaints	Number of Complaints where Gold Bar WWTP is the Confirmed Source of Odour
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	1	1
September	0	0
October	0	0
November	0	0
December	0	0
Total	**1**	**1**

Appendix F contains a detailed list of odour complaints including the steps taken to identify the odour sources and remedial actions taken to resolve the odour issues.

2025 Summary of Contraventions and Notifications to AEPA

Table 16 summarized the contraventions to Approval to Operate 639-04-00. There were 6 contraventions in 2025.

Table 16161616: Summary of Contraventions

Date	Summary of Contravention	AEPA Reference Number
April 4, 2025 14:16 AEPA Operator: Taryn	At approximately 11:15 AM, a contractor installing helical piles struck a potable water line at the front end of the GB WWTP near 50th Street, inside of the plant fence. EPCOR Water distribution crews were immediately dispatched to investigate the leak. Water initially flowed into the catch basins and into a sump which pumps back into the plant process. By 11:50 AM, the sump pump was no longer able to keep up and water was discharged through Outfall 20 from 11:50 AM until 1:05 PM. Dechlorination pucks were deployed in the catch basins starting at approximately 11:40 AM. Full isolation of the leak was achieved at 12:35 PM. An estimated 3000 m3 of water was discharged through Outfall 20 to the river. A chlorine sample was taken at 12:06 PM from the outfall. However, the sample was too turbid for conclusive analysis. It has been sent to the Rossdale laboratory for analysis and we are awaiting results. AEPA operator noted the potable water approval number as well. Confirmed we utilized our Environmental Release ERP. Confirmed repair is ongoing, but no business or homes were impacted by the isolation. The plant is utilizing an alternate potable water feed. Confirmed there are no road closures and no media attention. Event occurred within plant fence line. 7-day letter will be submitted. Additional follow-up: At 12:58, EPO called to get additional information on potable water release. Shared same information as original notification to AEPA. EPO requested that we send the sample results once we have them to deanna.oliver@ec.gc.ca. Results sent via email to Deanna at 15:20. No residual chlorine detected. Received voicemail from Deanna at 15:30, asking if we had a sense of how much of the water release was chlorinated, before the dechlorination pucks were placed. Responded via email and let her know that the actual volume released was 300 m3, not 3000 m3, as measured by our outfall flow meter. The dechlorination pucks were installed at 11:40 AM. The sump started overflowing and flowing through the outfall at 11:50 AM. Prior to the sump overflowing, the water was being pumped back into the wastewater treatment process. It is possible that a small amount of chlorinated water remained in the sump and mixed with the dechlorinated water before it flowed to the outfall, but we do not have a way to directly quantify that.	439428
September 15, 2025 15:45 AEPA Operator: Darren	AEPA notified of release of approximately 60 lbs of R-22 refrigerant from an air handling unit on Operations Center Roof - Originally detected June 26, 2025 by Contractor. Release was already reported by Contractor Carmichael 445322 on Sept 12, 2025, and equivalent of 7 day letter was already submitted by Carmichael on Sept 12, 2025. Classified by operator as a minor release with no follow up needed from EPCOR or Carmichael.	Carmichael HVAC 445322

	7-day letter submitted to AEPA by Contractor on behalf of EPCOR for a 24-hour H2S exceedance that occurred concurrently with a scrubber outage, so 7-day letter waiver did not apply.	430514
September 26, 2025	7-Day letter was submitted to AEPA by SLR Consulting (Canada) Ltd. on behalf of Epcor for 9 1 hour and 1 24 hour H2S exceedance that occurend concurrently with a scrubber outage, so the 7-day letter waiver did not apply.	445764
October 3, 2025	On behalf of Epcor, SLR Consulting (Canada) Ltd. reported to AEPA the failure of the NOx gas analyzer at the Gold Bar Park Road Air Quality Monitoring Station. 7-Day letter was submitted by SLR on Oct. 3, 2025 at which time the analyzer had been repaired.	446064
October 20, 2025	EPCOR is conducting a Gold Bar sludge pipeline rehabilitation program which is part of the North Saskatchewan River Valley ARP (Area Redevelopment Plan- Bylaw 7188) . During a 'pigging' operation to clean and inspect the sludge line, the built-up pressure within the line pushed the discharge hose out of the manhole (D2) and onto the ground within a fenced and controlled construction site. About 350 litres of diluted and partially treated sludge was discharged onto the ground by the manhole. There was no risk of migration offsite or into the NSR. 7-day letter was submitted.	446473
December 18, 2025	On behalf of Epcor, SLR Consulting (Canada) Ltd. reported to AEPA the leak causing the SO2 and NOx calibration cylinders to be depleted as a result the daily span checks could not be conducted. 7-Day letter was submitted.	448679

Contraventions due to the exceedances of the Air Quality Monitoring Station listed in Table 14 can be referenced in the 2025 Annual Industrial Ambient Air Quality Monitoring Report submitted to AEPA on behalf of EPCOR by a third party consultant.

Table 17 summarizes the notifications to AEPA under Approval to Operate 639-04-00 as per the 2025 Operations Plan. There were 15 notifications in 2025.

Table 17171717: Summary of Notifications to AEPA

Date	Summary of Notifications	AEPA Reference Number
January 10, 2025 10:44	AEPA was notified with an update to REF434290, a variance from the primary treatment target operating capacity. The primary treatment capacity was returned from 600 MLD to 900 MLD, effective today.	434290
January 13, 2025 AEPA Operator: Shyla	AEPA was notified of a planned outage of odour Scrubber 4 (Fermenter) to take place from 5:30 AM - 3:00 PM on January 14, 2025 for planned equipment maintenance. Additional fence line H2S monitoring will take place during the outage.	436773
February 18, 2025 EPO Andrea Sanchez-Ponton	EPO called and left message on Feb 18, 2025 @ 11:25 referencing AEPA Ref #435525 (Scrubber 1 shutdown from November 25, 2024) and was following up as the file was still open. Returned the call at 11:33 and let them know that I did speak to an EPO on Nov 26, 2024 and that they had advised it was a notification only and no further information was needed. Andrea noted that information was missed in the file, and it looked like no one had followed-up with us. She said since we did already receive follow-up from an EPO, she would close the file.	435525
February 21, 2025 12:52 AEPA Operator: Dave	AEPA was notified of a planned outage for Scrubber 4 on Monday, February 24, 2025 from 07:00 to 12:00 to perform equipment maintenance. Additional fence line H2S monitoring will take place during the outage, as weather permits.	437910
April 11, 2025 14:25 AEPA Operator: Erin	Update for AEPA Ref #434532 reported on October 24, 2024. The ducting collecting foul air from the primary effluent channels and conveying to Scrubber 1 will remain disconnected until December 2025 to accommodate work for the flare expansion project. The odour ducting runs atop an area slated for demolition and the ducting will be temporarily removed so it is not damaged, then replaced and reconnected in the same configuration.	434532
May 22, 2025 14:25 AEPA Operator: Dave	Update to AEPA Ref# 435525 (Originally notified Nov 25, 2024) – AEPA hotline was notified that Scrubber 1 (East Scrubber) is now back in service.	435525
June 9, 2025 11:15 AEPA Operator: Darren	AEPA notified of reduction of Primary Treatment capacity from 1200 MLD to 1000 MLD from June 9 to June 12, 2025, due to a failure of a cross-collector chain in Primary 5.	441618
June 24, 2025 14:40 AEPA Operator: Natasha	AEPA notified of reduction of Primary Treatment capacity from 1200 MLD to 1000 MLD starting immediately, until end of day on June 26, 2025, due to corrective maintenance required in Grit Tank 7.	442226
July 9, 2025 10:20 AEPA Operator: Natasha	AEPA notified of an outage for Scrubber 4 on July 10, 2025 from 07:00 to 15:00 for planned maintenance. Additional fence line H2S monitoring will take place during the outage.	442780

July 21, 2025 11:00 AEPA Operator: Erin	AEPA notified of reduction of Primary Treatment capacity from 1200 MLD to 1000 MLD starting immediately, until end of day on July 22, 2025, due to corrective maintenance required in EPT 9.	443244
October 03, 2025 8:20 AEPA Operator: Iona	AEPA was notified of a variance from the primary treatment target operating capacity. The primary treatment capacity will be reduced from 1200 MLD to 1050 MLD starting at 1800 on October 4, 2025 to October 20, 2025. The purpose of the variance is to perform primary 7/8 clarifier odour control improvement capital project.	446103
October 16, 2025 16:15 AEPA Operator: Natasha	Previous notification 446103 was updated to inform AEPA of a further reduction of target treatment capacity for primary and EPT treated wastewater from 1050 MLD to 750 MLD starting October 18 at 1pm. This reduction is required to complete scheduled maintenance on primary clarifiers 9&10 , immediately followed by scheduled maintenance on primary clarifiers 11 &12. The 750 MLD target treatment capacity is expected to extend until March 1 2026, at which point the plant will return to regular seasonal target of 900 MLD. EPCOR will update AEPA if this timeline changes.	446103
November 07, 2025 12:30 AEPA Operator: Nandi	Update for AEPA Ref #434532 reported on October 24, 2024 and previously updated on April 11, 2025. The ducting collecting foul air from the primary effluent channels and conveying to Scrubber 1 will remain disconnected until May 31, 2026 to accommodate work for the flare expansion project. The odour ducting runs atop an area slated for demolition and the ducting will be temporarily removed so it is not damaged, then replaced and reconnected in the same configuration. The completion of construction in this area continues to be delayed, but we are confident it will be completed by the new timeline. Noted that we have been monitoring odours in the area and have not detected any additional odour due to the disconnection of this foul air ducting.	434532
December 3, 2025 13:38 AEPA Operator: Dave	AEPA was notified that Scrubber 1 (East Scrubber) will be shut down today (December 03, 2025) as there are currently no sources of foul air feeding this scrubber and the scrubber fan is at risk of freezing due to drawing in ambient air. Note that we will also not be reporting the daily average pH, ORP, H2S in, or H2S out for Scrubber 1 while it is offline. When this similar notification was made in November 2024 (REF 435525), the EPO determined that a 7 day letter was not required. *Additional info: Channel 1 (including Grit Tanks 1-3 and Primary Clarifiers 3-4) is not actively treating wastewater due to low seasonal flows, and the ducting connecting the Primary Effluent channels is disconnected due to capital work (previously notified under AEPA Ref #434532). Scrubber 1 will resume operation when Channel 1 is required to treat wastewater again, which is expected to occur in Spring 2026.*	448245
December 15, 2025 AEPA Operator: Shyla	AEPA was notified of a planned outage of odour Scrubber 2 and 3 to take place from 7:00 AM for up to 8 hours (complete by 3:00 PM) on December 16, 2025 for work on a utility water line, and planned equipment maintenance. Additional fence line H2S monitoring will take place during the outage.	448591

2025 Biosolids Program Summary

In 2025, the biosolids management program was able to remove 24,331 dry tonnes (DT) of biosolids from the Clover Bar Lagoons for beneficial reuse. Biosolids production from Gold Bar and Arrow Utilities (previously Alberta Capital Region Wastewater Commission) was 27,838 DT.

Table 18181818: Summary of Biosolids Program

Beneficial Application Use Method	Application Weight Removed from Lagoons (dry tonnes)	Application Volume (m^3)
Nutri-Gold (dewatered material)	1,206	5,448
Nutri-Gold (thickened material)	5,674	92,780
Agricultural Land Application (3rd party)	14,062	236,174
Non-Agricultural Land Application	3,388	14,872
Total	24,331	349,274

Appendices G, H, and I contain summaries of the Nutri-Gold, third party agricultural, and non-agricultural land application programs, respectively.

Part II: Wastewater Collection System Report

EPCOR Water Services

Edmonton, Alberta

2025

Annual Wastewater Collection System Report

Submitted to:

The Province of Alberta

Alberta Environment and Protected Areas (AEPA)

As per requirements of:

Approval to Operate No. 639-04-00

February 2026

Appendices

Appendix A – Monthly Plant Performance Reports

Appendices A – Monthly Plant Performance Reports

PROVIDING MORE EPCOR

Gold Bar Wastewater Treatment Plant
Plant Performance Report
January 2025

Digested Sludge: Total Monthly Volume (ML)	68.3

Volume of Flow (ML)

DATE	Peak Flow (MLD)	Influent		Effluent						
				Non UV Disinfected			UV Disinfected			
		INFs	RAW	OUTFALL 30	OUTFALL 20	MPW	EPEPS	OUTFALL 10 FEC	OUTFALL 10 FE
Wed-01	328.7	0.0	259.2	0.0	0.0	11.9	0.0	247.3	247.3
Thu-02	338.0	0.0	270.2	0.0	0.0	12.3	0.0	257.9	257.9
Fri-03	333.2	0.0	274.8	0.0	0.0	12.2	0.0	262.6	262.6
Sat-04	341.3	0.0	271.9	0.0	0.0	12.0	0.0	259.9	259.9
Sun-05	370.5	0.0	274.0	0.0	0.0	11.9	0.0	262.1	262.1
Mon-06	356.1	0.0	280.9	0.0	0.0	12.0	0.0	268.9	268.9
Tue-07	336.1	0.0	273.4	0.0	0.0	12.9	0.0	260.5	260.5
Wed-08	358.9	0.0	278.5	0.0	0.0	12.4	0.0	266.1	266.1
Thu-09	339.8	0.0	274.1	0.0	0.0	13.8	0.0	260.3	260.3
Fri-10	476.2	0.0	289.4	13.6	0.0	12.6	0.0	263.2	263.2
Sat-11	440.5	0.0	322.6	7.0	0.0	13.3	0.0	302.3	302.3
Sun-12	408.1	0.0	286.3	0.0	0.0	13.3	0.0	273.0	273.0
Mon-13	359.9	0.0	282.5	0.0	0.0	13.3	0.0	269.2	269.2
Tue-14	343.2	0.0	275.7	0.0	0.0	13.5	0.0	262.2	262.2
Wed-15	356.7	0.0	283.8	0.0	0.0	13.4	0.0	270.4	270.4
Thu-16	377.5	0.0	286.6	0.0	0.0	13.9	0.0	272.7	272.7
Fri-17	591.8	0.0	270.6	0.0	0.0	13.7	0.0	256.9	256.9
Sat-18	339.6	0.0	270.2	0.0	0.0	14.2	0.0	256.0	256.0
Sun-19	366.8	0.0	274.6	0.0	0.0	14.1	0.0	260.5	260.5
Mon-20	352.5	0.0	278.8	0.0	0.0	13.7	0.0	265.1	265.1
Tue-21	337.6	0.0	271.5	0.0	0.0	13.6	0.0	257.9	257.9
Wed-22	339.1	0.0	265.9	0.0	0.0	13.3	0.0	252.6	252.6
Thu-23	395.8	0.0	271.4	0.0	0.0	13.2	0.0	258.2	258.2
Fri-24	325.6	0.0	270.6	0.0	0.0	12.5	0.0	258.1	258.1
Sat-25	365.6	0.0	267.0	0.0	0.0	12.1	0.0	254.9	254.9
Sun-26	363.7	0.0	269.2	0.0	0.0	12.1	0.0	257.1	257.1
Mon-27	339.2	0.0	275.4	0.0	0.0	12.1	0.0	263.3	263.3
Tue-28	375.0	0.0	275.0	0.0	0.0	12.2	0.0	262.8	262.8
Wed-29	352.5	0.0	280.5	0.0	0.0	12.0	0.0	268.5	268.5
Thu-30	335.9	0.0	273.6	0.0	0.0	11.8	0.0	261.8	261.8
Fri-31	327.5	0.0	272.3	0.0	0.0	11.1	0.0	261.2	261.2
Average	366.9	0.0	276.5	0.7	0.0	12.8	0.0	263.0	263.0
Minimum	325.6	0.0	259.2	0.0	0.0	11.1	0.0	247.3	247.3
Maximum	591.8	0.0	322.6	13.6	0.0	14.2	0.0	302.3	302.3
GeoMean	—	—	—	—	—	—	—	—	—
TOTAL	—	0	8,571	21	0	396	0	8,154	8,154

Liquid Stream Quality

DATE	pH@25°C				TSS (mg/L)					BOD$_5$/cBOD$_5$ (mg/L)						TP (mg/L)					NH3-N (mg/L)					un-ionized NH3-N (mg/L)			TKN (mg/L)				NO$_3$+NO$_2$ (mg/L)				Chloride (mg/L)				E. coli (Counts/100 mL)			
	RAW	OUTFALL 30	OUTFALL 20	OUTFALL 10 FEC	RAW	OUTFALL 30	OUTFALL 20	EPEPS	OUTFALL 10 FE	RAW BOD$_5$	OUTFALL 30 BOD$_5$	OUTFALL 20 BOD$_5$	EPEPS BOD$_5$	OUTFALL 30 cBOD$_5$ FEC	OUTFALL 30 cBOD$_5$ FE	RAW	OUTFALL 30	OUTFALL 20	EPEPS	OUTFALL 10 FEC	OUTFALL 10 FE	RAW	OUTFALL 30	OUTFALL 20	EPEPS	OUTFALL 10 FEC	OUTFALL 10 FE	OUT FAL 30	OUT FAL 20	OUT FAL 10	RAW	OUTFALL 30	OUTFALL 20	OUTFALL 10 FEC	RAW	OUTFALL 30	OUTFALL 20	OUTFALL 10 FEC	RAW	OUTFALL 30	OUTFALL 20	OUTFALL 10 FEC	RAW	OUTFALL 30	OUTFALL 20	OUTFALL 10 FEC
Wed-01	7.6			7.5	336				3.4	332				3	3	10.60				0.26	0.26	44.3				1.78	1.78				65.6			3.4	< 0.01			10.6	95.6			102.0				7
Thu-02	7.6			7.4	324				3.4	345				3	3	9.43				0.26	0.26	43.3				2.38	2.38				64.6			4.0				12.4	101.0			95.7				8
Fri-03	7.5			7.4	298				3.1	336				2	2	10.90				0.34	0.34	34.4				2.22	2.22				68.1			4.0				10.1	94.3			100.0				13
Sat-04	7.6			7.5	356				4.3	326				3	3	11.80				0.32	0.32	34.1				2.03	2.03				74.9			4.2				11.3	89.3			94.7				9
Sun-05	7.6			7.5	272				3.6	299				2	2	10.90				0.38	0.38	33.5				2.33	2.33				64.4			4.6				13.2	86.0			90.7				10
Mon-06	7.6			7.5	312				4.4	355				3	3	11.80				0.32	0.32	39.4				2.52	2.52				76.1			4.5				10.4	97.8			89.2				7
Tue-07	7.7			7.5	372				3.3	334				3	3	14.00				0.32	0.32	45.5				3.38	3.38				78.7			5.2				11.8	104.0			103.0				10
Wed-08	7.6			7.5	389				4.1	362				3	3	11.40				0.31	0.31	44.7				3.66	3.66				79.2			6.0	< 0.01			11.7	128.0			111.0				7
Thu-09	7.4			7.4	356				5.1	314				4	4	8.56				0.31	0.31	44.5				2.77	2.77				55.3			4.2				13.0	146.0			129.0				10
Fri-10	7.4	7.6		7.4	384	73			4.0	344	179			3	3	9.10	13.10			0.34	0.34	42.0	45.1			2.48	2.48				54.1	83.8		3.8		0.10		13.2	230.0	385		114.0		1.8		10
Sat-11	7.5	7.7		7.4	312	64			3.3	326	135			3	3	7.59	6.05			0.37	0.37	38.7	38.8			2.73	2.73				52.1	41.8		4.0		0.07		12.1	226.0	467		229.0		0.7		8
Sun-12	7.6			7.4	320				4.4	368				3	3	8.93				0.37	0.37	41.3				4.11	4.11				59.3			5.3				11.8	217.0			194.0				10
Mon-13	7.6			7.3	300				4.3	370				2	2	10.70				0.30	0.30	43.9				3.50	3.50				76.8			5.5				11.9	155.0			195.0				13
Tue-14	7.4			7.5	460				3.8	357				3	3	9.67				0.30	0.30	44.3				2.57	2.57				68.0			4.3				13.6	167.0			160.0	2.1			10
Wed-15	7.5			7.4	424				3.5	369				2	2	9.39				0.37	0.37	44.8				2.54	2.54				64.9			4.2	< 0.01			12.9	218.0			165.0				10
Thu-16	7.5			7.3	324				2.8	340				2	2	8.22				0.33	0.33	43.4				2.46	2.46				62.2			4.3				12.2	184.0			220.0	2.0			6
Fri-17	7.5			7.5	360				3.6	358				3	3	10.40				0.44	0.44	46.4				3.35	3.35				75.9			6.2				12.7	125.0			210.0				8
Sat-18	7.4			7.4	344				3.7	313				3	3	9.79				0.41	0.41	47.3				3.71	3.71				79.0			6.8				12.5	96.7			143.0				11
Sun-19	7.6			7.5	340				4.2	363				3	3	9.70				0.40	0.40	45.2				4.56	4.56				77.1			6.4				12.8	84.1			106.0				10
Mon-20	7.5			7.4	317				5.2	302				3	3	9.32				0.16	0.16	44.4				3.84	3.84				73.3			5.4				11.6	85.1			95.9				12
Tue-21	7.4			7.5	352				3.9	379				2	2	8.85				0.33	0.33	44.1				3.17	3.17				65.0			4.9				12.5	101.0			104.0				19
Wed-22	7.4			7.5	336				3.9	314				2	2	8.87				0.34	0.34	45.9				3.46	3.46				61.7			5.0	< 0.01			12.3	130.0			115.0				13
Thu-23	7.5			7.5	348				3.8	372				3	3	8.68				0.37	0.37	44.3				3.74	3.74				60.9			5.4				12.9	130.0			133.0				10
Fri-24	7.5			7.5	337				4.5	375				3	3	8.75				0.38	0.38	46.4				3.68	3.68				63.6			5.8				13.6	118.0			148.0				9
Sat-25	7.6			7.5	306				4.0	341				3	3	7.45				0.34	0.34	43.4				1.65	1.65				54.8			3.0				10.5	105.0			125.0				6
Sun-26	7.6			7.5	340				2.6	378				3	3	7.93				0.29	0.29	42.3				0.95	0.95				54.6			2.1				8.8	104.0			112.0				5
Mon-27	7.5			7.5	416				3.8	306				3	3	7.86				0.29	0.29	41.7				0.92	0.92				57.1			1.9				8.3	111.0			109.0				3
Tue-28	7.5			7.5	408				2.1	327				2	2	8.30				0.31	0.31	41.6				1.25	1.25				57.6			2.4				9.1	153.0			138.0				4
Wed-29	7.5			7.5	384				3.8	353				3	3	8.65				0.32	0.32	41.7				4.19	4.19				57.6			4.9	< 0.01			12.5	297.0			219.0				10
Thu-30	7.5			7.4	316				4.3	337				3	3	8.26				0.23	0.23	44.0				5.62	5.62				56.8			4.3				12.6	132.0			290.0				17
Fri-31	7.5			7.5	332				4.3	303				2	2	8.94				0.34	0.34	41.8				6.10	6.10				57.9			7.1	< 0.01			12.7	119.0			172.0				18
Average	7.6	—	—	7.4	348	69	—	—	3.8	342	157	—	—	2.7	2.7	9.51	9.58	—	—	0.33	0.33	42.6	42.0	—	—	3.02	3.02	—	—	—	65.1	62.7	—	4.6	< 0.01	0.09	—	11.9	136	426	—	142				—
Minimum	7.4	7.6	—	7.3	272	64	—	—	2.1	299	135	—	—	< 2	< 2	7.45	6.05	—	—	0.16	0.16	33.5	38.8	—	—	0.92	0.92	—	—	—	52.1	41.8	—	1.9	< 0.01	0.07	—	8.3	84.1	385	—	89.3	2.0	0.7	—	3
Maximum	7.7	7.7	—	7.6	460	73	—	—	5.2	379	179	—	—	4	4	14.00	13.10	—	—	0.44	0.44	47.3	45.1	—	—	6.10	6.10	—	—	—	79.2	83.8	—	7.1	< 0.01	0.10	—	13.6	297	467	—	290	2.1	1.8	—	19
GeoMean	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.0	1.1	—	9
TOTAL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

Enhanced Primary Treatment (EPT) Usage

Total Bypass (hr)	EPT Usage (hr)	% Usage	Total Bypass YTD (hr)	EPT Usage YTD (hr)	% Usage YTD
5	5	100%	5	5	100%

Report Comments

AEP Ref #

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 Pump Station
FE	Final Effluent from secondary treatment process (with biological nutrient removal). Pre-Ultraviolet disinfection.

FEC	Combined post-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
	Insufficient Sample
	Alberta Environment & Parks

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Appendices A – Monthly Plant Performance Reports

Gold Bar Wastewater Treatment Plant
Plant Performance Report
February 2025

Digested Sludge: Total Monthly Volume (ML)	63.5

Volume of Flow (ML)

DATE	Peak Flow (MLD)	Influent INFs	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
Sat-01	337.9	0.0	269.8	0.0	0.0	10.9	0.0	258.9	258.9
Sun-02	358.1	0.0	272.8	0.0	0.0	11.6	0.0	261.2	261.2
Mon-03	348.5	0.0	277.6	0.0	0.0	11.8	0.0	265.8	265.8
Tue-04	327.8	0.0	268.3	0.0	0.0	11.6	0.0	256.7	256.7
Wed-05	330.9	0.0	271.3	0.0	0.0	11.7	0.0	259.6	259.6
Thu-06	323.8	0.0	270.2	0.0	0.0	11.3	0.0	258.9	258.9
Fri-07	318.5	0.0	272.6	0.0	0.0	11.5	0.0	261.1	261.1
Sat-08	337.0	0.0	269.2	0.0	0.0	11.3	0.0	257.9	257.9
Sun-09	363.7	0.0	271.7	0.0	0.0	11.2	0.0	260.5	260.5
Mon-10	348.5	0.0	272.6	0.0	0.0	11.4	0.0	261.2	261.2
Tue-11	338.9	0.0	268.5	0.0	0.0	11.5	0.0	257.0	257.0
Wed-12	339.0	0.0	267.8	0.0	0.0	11.6	0.0	256.2	256.2
Thu-13	335.9	0.0	267.8	0.0	0.0	11.3	0.0	256.5	256.5
Fri-14	328.7	0.0	271.2	0.0	0.0	11.0	0.0	260.2	260.2
Sat-15	339.3	0.0	265.7	0.0	0.0	11.1	0.0	254.6	254.6
Sun-16	337.9	0.0	266.6	0.0	0.0	11.6	0.0	255.0	255.0
Mon-17	349.0	0.0	269.2	0.0	0.0	11.3	0.0	257.9	257.9
Tue-18	350.0	0.0	274.9	0.0	0.0	11.3	0.0	263.6	263.6
Wed-19	344.7	0.0	274.7	0.0	0.0	11.3	0.0	263.4	263.4
Thu-20	334.4	0.0	273.0	0.0	0.0	11.3	0.0	261.7	261.7
Fri-21	360.7	0.0	276.9	0.0	0.0	11.1	0.0	265.8	265.8
Sat-22	512.4	0.0	308.6	38.5	0.0	11.1	0.0	259.0	259.0
Sun-23	657.0	0.0	351.6	64.0	0.0	10.6	0.0	277.0	277.0
Mon-24	528.3	0.0	338.7	39.7	0.0	10.3	0.0	288.7	288.7
Tue-25	514.6	0.0	321.6	35.3	0.0	7.7	0.0	278.6	278.6
Wed-26	496.6	0.0	316.2	21.7	0.0	9.5	0.0	285.0	285.0
Thu-27	973.5	0.0	464.6	157.5	0.0	10.6	0.0	296.5	296.5
Fri-28	603.1	0.0	380.3	55.6	0.0	11.3	0.0	313.4	313.4
Average	408.5	0.0	291.9	14.7	0.0	11.1	0.0	266.1	266.1
Minimum	318.5	0.0	265.7	0.0	0.0	7.7	0.0	254.6	254.6
Maximum	973.5	0.0	464.6	157.5	0.0	11.8	0.0	313.4	313.4
GeoMean	---	---	---	---	---	---	---	---	---
TOTAL	---	0	8,174	412	0	310	0	7,452	7,452

Liquid Stream Quality

DATE	pH@25°C RAW	pH@25°C OUTFALL 30	pH@25°C OUTFALL 20	pH@25°C OUTFALL 10 FEC	TSS (mg/L) RAW	TSS (mg/L) OUTFALL 30	TSS (mg/L) OUTFALL 20	TSS (mg/L) EPEPS	TSS (mg/L) OUTFALL 10 FEC	TSS (mg/L) OUTFALL 10 FE
Sat-01	7.5			7.4	248				3.5	3.5
Sun-02	7.5			7.4	264				4.0	4.0
Mon-03	7.5			7.5	232				4.2	4.2
Tue-04	7.4			7.4	304				3.9	3.9
Wed-05	7.4			7.4	288				4.0	4.0
Thu-06	7.4			7.4	312				3.3	3.3
Fri-07	7.5			7.5	272				4.0	4.0
Sat-08	7.4			7.5	300				4.3	4.3
Sun-09	7.5			7.5	260				4.5	4.5
Mon-10	7.5			7.5	284				4.3	4.3
Tue-11	7.4			7.5	292				4.2	4.2
Wed-12	7.5			7.5	284				4.5	4.5
Thu-13	7.5			7.5	300				4.8	4.8
Fri-14	7.5			7.6	280				5.0	5.0
Sat-15	7.5			7.5	283				4.5	4.5
Sun-16	7.5			7.6	264				4.7	4.7
Mon-17	7.4			7.5	280				4.9	4.9
Tue-18	7.4			7.4	228				4.7	4.7
Wed-19	7.5			7.5	300				4.3	4.3
Thu-20	7.5			7.6	317				5.8	5.8
Fri-21	7.5			7.6	332				4.9	4.9
Sat-22	7.4	7.4		7.4	392	73			5.5	5.5
Sun-23	7.4	7.5		7.3	400	85			6.7	6.7
Mon-24	7.4	7.5		7.3	337	101			4.4	4.4
Tue-25	7.4	7.4		7.5	324	60			3.2	3.2
Wed-26	7.5	7.5		7.4	296	76			2.9	2.9
Thu-27	7.3	7.4		7.3	304	134			2.6	2.6
Fri-28	7.3	7.4		7.4	268	71			3.3	3.3
Average	7.4	7.5	---	7.4	294	86	---	---	4.3	4.3
Minimum	7.3	7.4	---	7.3	228	60	---	---	2.6	2.6
Maximum	7.5	7.5	---	7.6	400	134	---	---	6.7	6.7
GeoMean	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---

DATE	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 $cBOD_5$	TP (mg/L) RAW	TP OUTFALL 30	TP OUTFALL 20	TP EPEPS	TP OUTFALL 10 FEC	TP OUTFALL 10 FE
Sat-01	353				3	3	7.95				0.35	0.35
Sun-02	342				3	3	8.26				0.40	0.40
Mon-03	317				3	3	8.34				0.35	0.35
Tue-04	372				3	3	9.34				0.37	0.37
Wed-05	294				3	3	8.76				0.36	0.36
Thu-06	327				3	3	8.28				0.31	0.31
Fri-07	349				3	3	9.05				0.34	0.34
Sat-08	340				3	3	8.31				0.38	0.38
Sun-09	339				4	4	8.16				0.35	0.35
Mon-10	342				4	4	8.10				0.34	0.34
Tue-11	325				3	3	9.36				0.39	0.39
Wed-12	337				3	3	9.15				0.36	0.36
Thu-13	343				4	4	9.54				0.38	0.38
Fri-14	338				3	3	9.63				0.38	0.38
Sat-15	339				3	3	8.85				0.40	0.40
Sun-16	363				4	4	8.56				0.42	0.42
Mon-17	374				4	4	8.46				0.43	0.43
Tue-18	286				3	3	8.24				0.43	0.43
Wed-19	391				4	4	8.62				0.46	0.46
Thu-20	294				4	4	8.64				0.43	0.43
Fri-21	312				4	4	8.72				0.45	0.45
Sat-22	314	152			4	4	8.11	8.49			0.46	0.46
Sun-23	293	169			4	4	6.91	7.82			0.53	0.53
Mon-24	251	122			3	3	6.62	8.24			0.30	0.30
Tue-25	302	127			2	2	7.52	7.29			0.28	0.28
Wed-26	254	126			2	2	7.37	7.47			0.32	0.32
Thu-27	233	126			3	3	5.35	5.53			0.27	0.27
Fri-28	201	89			2	2	6.44	6.55			0.16	0.16
Average	319	130	---	---	3.3	3.3	8.24	7.34	---	---	0.37	0.37
Minimum	201	89	---	---	2	2	5.35	5.53	---	---	0.16	0.16
Maximum	391	169	---	---	4	4	9.63	8.49	---	---	0.53	0.53
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---

DATE	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	un-ionized NH3-N (mg/L) OUT-FAL 30	un-ionized NH3-N OUT-FAL 20	un-ionized NH3-N OUT-FAL 10	TKN (mg/L) RAW	TKN OUTFALL 30	TKN OUTFALL 20	TKN OUTFALL 10 FEC
Sat-01	45.3				5.09	5.09				56.7			6.3
Sun-02	46.9				5.90	5.90				68.7			7.2
Mon-03	45.2				5.82	5.82				60.4			7.2
Tue-04	45.8				5.93	5.93				62.3			7.4
Wed-05	45.0				5.77	5.77				63.5			7.0
Thu-06	45.4				5.45	5.45				57.3			6.3
Fri-07	45.4				5.17	5.17				58.6			5.7
Sat-08	45.6				5.04	5.04				59.9			6.3
Sun-09	45.5				4.97	4.97				57.4			6.4
Mon-10	45.4				4.94	4.94				57.4			6.2
Tue-11	45.8				4.19	4.19				63.5			5.5
Wed-12	44.0				3.33	3.33				64.8			4.5
Thu-13	46.5				3.66	3.66				63.7			5.3
Fri-14	46.3				4.43	4.43				66.6			5.6
Sat-15	44.2				4.49	4.49				64.8			5.6
Sun-16	45.4				4.61	4.61				62.6			6.0
Mon-17	45.5				5.30	5.30				59.5			7.2
Tue-18	41.6				5.33	5.33				57.6			6.8
Wed-19	44.7				5.73	5.73				55.8			7.1
Thu-20	45.5				6.66	6.66				59.1			5.1
Fri-21	44.0				8.13	8.13				59.4			4.8
Sat-22	40.6	47.7			6.89	6.89				52.0	55.3		5.3
Sun-23	35.5	42.4			4.78	4.78				48.8	49.6		1.7
Mon-24	36.8	42.6			5.79	5.79				49.4	55.3		6.4
Tue-25	36.7	42.3			6.96	6.96				47.4	53.5		5.1
Wed-26	37.3	41.7			7.30	7.30				52.9	45.2		5.0
Thu-27	26.1	29.0			5.28	5.28				36.1	36.1		6.7
Fri-28	31.2	15.5			3.95	3.95				41.4	42.0		5.1
Average	42.6	37.3	---	---	5.39	5.39	---	---	---	57.4	48.1	---	5.9
Minimum	26.1	15.5	---	---	3.33	3.33	---	---	---	36.1	36.1	---	1.7
Maximum	46.9	47.7	---	---	8.13	8.13	---	---	---	68.7	55.3	---	7.4
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---	---

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
Sat-01				11.7	100			147				10
Sun-02				11.4	92.6			120				12
Mon-03				12.2	86.5			94.9				16
Tue-04				11.6	100			99.5				16
Wed-05	< 0.01			12.4	98.7			100				12
Thu-06				12.7	99.3			103				7
Fri-07				12.6	102			105				6
Sat-08				13.0	95.7			109				7
Sun-09				10.9	93.3			101				12
Mon-10				10.8	93.1			93.6				12
Tue-11				12.1	94.6			96.3				13
Wed-12	< 0.01			12.4	97.3			101	2.9			7
Thu-13				12.4	101			106				10
Fri-14				11.8	130			106				8
Sat-15				11.0	88.8			105				4
Sun-16				11.4	98.0			93.0				11
Mon-17				11.4	86.6			87.3				9
Tue-18				11.5	88.6			85.6				14
Wed-19	< 0.01			10.9	92.3			90.0	2.3			18
Thu-20				10.1	98.8			96.0				8
Fri-21				9.6	173			104				9
Sat-22		0.11		10.6	392	503		170		2.1		8
Sun-23		0.24		9.8	343	417		298		1.7		8
Mon-24		0.16		8.2	211	312		262		> 3.8		12
Tue-25		0.11		8.0	272	316		215		> 0.3		200
Wed-26	< 0.01	0.14		8.3	164	377		194		> 0.1		< 10
Thu-27		0.19		8.6	219	298		209		0.2		50
Fri-28		0.16		7.0	184	226		205		0.2		10
Average	< 0.01	0.16	---	10.9	139	350	---	132			---	
Minimum	< 0.01	0.11	---	7.0	86.5	226	---	85.6	2.3	> 0.1	---	4
Maximum	< 0.01	0.24	---	13.0	392	503	---	298	2.9	> 3.8	---	200
GeoMean	---	---	---	---	---	---	---	---	2.6	0.5	---	12
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---

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

Enhanced Primary Treatment (EPT) Usage					
Total Bypass (hr)	EPT Usage (hr)	% Usage	Total Bypass YTD (hr)	EPT Usage YTD (hr)	% Usage YTD
72	72	100%	77	77	100%

Report Comments

	Micro samples from February 24 to 28 were subconracted. Results are suspected to be biased high.

AEP Ref #

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

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Appendices A – Monthly Plant Performance Reports

Gold Bar Wastewater Treatment Plant
Plant Performance Report
March 2025

Digested Sludge: Total Monthly Volume (ML)	73.0

DATE	Peak Flow (ML/d)	Volume of Flow (ML)								pH@25°C			TSS (mg/L)					BOD$_5$/cBOD$_5$ (mg/L)						TP (mg/L)					NH3-N (mg/L)					un-ionized NH3-N (mg/L)			TKN (mg/L)				NO$_3$+NO$_2$ (mg/L)				Chloride (mg/L)				E. coli (Counts/100 mL)			
		Influent	Effluent					UV Disinfected																																										
			Non UV Disinfected					OUTFALL 10																																										
			OUTFALL 30	OUTFALL 20	WPW	EPBPS	FEC	FE	RAW	OUTFALL 30	OUTFALL 20	OUTFALL 10 FEC	RAW	OUTFALL 30	OUTFALL 20	EPBPS	OUTFALL 10 FEC	OUTFALL 10 FE	RAW	OUTFALL 30	OUTFALL 20	EPBPS	OUTFALL 10 FEC	OUTFALL 10 FE	RAW	OUTFALL 30	OUTFALL 20	EPBPS	OUTFALL 10 FEC	OUTFALL 10 FE	RAW	OUTFALL 30	OUTFALL 20	EPBPS	OUTFALL 10 FEC	OUTFALL 10 FE	OUTFALL 30	OUTFALL 20	OUTFALL 10	RAW	OUTFALL 30	OUTFALL 20	OUTFALL 10 FEC	RAW	OUTFALL 30	OUTFALL 20	OUTFALL 10 FEC	RAW	OUTFALL 30	OUTFALL 20	OUTFALL 10 FEC
	ML/D	INFs	RAW																RAW																														
Sat-01	680.7	0.0	381.9	68.0	0.0	12.0	0.0	301.9	301.9	7.3	7.4		352	96			2.6	2.6	270	116			2	2	6.97	7.04			0.25	0.25	29.0	33.6			6.62	6.62					4.0				7.5		176	219		182				20
Sun-02	609.4	0.0	368.9	67.7	0.0	12.4	0.0	288.8	288.8	7.5	7.5		256	86			2.6	2.6	311	121			3	3	6.11	7.38			0.23	0.23	32.2	37.9			5.33	5.33					5.30				7.4		140	173		167				5
Mon-03	468.8	0.0	332.3	24.6	0.0	12.0	0.0	295.7	295.7	7.5	7.5		284	75			2.9	2.9	293	151			3	3	7.06	8.52			0.26	0.26	30.4	44.5			5.59	5.59					6.06				7.7		125	150		137				< 10
Tue-04	414.5	0.0	313.4	0.0	0.0	12.1	0.0	301.3	301.3	7.5	7.5		344				1.2	1.2	341				3	3	8.02				0.28	0.28	36.0				8.68	8.68									7.8		115			130				20
Wed-05	394.5	0.0	299.4	0.0	0.0	12.2	0.0	287.2	287.2	7.6			340				3.1	3.1	341				3	3	8.60				0.31	0.31	41.4				9.76	9.76									8.4		106			119				20
Thu-06	429.7	0.0	303.3	14.3	0.0	12.3	0.0	276.7	276.7	7.4	7.5		252	104			2.9	2.9	290	163			< 2	< 2	7.92	8.54			0.26	0.26	40.7	44.3			9.49	9.49					8.0				9.3		102	123		116				7
Fri-07	447.0	0.0	364.7	15.3	0.0	12.0	0.0	277.4	277.4	7.4	7.6		264	69			2.2	2.2	292	142			2	2	8.13	8.20			0.23	0.23	40.8	45.7			7.24	7.24					6.0				10.4		101	117		113				6
Sat-08	451.9	0.0	352.5	22.3	0.0	12.0	0.0	268.2	268.2	7.4	7.6		280	85			2.9	2.9	293	133			2	2	8.50	8.73			0.24	0.24	42.0	45.9			6.00	6.00					6.0				11.2		97	109		111				4
Sun-09	639.3	0.0	348.8	69.6	0.0	11.4	0.0	267.8	267.8	7.3	7.5		308	110			2.8	2.8	275	124			2	2	6.40	7.31			0.22	0.22	31.8	31.2			3.61	3.61					3.5				11.7		132	151		118				3
Mon-10	417.4	0.0	317.0	4.1	0.0	11.7	0.0	301.2	301.2	7.3			252				3.0	3.0	293				2	2	7.17				0.23	0.23	39.8				3.90	3.90					5.6				10.0		135			129				9
Tue-11	362.7	0.0	297.3	0.0	0.0	12.0	0.0	285.3	285.3	7.3			260				2.7	2.7	302				3	3	8.56				0.27	0.27	41.9				6.87	6.87					9.6				10.0		109			144	2.4			14
Wed-12	350.5	0.0	283.4	0.0	0.0	12.2	0.0	271.2	271.2	7.4			254				3.7	3.7	336				3	3	8.60				0.26	0.26	43.7				5.74	5.74					5.4	< 0.01			10.8		96.4			125				6
Thu-13	339.0	0.0	275.3	0.0	0.0	11.9	0.0	263.4	263.4	7.5			376				4.0	4.0	344				3	3	8.54				0.30	0.30	44.5				5.75	5.75					5.1				11.9		97.2			108	2.4			7
Fri-14	333.7	0.0	275.6	0.0	0.0	12.0	0.0	263.6	263.6	7.5			272				2.8	2.8	341				3	3	8.46				0.30	0.30	43.8				5.10	5.10					17.6				12.1		117			111				7
Sat-15	332.6	0.0	274.3	0.0	0.0	12.4	0.0	261.9	261.9	7.5			203				3.5	3.5	257				3	3	8.27				0.33	0.33	45.3				5.03	5.03					18.6				12.8		108			127				4
Sun-16	386.0	0.0	276.1	0.0	0.0	12.1	0.0	264.0	264.0	7.4			240				4.1	4.1	305				3	3	8.28				0.31	0.31	43.3				5.48	5.48					17.4				12.8		95.3			115				6
Mon-17	372.5	0.0	291.0	0.0	0.0	11.7	0.0	279.3	279.3	7.3			308				3.6	3.6	286				3	3	8.27				0.33	0.33	41.0				5.34	5.34					69.3				11.4		166			112				10
Tue-18	420.3	0.0	292.2	10.2	0.0	12.3	0.0	269.7	269.7	7.3	7.4		312	87			4.0	4.0	329	162			3	3	8.09	8.67			0.31	0.31	40.6	43.9			4.32	4.32					56.4	61.7			11.3		157	245		178				10
Wed-19	414.9	0.0	299.8	0.6	0.0	12.3	0.0	286.9	286.9	7.5			324				4.3	4.3	339				3	3	7.79				0.50	0.50	40.4				6.72	6.72					8.4				9.7		127			164				10
Thu-20	401.0	0.0	286.5	0.0	0.0	11.7	0.0	274.8	274.8	7.4			284				3.4	3.4	337				3	3	8.10				0.34	0.34	39.7				7.86	7.86					9.6				10.5		117			142				11
Fri-21	398.1	0.0	297.7	0.0	0.0	11.7	0.0	286.0	286.0	7.4			280				4.9	4.9	264				3	3	8.35				0.34	0.34	40.1				6.39	6.39					6.8				10.6		136			134				4
Sat-22	446.9	0.0	287.6	10.7	0.0	11.9	0.0	265.0	265.0	7.5	7.6		264	103			4.1	4.1	358	181			3	3	8.15	9.95			0.33	0.33	41.8	46.4			5.69	5.69					7.4				11.0		118	117		121				11
Sun-23	400.5	0.0	287.7	0.0	0.0	11.7	0.0	276.0	276.0	7.4			68				3.9	3.9	169				2	2	9.44				0.30	0.30	30.7				4.52	4.52					2.8				12.6		103			108				12
Mon-24	413.5	0.0	301.0	0.0	0.0	11.5	0.0	289.5	289.5	7.4			280				4.7	4.7	328				3	3	8.10				0.33	0.33	37.7				5.24	5.24					7.0				10.6		108			108				10
Tue-25	373.6	0.0	293.3	0.0	0.0	12.1	0.0	281.2	281.2	7.3			280				4.0	4.0	277				3	3	8.00				0.30	0.30	41.2				4.27	4.27					5.7				10.9		107			113				13
Wed-26	386.1	0.0	285.3	0.0	0.0	12.0	0.0	273.3	273.3	7.4			288				3.7	3.7	323				2	2	9.90				0.32	0.32	41.2				3.15	3.15					5.4	< 0.01			11.3		108			113				11
Thu-27	591.1	0.0	366.9	45.5	0.0	11.7	0.0	309.7	309.7	7.4	7.5		340	67			3.8	3.8	310	152			3	3	7.34	7.74			0.30	0.30	31.6	39.5			2.94	2.94					48.6	49.1			9.7		224	283		165				12
Fri-28	387.7	0.0	302.2	1.0	0.0	10.9	0.0	290.3	290.3	7.4	7.6		264	90			4.8	4.8	315	142			3	3	7.71	7.68			0.25	0.25	41.2	39.7			6.21	6.21					60.0	50.3			9.5		229	226		223				17
Sat-29	411.9	0.0	296.1	0.0	0.0	12.3	0.0	283.8	283.8	7.3			232				4.2	4.2	336				3	3	7.37				0.32	0.32	40.3				6.03	6.03					57.3				9.3		195			235				8
Sun-30	416.9	0.0	306.0	0.0	0.0	11.6	0.0	294.4	294.4	7.4			256				5.5	5.5	295				3	3	7.92				0.33	0.33	38.4				5.59	5.59					58.1				8.9		172			228				12
Mon-31	511.1	0.0	338.4	41.4	0.0	11.1	0.0	285.9	285.9	7.4	7.4		396	103			5.2	5.2	329	144			3	3	9.01	7.26			0.32	0.32	35.6	39.2			4.16	4.16					49.4	46.8			8.7		173	250		199		2.3		27
Average	430.4	0.0	306.0	12.8	0.0	11.9	0.0	281.3	281.3	7.4	7.5	—	7.4	280	90	—	—	3.6	3.6	308	144	—	—	2.7	2.7	7.96	8.09	—	—	0.30	0.30	38.2	41.0	—	—	5.76	5.76	—	—	—	—	9.7	< 0.01	0.07	—	10.3		132	180	—	142			—	
Minimum	332.6	0.0	274.3	0.0	0.0	10.9	0.0	261.9	261.9	7.3	7.4	—	7.2	68	67	—	—	1.2	1.2	169	116	—	—	< 2	< 2	6.11	7.04	—	—	0.22	0.22	29.0	31.2	—	—	2.94	2.94	—	—	—	—	2.8	< 0.01	0.02	—	7.5		95.3	109	—	108	2.4	0.6	—	3
Maximum	680.7	0.0	381.9	69.6	0.0	12.4	0.0	309.7	309.7	7.6	7.8	—	7.6	376	110	—	—	5.5	5.5	358	181	—	—	3	3	9.90	9.95	—	—	0.50	0.50	45.3	46.4	—	—	9.76	9.76	—	—	—	—	69.3	< 0.01	0.22	—	12.8		229	283	—	235	2.4	3.2	—	27
GeoMean	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.4	1.9	—	9
TOTAL	—	0	9,486	395	0	369	0	8,721	8,721	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

Enhanced Primary Treatment (EPT) Usage

Total Bypass (hr)	EPT Usage (hr)	% Usage	Total Bypass YTD (hr)	EPT Usage YTD (hr)	% Usage YTD
107	107	100%	184	184	100%

Report Comments

Micro samples for March 1 to March 5, 2025 were subcontracted. Results are suspected to be biased high.
TKN Samples for March 14 to March 17 2025 were subcontracted and are outside of historical norms. Results are suspected to be biased high.

AEP Ref #

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 Pump Station
FE Final Effluent from secondary treatment process (with biological nutrient removal). Pre-Ultraviolet disinfection

FEC Combined post-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
Alberta Environment & Parks

Jamie Gingrich P.Eng.
Senior Manager, WWTP Operations

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Senior Manager, Analytical Operations

Appendices A – Monthly Plant Performance Reports

PROVIDING MORE EPCOR

Gold Bar Wastewater Treatment Plant
Plant Performance Report
April 2025

Digested Sludge: Total Monthly Volume (ML)	78.1

Volume of Flow (ML)

DATE	Peak Flow (MLD)	Influent INFs	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
Tue-01	593.1	0.0	377.4	80.6	0.0	10.8	0.0	286.0	286.0
Wed-02	425.6	0.0	330.3	5.7	0.0	12.3	0.0	312.3	312.3
Thu-03	376.9	0.0	302.3	0.0	0.0	11.1	0.0	291.2	291.2
Fri-04	431.2	0.0	301.6	0.0	0.3	11.5	0.0	289.8	289.8
Sat-05	416.4	0.0	301.8	0.0	0.0	11.2	0.0	290.6	290.6
Sun-06	494.5	0.0	307.6	0.0	0.0	11.4	0.0	296.2	296.2
Mon-07	402.8	0.0	319.6	0.0	0.0	11.3	0.0	308.3	308.3
Tue-08	393.9	0.0	327.1	0.0	0.0	11.2	0.0	315.9	315.9
Wed-09	374.3	0.0	309.8	0.0	0.0	11.8	0.0	298.0	298.0
Thu-10	369.5	0.0	298.2	0.0	0.0	11.0	0.0	287.2	287.2
Fri-11	362.7	0.0	299.6	0.0	0.0	11.3	0.0	288.3	288.3
Sat-12	358.3	0.0	290.6	0.0	0.0	11.5	0.0	279.1	279.1
Sun-13	355.6	0.0	289.6	0.0	0.0	10.5	0.0	279.1	279.1
Mon-14	358.7	0.0	295.0	0.0	0.0	10.5	0.0	284.5	284.5
Tue-15	351.7	0.0	285.5	0.0	0.0	11.6	0.0	273.9	273.9
Wed-16	332.5	0.0	283.7	0.0	0.0	12.2	0.0	271.5	271.5
Thu-17	323.1	0.0	280.6	0.0	0.0	11.4	0.0	269.2	269.2
Fri-18	343.3	0.0	279.3	0.0	0.0	10.2	0.0	269.1	269.1
Sat-19	337.3	0.0	272.7	0.0	0.0	8.3	0.0	264.4	264.4
Sun-20	342.4	0.0	271.1	0.0	0.0	8.2	0.0	262.9	262.9
Mon-21	366.0	0.0	280.5	0.0	0.0	7.7	0.0	272.8	272.8
Tue-22	357.4	0.0	283.1	0.0	0.0	8.9	0.0	274.2	274.2
Wed-23	341.2	0.0	281.1	0.0	0.0	7.6	0.0	273.5	273.5
Thu-24	333.2	0.0	278.7	0.0	0.0	7.7	0.0	271.0	271.0
Fri-25	328.3	0.0	281.2	0.0	0.0	7.7	0.0	273.5	273.5
Sat-26	331.3	0.0	275.7	0.0	0.0	7.6	0.0	268.1	268.1
Sun-27	595.3	0.0	325.8	19.4	0.0	7.6	0.0	298.8	298.8
Mon-28	345.4	0.0	286.8	0.0	0.0	7.6	0.0	279.2	279.2
Tue-29	356.4	0.0	273.6	0.0	0.0	7.7	0.0	265.9	265.9
Wed-30	336.4	0.0	273.5	0.0	0.0	7.6	0.0	265.9	265.9
Average	381.2	0.0	295.4	3.5	0.0	9.9	0.0	282.0	282.0
Minimum	323.1	0.0	271.1	0.0	0.0	7.6	0.0	262.9	262.9
Maximum	595.3	0.0	377.4	80.6	0.3	12.3	0.0	315.9	315.9
GeoMean	---	---	---	---	---	---	---	---	---
TOTAL	---	0	8,863	106	0	297	0	8,460	8,460

Liquid Stream Quality

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
Tue-01	7.4	7.5		7.3	316	75			5.4	5.4
Wed-02	7.6	7.7		7.3	272	72			3.8	3.8
Thu-03	7.5			7.4	303				3.6	3.6
Fri-04	7.3			7.4	296				4.8	4.8
Sat-05	7.3			7.4	332				4.8	4.8
Sun-06	7.4			7.4	260				4.4	4.4
Mon-07	7.6			7.4	320				5.7	5.7
Tue-08	7.4			7.4	308				6.9	6.9
Wed-09	7.3			7.4	272				4.9	4.9
Thu-10	7.5			7.5	320				4.2	4.2
Fri-11	7.4			7.4	272				3.8	3.8
Sat-12	7.4			7.5	280				4.3	4.3
Sun-13	7.6			7.3	328				4.0	4.0
Mon-14	7.5			7.5	332				5.6	5.6
Tue-15	7.4			7.4	288				4.3	4.3
Wed-16	7.5			7.3	276				4.4	4.4
Thu-17	7.5			7.5	312				3.4	3.4
Fri-18	7.4			7.5	340				3.3	3.3
Sat-19	7.5			7.4	304				3.3	3.3
Sun-20	7.4			7.4	308				3.5	3.5
Mon-21	7.4			7.4	352				4.7	4.7
Tue-22	7.5			7.5	371				5.0	5.0
Wed-23	7.5			7.5	400				3.6	3.6
Thu-24	7.6			7.6	332				4.2	4.2
Fri-25	7.4			7.5	308				4.4	4.4
Sat-26	7.5			7.5	324				5.0	5.0
Sun-27	7.4	7.6		7.5	420	84			6.8	6.8
Mon-28	7.4			7.6	260				4.7	4.7
Tue-29	8.5			7.9	332				4.1	4.1
Wed-30	7.4			7.5	264				3.6	3.6
Average	7.5	7.6	---	7.5	313	77	---	---	4.5	4.5
Minimum	7.3	7.5	---	7.3	260	72	---	---	3.3	3.3
Maximum	8.5	7.7	---	7.9	420	84	---	---	6.9	6.9
GeoMean	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---

DATE	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 $cBOD_5$	TP (mg/L) RAW	TP OUTFALL 30	TP OUTFALL 20	TP EPEPS	TP OUTFALL 10 FEC	TP OUTFALL 10 FE
Tue-01	307	112			2	2	6.35	7.30			0.28	0.28
Wed-02	298	100			2	2	7.09	5.81			0.28	0.28
Thu-03	317				3	3	7.73				0.30	0.30
Fri-04	306				3	3	7.64				0.32	0.32
Sat-05	299				3	3	7.18				0.33	0.33
Sun-06	291				2	2	7.81				0.30	0.30
Mon-07	339				3	3	8.30				0.33	0.33
Tue-08	313				3	3	7.62				0.36	0.36
Wed-09	333				3	3	8.17				0.31	0.31
Thu-10	301				2	2	8.00				0.33	0.33
Fri-11	343				3	3	7.96				0.31	0.31
Sat-12	260				2	2	9.53				0.32	0.32
Sun-13	315				3	3	9.60				0.34	0.34
Mon-14	254				3	3	7.41				0.32	0.32
Tue-15	346				3	3	9.28				0.33	0.33
Wed-16	305				3	3	9.71				0.32	0.32
Thu-17	323				2	2	10.50				0.30	0.30
Fri-18	233				< 2	< 2	10.00				0.32	0.32
Sat-19	313				2	2	8.20				0.30	0.30
Sun-20	295				2	2	8.47				0.30	0.30
Mon-21	339				3	3	8.00				0.32	0.32
Tue-22	304				3	3	7.89				0.36	0.36
Wed-23	299				3	3	8.84				0.34	0.34
Thu-24	326				3	3	8.79				0.35	0.35
Fri-25	292				3	3	8.07				0.40	0.40
Sat-26	352				3	3	8.42				0.42	0.42
Sun-27	330	218			4	4	8.12	8.96			0.38	0.38
Mon-28	304				4	4	8.00				0.39	0.39
Tue-29	311				4	4	9.17				0.32	0.32
Wed-30	351				4	4	8.33				0.33	0.33
Average	310	143	---	---	3	3	8.34	7.36	---	---	0.33	0.33
Minimum	233	100	---	---	< 2	< 2	6.35	5.81	---	---	0.28	0.28
Maximum	352	218	---	---	4	4	10.50	8.96	---	---	0.42	0.42
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---

DATE	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	un-ionized NH3-N (mg/L) OUT-FAL 30	un-ionized OUT-FAL 20	un-ionized OUT-FAL 10	TKN (mg/L) RAW	TKN OUTFALL 30	TKN OUTFALL 20	TKN OUTFALL 10 FEC
Tue-01	31.6	2.6			1.82	1.82				42.2	49.0		3.4
Wed-02	36.2	31.2			3.45	3.45				53.4	38.7		5.1
Thu-03	41.3				6.38	6.38				55.9			7.9
Fri-04	40.5				6.48	6.48				58.1			8.4
Sat-05	39.0				5.49	5.49				55.6			7.7
Sun-06	38.1				5.81	5.81				59.5			8.1
Mon-07	38.0				5.67	5.67				61.3			7.6
Tue-08	36.8				5.80	5.80				55.3			7.9
Wed-09	39.3				6.16	6.16				60.8			8.3
Thu-10	38.2				5.78	5.78				58.0			7.3
Fri-11	39.8				5.86	5.86				59.7			7.8
Sat-12	43.7				5.37	5.37				62.1			6.9
Sun-13	42.6				5.53	5.53				64.8			7.1
Mon-14	40.5				5.24	5.24				51.6			7.1
Tue-15	42.5				4.34	4.34				63.4			5.8
Wed-16	43.1				4.51	4.51				65.9			6.1
Thu-17	43.5				4.93	4.93				67.6			6.3
Fri-18	43.4				5.56	5.56				70.9			7.3
Sat-19	42.0				4.69	4.69				56.9			6.2
Sun-20	43.0				4.46	4.46				53.7			5.6
Mon-21	42.7				4.63	4.63				55.8			5.9
Tue-22	44.6				4.88	4.88				53.5			6.5
Wed-23	42.7				4.17	4.17				56.3			5.4
Thu-24	44.8				4.89	4.89				63.0			6.3
Fri-25	40.7				6.34	6.34				50.4			7.9
Sat-26	43.8				6.27	6.27				54.1			7.6
Sun-27	37.5	39.4			6.62	6.62				51.5	47.9		8.3
Mon-28	43.0				8.03	8.03				50.6			8.9
Tue-29	43.9				5.70	5.70				60.5			7.2
Wed-30	40.5				2.30	2.30				60.3			4.0
Average	40.9	24.4	---	---	5.24	5.24	---	---	---	57.8	45.2	---	6.9
Minimum	31.6	2.6	---	---	1.82	1.82	---	---	---	42.2	38.7	---	3.4
Maximum	44.8	39.4	---	---	8.03	8.03	---	---	---	70.9	49.0	---	8.9
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---	---

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
Tue-01		0.16		9.1	131.0	158		183.0		1.4		11
Wed-02	< 0.01	0.09		8.3	109.0	121		139.0		1.0		8
Thu-03				9.2	106.0			122.0				13
Fri-04				8.9	108.0			119.0			0	14
Sat-05				8.8	99.7			115.0				14
Sun-06				9.1	94.5			107.0				4
Mon-07				9.4	112.0			107.0				6
Tue-08				9.0	136.0			122.0				13
Wed-09	< 0.01			9.7	135.0			122.0				8
Thu-10				10.9	152.0			120.0	3.0			12
Fri-11				11.4	121.0			118.0				21
Sat-12				11.4	98.4			114.0				9
Sun-13				11.5	97.5			103.0				18
Mon-14				11.1	103.0			103.0				28
Tue-15				11.4	109.0			109.0				22
Wed-16	< 0.15			11.3	100.0			108.0				21
Thu-17				11.7	98.5			109.0	2.9			18
Fri-18				10.7	92.5			106.0				17
Sat-19				11.0	98.3			102.0				11
Sun-20				10.6	92.3			98.5				6
Mon-21				10.3	94.2			96.0				10
Tue-22				11.2	97.6			98.9				18
Wed-23	< 0.01			9.5	94.2			101.0				13
Thu-24				11.0	99.0			100.0				8
Fri-25				8.6	89.6			102.0				13
Sat-26				8.3	89.4			99.1				14
Sun-27		0.08		7.6	96.4	117		96.1		2.4		14
Mon-28				7.3	94.2			92.8				55
Tue-29				7.9	95.5			100.0				21
Wed-30	< 0.15			7.1	95.0			98.7				11
Average	< 0.07	0.11	---	9.8	105	132	---	110			0	
Minimum	< 0.01	0.08	---	7.1	89.4	117	---	92.8	2.9	1.0	0	4
Maximum	< 0.15	0.16	---	11.7	152	158	---	183	3.0	2.4	0	55
GeoMean	---	---	---	---	---	---	---	---	2.9	1.5	0	13
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---

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

Enhanced Primary Treatment (EPT) Usage					
Total Bypass (hr)	EPT Usage (hr)	% Usage	Total Bypass YTD (hr)	EPT Usage YTD (hr)	% Usage YTD
21	21	100%	205	205	100%

Report Comments

	TP and TKN results for Raw samples from April 3, 4, 10, 11, 17, and 24 were run past recommended holding time.
	pH results for Raw samples from April 29 and 30 were run past recommended holding time.
	E. coli result for Outfall 20 from April 4 was repeated, sample exceeded the recommended holding time.

AEP Ref #

439428	AEPA was notified of a potable water release on site on April 4, 2025. Potable water flowed overland and 0.3 ML flowed to the river out
	Outfall 20. No wastewater was discharge. The potable water was dechlorinated using dechlorination pucks. 7-day letter was submitted.

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 Pump Station
FE	Final Effluent from secondary treatment process (with biological nutrient removal). Pre-Ultraviolet disinfection.
FEC	Combined post-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
AEP	Alberta Environment & Parks

Trina Manning M.Sc.; P.Eng.
Senior Manager, WWTP Operations

Paul Jacquier MBA, BMSc.
Senior Manager, Analytical Operations

Appendices A – Monthly Plant Performance Reports

Gold Bar Wastewater Treatment Plant
Plant Performance Report
May 2025

Digested Sludge: Total Monthly Volume (ML)	75.1

Liquid Stream Quality

DATE	Peak Flow (MLD)	Volume of Flow (ML) – Influent INFs	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
Thu-01	307.1	0.0	272.8	0.0	0.0	7.6	0.0	265.2	265.2
Fri-02	327.3	0.0	274.4	0.0	0.0	7.7	0.0	266.7	266.7
Sat-03	334.5	0.0	270.7	0.0	0.0	8.1	0.0	262.6	262.6
Sun-04	353.8	0.0	274.2	0.0	0.0	7.7	0.0	266.5	266.5
Mon-05	354.4	0.0	270.0	0.0	0.0	7.5	0.0	262.5	262.5
Tue-06	325.3	0.0	262.3	0.0	0.0	7.5	0.0	254.8	254.8
Wed-07	316.5	0.0	266.0	0.0	0.0	4.7	0.0	261.3	261.3
Thu-08	317.0	0.0	265.3	0.0	0.0	7.4	0.0	257.9	257.9
Fri-09	307.2	0.0	263.8	0.0	0.0	7.1	0.0	256.7	256.7
Sat-10	321.8	0.0	261.8	0.0	0.0	7.2	0.0	254.6	254.6
Sun-11	656.3	0.0	289.5	24.5	0.0	5.7	0.0	259.3	259.3
Mon-12	545.1	0.0	300.4	24.7	0.0	7.0	0.0	268.7	268.7
Tue-13	348.4	0.0	273.2	0.6	0.0	6.5	0.0	266.1	266.1
Wed-14	355.5	0.0	270.0	0.0	0.0	6.0	0.0	264.0	264.0
Thu-15	576.1	0.0	322.2	16.1	0.0	7.0	0.0	299.1	299.1
Fri-16	354.0	0.0	281.8	0.0	0.0	8.4	0.0	273.4	273.4
Sat-17	352.1	0.0	267.1	0.0	0.0	5.8	0.0	261.3	261.3
Sun-18	378.4	0.0	259.3	0.0	0.0	6.7	0.0	252.6	252.6
Mon-19	330.3	0.0	269.9	0.0	0.0	6.5	0.0	263.4	263.4
Tue-20	559.6	0.0	297.0	14.3	0.0	7.8	0.0	274.9	274.9
Wed-21	576.7	0.0	351.2	24.4	0.0	7.3	0.0	319.5	319.5
Thu-22	596.1	0.0	325.1	24.9	0.0	8.0	0.0	292.2	292.2
Fri-23	628.8	0.0	326.8	37.3	0.0	7.3	0.0	282.2	282.2
Sat-24	329.0	0.0	285.4	0.0	0.0	9.2	0.0	276.2	276.2
Sun-25	354.4	0.0	284.6	0.0	0.0	9.9	0.0	274.7	274.7
Mon-26	691.6	0.0	327.7	38.8	0.0	9.9	0.0	279.0	279.0
Tue-27	538.2	0.0	330.6	17.5	0.0	12.3	0.0	300.8	300.8
Wed-28	355.5	0.0	298.2	0.0	0.0	12.2	0.0	286.0	286.0
Thu-29	502.0	0.0	287.9	6.4	0.0	12.9	0.0	268.6	268.6
Fri-30	509.5	0.0	306.8	9.7	0.0	13.5	0.0	283.6	283.6
Sat-31	344.4	0.0	288.1	0.0	0.0	12.9	0.0	275.2	275.2
Average	424.1	0.0	287.9	7.7	0.0	8.2	0.0	271.9	271.9
Minimum	307.1	0.0	259.3	0.0	0.0	4.7	0.0	252.6	252.6
Maximum	691.6	0.0	351.2	38.8	0.0	13.5	0.0	319.5	319.5
GeoMean	---	---	---	---	---	---	---	---	---
TOTAL	---	0	8,924	239	0	255	0	8,430	8,430

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
Thu-01	7.5			7.6	340				4.2	4.2
Fri-02	7.5			7.5	352				4.0	4.0
Sat-03	7.5			7.6	328				3.8	3.8
Sun-04	7.5			7.6	316				4.5	4.5
Mon-05	7.5			7.5	320				3.9	3.9
Tue-06	7.4			7.5	320				4.0	4.0
Wed-07	7.5			7.5	380				4.6	4.6
Thu-08	7.5			7.6	376				4.5	4.5
Fri-09	7.5			7.5	356				4.0	4.0
Sat-10	7.5			7.5	312				3.5	3.5
Sun-11	7.4	7.5		7.5	412	105			3.5	3.5
Mon-12	7.4	7.5		7.4	428	74			3.7	3.7
Tue-13	7.4			7.6	384				3.8	3.8
Wed-14	7.6	7.5		7.5	432	64			4.4	4.4
Thu-15	7.5	7.7		7.4	372	43			3.0	3.0
Fri-16	7.5			7.4	380				3.8	3.8
Sat-17	7.4			7.5	348				3.5	3.5
Sun-18	7.4			7.5	400				3.9	3.9
Mon-19	7.5			7.5	360				4.3	4.3
Tue-20	7.4	7.6		7.5	372	72			4.7	4.7
Wed-21	7.4	7.5		7.5	352	83			4.8	4.8
Thu-22	7.4	7.5		7.5	412	66			5.7	5.7
Fri-23	7.3	7.4		7.5	380	53			4.3	4.3
Sat-24	7.4			7.5	288				3.5	3.5
Sun-25	7.5			7.6	300				4.3	4.3
Mon-26	7.4	7.4		7.6	496	80			5.5	5.5
Tue-27	7.4	7.5		7.6	472	84			5.4	5.4
Wed-28	7.5			7.6	456				4.2	4.2
Thu-29	7.4	7.7		7.6	344	94			4.2	4.2
Fri-30	7.4			7.8	324				4.0	4.0
Sat-31	7.4			7.6	336				6.1	6.1
Average	7.4	7.5	---	7.5	369	74	---	---	4.2	4.2
Minimum	7.3	7.4	---	7.4	288	43	---	---	3.0	3.0
Maximum	7.6	7.7	---	7.8	496	105	---	---	6.1	6.1
GeoMean	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---

DATE	$BOD_5/cBOD_5$ (mg/L) RAW BOD_5	OUTFALL 30 BOD_5	OUTFALL 20 BOD_5	EPEPS BOD_5	OUTFALL 10 FEC $cBOD_5$	OUTFALL 10 FE $cBOD_5$	TP (mg/L) RAW	TP OUTFALL 30	TP OUTFALL 20	TP EPEPS	TP OUTFALL 10 FEC	TP OUTFALL 10 FE
Thu-01	308				2	2	7.80				0.28	0.28
Fri-02	318				2	2	8.55				0.35	0.35
Sat-03	335				3	3	8.98				0.30	0.30
Sun-04	341				3	3	9.00				0.32	0.32
Mon-05	341				3	3	9.58				0.28	0.28
Tue-06	289				3	3	10.10				0.31	0.31
Wed-07	283				2	2	10.10				0.35	0.35
Thu-08	318				3	3	10.00				0.34	0.34
Fri-09	304				3	3	8.88				0.31	0.31
Sat-10	314				2	2	8.98				0.32	0.32
Sun-11	320	201			2	2	8.24	7.63			0.30	0.30
Mon-12	320	167			< 2	< 2	9.18	7.38			0.28	0.28
Tue-13	227				< 2	< 2	10.20				0.27	0.27
Wed-14	258	81			2	2	8.27	6.06			0.27	0.27
Thu-15	213	74			3	3	6.85	4.08			0.29	0.29
Fri-16	229				< 2	< 2	7.49				0.26	0.26
Sat-17	259				< 2	< 2	7.83				0.28	0.28
Sun-18	251				2	2	7.82				0.32	0.32
Mon-19	241				3	3	7.60				0.32	0.32
Tue-20	298	187			3	3	7.52	6.67			0.32	0.32
Wed-21	227	135			3	3	5.89	3.74			0.28	0.28
Thu-22	235	122			3	3	6.75	6.11			0.33	0.33
Fri-23	221	120			3	3	6.94	5.92			0.33	0.33
Sat-24	214				3	3	7.76				0.28	0.28
Sun-25	225				2	2	7.96				0.29	0.29
Mon-26	266	120			3	3	7.39	6.59			0.34	0.34
Tue-27	304	97			3	3	8.36	5.75			0.28	0.28
Wed-28	268				2	2	8.48				0.30	0.30
Thu-29	315	251			5	5	8.99	10.00			0.38	0.38
Fri-30	265				4	4	9.45				0.99	0.99
Sat-31	288				5	5	8.45				0.58	0.58
Average	277	141	---	---	2.8	2.8	8.37	6.36	---	---	0.34	0.34
Minimum	213	74	---	---	< 2	< 2	5.89	3.74	---	---	0.26	0.26
Maximum	341	251	---	---	5	5	10.20	10.00	---	---	0.99	0.99
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---

DATE	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	un-ionized NH3-N (mg/L) OUT-FAL 30	OUT-FAL 20	OUT-FAL 10	TKN (mg/L) RAW	TKN OUTFALL 30	TKN OUTFALL 20	TKN OUTFALL 10 FEC
Thu-01	44.0				1.45	1.45				55.7			3.0
Fri-02	40.0				1.45	1.45				63.6			3.1
Sat-03	43.7				3.30	3.30				65.4			4.8
Sun-04	42.7				4.63	4.63				61.8			6.1
Mon-05	43.0				4.99	4.99				65.2			6.3
Tue-06	43.7				4.67	4.67				65.6			6.0
Wed-07	40.3				3.71	3.71				63.4			5.6
Thu-08	40.8				2.42	2.42				63.1			4.0
Fri-09	43.3				2.06	2.06				62.4			4.0
Sat-10	39.8				1.82	1.82				61.4			3.4
Sun-11	36.1	39.0			1.99	1.99				55.4	51.0		3.4
Mon-12	35.9	39.0			1.57	1.57				62.7	52.5		3.1
Tue-13	40.1				1.52	1.52				68.3			3.3
Wed-14	39.0	30.5			1.41	1.41				58.7	37.6		3.1
Thu-15	32.2	20.8			0.66	0.66				52.8	26.0		2.1
Fri-16	37.5				1.14	1.14				58.7			2.5
Sat-17	35.9				1.05	1.05				53.8			2.5
Sun-18	42.7				0.81	0.81				59.0			2.4
Mon-19	38.6				1.89	1.89				57.0			3.3
Tue-20	37.3	38.1			3.12	3.12				55.9	48.0		5.1
Wed-21	32.2	32.8			3.96	3.96				39.9	24.9		6.0
Thu-22	32.3	31.3			4.61	4.61				47.6	43.5		6.0
Fri-23	30.3	32.2			4.25	4.25				42.5	36.8		6.0
Sat-24	38.4				3.72	3.72				47.6			5.3
Sun-25	36.6				4.36	4.36				50.5			5.6
Mon-26	31.1	29.7			3.85	3.85				46.2	40.0		5.3
Tue-27	34.2	26.6			1.26	1.26				49.8	33.9		2.7
Wed-28	41.4				3.77	3.77				56.9			5.3
Thu-29	36.5	40.8			4.27	4.27				56.6	57.2		5.9
Fri-30	39.4				2.92	2.92				56.9			4.9
Sat-31	41.3				2.33	2.33				58.9			4.6
Average	38.4	32.8	---	---	2.74	2.74	---	---	---	56.9	41.0	---	4.3
Minimum	30.3	20.8	---	---	0.66	0.66	---	---	---	39.9	24.9	---	2.1
Maximum	44.0	40.8	---	---	4.99	4.99	---	---	---	68.3	57.2	---	6.3
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---	---

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
Thu-01				8.2	93.9			97.9				8
Fri-02				8.6	96.1			98.4				10
Sat-03				10.1	90.4			98.2				9
Sun-04				10.1	92.3			95.5				8
Mon-05				10.0	91.7			91.8				14
Tue-06				9.1	93.6			98.1				16
Wed-07	< 0.01			10.8	93.8			97.3				17
Thu-08				11.3	88.7			99.1				8
Fri-09				11.8	89.0			96.1				5
Sat-10				11.0	82.1			95.7				14
Sun-11		0.13		11.1	84.8	91.3		90.8		1.9		8
Mon-12		0.06		9.6	89.6	94.3		90.3		1.9		9
Tue-13				10.8	85.7			89.8		1.8		19
Wed-14	< 0.01	0.27		12.1	89.3	75.2		90.2				9
Thu-15		0.36		10.9	80.5	73.9		90.6		1.9		15
Fri-16				9.9	90.5			86.9				15
Sat-17				9.0	83.0			90.2				8
Sun-18				8.8	83.5			89.0				13
Mon-19				10.0	84.1			87.9				8
Tue-20		0.08		8.9	88.2	89.6		88.6		2.1		35
Wed-21	< 0.01	0.07		7.5	77.5	76.6		86.4		1.7		12
Thu-22		0.05		7.4	81.2	74.1		85.3		1.8		95
Fri-23		0.07		7.4	78.1	79.8		87.3		2.3		36
Sat-24				6.8	83.7			84.9				24
Sun-25				8.8	82.6			86.7				9
Mon-26		0.07		8.0	89.7	66.5		87.0		1.6		9
Tue-27		0.03		7.9	80.2	75.7		87.6		2.1		18
Wed-28	< 0.01			9.2	86.9			89.6				29
Thu-29		0.15		9.2	85.3	64.8		94.2		2.7		18
Fri-30				9.3	82.8			91.7	2.6	1.5		9
Sat-31				9.5	85.2			90.8				5
Average	< 0.01	0.12	---	9.5	87	78	---	91.4			---	
Minimum	< 0.01	0.03	---	6.8	77.5	65	---	84.9	2.6	1.5	---	5
Maximum	< 0.01	0.36	---	12.1	96	94	---	99.1	2.6	2.7	---	95
GeoMean	---	---	---	---	---	---	---	---	2.6	1.9	---	13
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---

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

Enhanced Primary Treatment (EPT) Usage					
Total Bypass (hr)	EPT Usage (hr)	% Usage	Total Bypass YTD (hr)	EPT Usage YTD (hr)	% Usage YTD
49	49	100%	254	254	100%

Report Comments

AEP Ref #

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 Pump Station
FE	Final Effluent from secondary treatment process (with biological nutrient removal). Pre-Ultraviolet disinfection.
FEC	Combined post-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
AEP	Alberta Environment & Parks

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Senior Manager, WWTP Operations

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Senior Manager, Analytical Operations

Appendices A – Monthly Plant Performance Reports

PROVIDING MORE EPCOR

Gold Bar Wastewater Treatment Plant
Plant Performance Report
June 2025

Digested Sludge: Total Monthly Volume (ML)	73.2

DATE	Peak Flow (ML/D)	Volume of Flow (ML)							pH@25°C				TSS (mg/L)					BOD$_5$/cBOD$_5$ (mg/L)							TP (mg/L)					NH3-N (mg/L)					un-Ionized NH3-N (mg/L)			TKN (mg/L)				NO$_2$+NO$_3$ (mg/L)				Chloride (mg/L)				E. coli (Counts/100 mL)			
		Influent	Effluent																																																	
			Non UV Disinfected			UV Disinfected																																															
								OUTFALL 10																																														
		INFs	RAW	OUTFALL 30	OUTFALL 20	MPN	EPSPS	FEC	FE	RAW	OUTFALL 30	OUTFALL 20	OUTFALL 10 FEC	RAW	OUTFALL 30	OUTFALL 20	EPSPS	OUTFALL 10 FEC	OUTFALL 10 FE	RAW	OUTFALL 30	OUTFALL 20	EPSPS	OUTFALL 10 FEC	OUTFALL 10 FE	RAW	OUTFALL 30	OUTFALL 20	EPSPS	OUTFALL 10 FEC	OUTFALL 10 FE	RAW	OUTFALL 30	OUTFALL 20	EPSPS	OUTFALL 10 FEC	OUTFALL 10 FE	OUTFALL 30	OUTFALL 20	OUTFALL 10	RAW	OUTFALL 30	OUTFALL 20	OUTFALL 10 FEC	RAW	OUTFALL 30	OUTFALL 20	OUTFALL 10 FEC	RAW	OUTFALL 30	OUTFALL 20	OUTFALL 10 FEC
																		BOD$_5$	BOD$_5$	BOD$_5$	BOD$_5$	cBOD$_5$	cBOD$_5$																																								
Sun-01	357.5	0.0	264.6	0.0	0.0	13.3	0.0	271.3	271.3	7.4			7.6	316				7.4	7.4	302				5	5	6.58				2.21	2.21	42.7				64.3			4.1			10.0	102.0			85.9	3.2			7
Mon-02	400.7	0.0	297.9	0.0	0.0	12.1	0.0	285.8	285.8	7.4			7.6	304				5.6	5.6	269				5	5	6.11				2.47	2.47	40.1				58.8			4.2			9.1	93.6			85.0				9
Tue-03	338.5	0.0	264.8	0.0	0.0	11.2	0.0	273.6	273.6	7.4	7.5		7.4	320	81			6.9	6.9	299	82			6	6	6.81	7.02			2.28	2.29	39.7	32.1			60.1	39.6		4.2			9.3	109.0	96.5		97.3				6
Wed-04	333.0	0.0	297.5	0.0	0.0	12.3	0.0	285.2	285.2	7.5			7.6	324				7.6	7.6	292				7	7	6.93				5.13	5.13	41.5				61.5			7.1	< 0.01		10.2	93.6			92.0				17
Thu-05	340.2	0.0	286.1	0.0	0.0	12.5	0.0	273.6	273.6	7.4			7.6	308				5.1	5.1	299				9	9	8.96				5.32	5.32	42.9				59.4			7.8			9.6	95.9			93.4				21
Fri-06	332.8	0.0	292.0	0.0	0.0	11.9	0.0	280.1	280.1	7.4			7.5	308				5.1	5.1	309				10	10	7.88				5.25	5.25	44.0				56.4			7.1			8.9	92.8			98.9				6
Sat-07	320.8	0.0	278.0	0.0	0.0	11.8	0.0	266.2	266.2	7.4			7.5	291				5.8	5.8	312				8	8	9.28				4.35	4.35	40.0	42.8			66.0			6.2			9.9	106.0			97.2				6
Sun-08	345.9	0.0	280.0	0.0	0.0	12.0	0.0	268.0	268.0	7.5			7.7	176				5.5	5.5	229				12	12	8.52				6.24	6.24	45.0	41.6			63.8			8.3			8.9	83.1			87.3				10
Mon-09	343.4	0.0	292.5	0.0	0.0	11.5	0.0	281.0	281.0	7.5			7.6	172				6.8	6.8	301				12	12	8.32				6.16	6.16	44.0	38.9			65.0			8.0			8.5	88.8			94.5				8
Tue-10	337.8	0.0	288.2	0.0	0.0	13.4	0.0	274.8	274.8	7.1			7.4	308				6.6	6.6	300				10	10	8.05				2.75	2.75	42.0	40.5			64.4			4.6			9.1	89.4			91.7				16
Wed-11	337.4	0.0	284.5	0.0	0.0	12.5	0.0	272.0	272.0	7.5			7.5	324				6.0	6.0	297				7	7	8.92				2.19	2.19	39.9	42.6			63.3			4.7	0.02		10.1	93.0			93.9				11
Thu-12	337.4	0.0	277.6	0.0	0.0	12.8	0.0	264.8	264.8	7.5			7.6	308				5.6	5.6	307				7	7	9.08				3.05	3.05	39.9	44.1			66.8			4.7			10.3	92.4			98.2				4
Fri-13	2,099.8	3.0	442.4	143.0	0.0	12.0	0.0	287.4	287.4	7.2	7.7		7.6	584	180			6.1	6.1	304	170			6	6	6.84	5.50			3.34	3.34	37.7	27.6	25.6		45.3	39.5		5.3		0.22	9.8	66.5	65.6		97.0		3.9		7
Sat-14	968.7	0.0	618.2	275.9	0.0	13.0	0.0	329.3	329.3	7.4	7.3		7.3	244	34			5.0	5.0	142	54			5	5	3.85	3.10			0.80	0.80	16.6	20.8			26.8	24.3		1.9		0.52	4.4	48.1	50.1		64.4		0.6		5
Sun-15	437.7	0.0	347.8	13.1	0.0	12.5	0.0	322.2	322.2	7.5	7.7		7.3	264	52			7.0	7.0	235	110			6	6	7.45	6.59			1.58	1.58	39.7	32.1			59.2	42.5		3.2		0.07	7.8	78.6	85.9		69.8		2.4		7
Mon-16	373.2	0.0	319.4	3.6	0.0	11.8	0.0	304.0	304.0	7.4	7.7		7.4	276	55			6.0	6.0	212	83			6	6	6.78	5.98			3.03	3.03	40.0	38.0			54.8	40.4		4.7		0.04	8.8	88.3	90.7		86.7		3.2		16
Tue-17	353.6	0.0	312.5	0.0	0.0	11.5	0.0	301.0	301.0	7.5			7.6	312				5.8	5.8	244				6	6	7.72				3.27	3.27	35.0	38.8			65.0			5.1			9.4	95.1			97.7				10
Wed-18	386.7	0.0	306.8	0.0	0.0	10.4	0.0	296.4	296.4	7.6			7.6	348				5.9	5.9	300				5	5	8.21				2.89	2.89	39.9	38.9			60.1			5.1	< 0.01		10.0	99.7			104.0				6
Thu-19	1,681.1	2.0	557.7	237.5	0.0	11.4	0.0	288.8	288.8	7.3	7.5		7.5	396	83			5.4	5.4	163	76			5	5	4.75	4.32			1.50	1.50	31.1	0.31	0.31	16.3	30.9	31.1		3.5		0.37	7.4	49.8	60.8		90.8		1.2		8
Fri-20	895.0	0.0	417.7	88.0	0.0	10.2	0.0	319.5	319.5	7.5	7.6		7.5	280	53			5.4	5.4	199	86			4	4	5.80	6.43			1.01	1.01	27.2	35.4			40.3	40.9		2.2		0.05	9.4	85.0	80.5		73.2		1.7		34
Sat-21	505.2	0.0	354.0	10.8	0.0	10.3	0.0	332.9	332.9	7.6	7.7		7.4	256	41			5.6	5.6	209	61			4	4	6.97	5.22			1.46	1.46	32.5	26.6			48.4	32.0		3.4		0.09	7.6	74.8	50.9		76.6		2.1		13
Sun-22	529.9	0.0	335.7	14.5	0.0	10.9	0.0	310.3	310.3	7.6	7.8		7.6	308	71			6.0	6.0	273	129			5	5	7.57	8.92			3.03	3.03	35.0	38.8			55.2	54.5		4.6		0.05	11.1	81.5	92.7		91.0		2.8		23
Mon-23	444.2	0.0	352.4	8.2	0.0	9.9	0.0	334.3	334.3	7.5	7.7		7.7	288	56			9.7	9.7	201	84			4	4	7.28	8.02			0.60	0.60	33.4	37.2			50.4	47.5		4.3		0.05	10.3	73.7	88.7		88.9		2.2		16
Tue-24	389.2	0.0	313.6	0.0	0.0	8.5	0.0	305.1	305.1	7.7			7.7	328				5.3	5.3	306				3	3	8.43				0.44	0.44	36.0				58.1			4.7			10.4	97.6			101.0				13
Wed-25	937.8	0.0	375.8	68.5	0.0	11.5	0.0	295.8	295.8	7.6			7.8	532				5.0	5.0	212				3	3	7.71				0.38	0.38	27.0				53.6			4.0	< 0.01		10.5	81.7			107.9		2.6		14
Thu-26	470.2	0.0	321.2	14.7	0.0	11.0	0.0	295.5	295.5	7.7	7.7		7.9	316	70			4.5	4.5	199	96			3	3	6.75	6.05			0.28	0.28	30.6	37.7			53.1	47.2		2.2		0.06	10.7	90.0	100.6		93.6		4.9		17
Fri-27	648.8	0.0	325.9	24.5	0.0	11.8	0.0	289.6	289.6	7.6	7.6		7.7	476	64			3.9	3.9	276	92			4	4	7.26	6.10			0.32	0.32	28.8	38.9			50.2	49.4		2.3		0.02	12.6	87.2	97.6		102.5	6.7	2.1		27
Sat-28	375.8	0.0	300.7	0.0	0.0	11.9	0.0	288.8	288.8	7.6			7.9	420				5.3	5.3	257				4	4	7.32				0.88	0.88	33.2				56.9			2.1			10.1	92.0			97.2				7
Sun-29	330.9	0.0	292.6	0.0	0.0	11.5	0.0	281.1	281.1	7.7			7.8	380				6.5	6.5	262				4	4	7.72				0.69	0.69	32.4				51.7			0.97			11.3	92.7			100.6				16
Mon-30	329.0	0.0	294.4	0.0	0.0	11.2	0.0	283.2	283.2	7.7			8.0	396				5.7	5.7	261				4	4	7.42				0.31	0.31	28.4				52.5			2.6			12.1	95.3			104.6	4.9			17
Average	543.7	0.2	334.5	32.7	0.0	11.6	0.0	292.1	292.1	7.5	7.6	---	7.6	329	70	---	---	5.9	5.9	258	94	---	---	6	6	7.64	6.10	---	---	0.50	0.50	35.0	32.8	---	---	55.2	41.2	---	4.5	0.01	0.13	---	91.6			97.2	5.0			11
Minimum	320.8	0.0	277.6	0.0	0.0	8.5	0.0	264.8	264.8	7.1	7.3	---	7.3	172	34	---	---	3.9	3.9	142	54	---	---	3	3	3.85	3.10	---	---	0.28	0.28	16.3	20.8	---	---	26.8	24.3	---	1.9	< 0.01	0.02	---	44.1	48.1	50	---	64.4	3.2	0.6	---	4
Maximum	2,099.8	3.0	618.2	275.9	0.0	13.4	0.0	334.3	334.3	7.7	7.8	---	8.2	584	180	---	---	9.7	9.7	312	170	---	---	12	12	9.28	8.92	---	---	1.01	1.01	44.1	38.9	---	---	66.8	54.5	---	8.3	0.02	0.52	---	109	101	---	107	6.7	4.9	---	34
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	5	10,034	922	0	349	0	8,764	8,764	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

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

Enhanced Primary Treatment (EPT) Usage

Total Bypass (hr)	EPT Usage (hr)	% Usage	Total Bypass YTD (hr)	EPT Usage YTD (hr)	% Usage YTD
94	94	100%	348	348	100%

Report Comments

AEP Ref #

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 Pump Station
FE	Final Effluent from secondary treatment process (with biological nutrient removal). Pre-Ultraviolet disinfection.

FEC	Combined post-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)
MPN	Membrane Product Water (Effluent-no-use water)
ML	Megalitre (1,000,000 Litre)
MPN	Most Probable Number
NR	No Result
NS	No Sample
INS	Insufficient Sample
EP	Alberta Environment & Parks

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Senior Manager, Analytical Operations

Appendices A – Monthly Plant Performance Reports

PROVIDING MORE EPCOR

Gold Bar Wastewater Treatment Plant
Plant Performance Report
July 2025

Digested Sludge: Total Monthly Volume (ML)	69.5

Volume of Flow (ML)

DATE	Peak Flow (ML/D)	Influent	Effluent: Non UV Disinfected			Effluent: UV Disinfected		
							OUTFALL 10	
		INFs	OUTFALL 30	OUTFALL 20	MPW	EPSPS	FEC	FE
Tue-01	344.6	0.0	303.1	0.0	0.0	11.4	0.0	291.7	291.7
Wed-02	362.8	0.0	302.4	0.0	0.0	11.3	0.0	291.1	291.1
Thu-03	341.2	0.0	293.6	0.0	0.0	10.8	0.0	282.8	282.8
Fri-04	323.3	0.0	289.0	0.0	0.0	11.5	0.0	277.5	277.5
Sat-05	331.3	0.0	281.6	0.0	0.0	11.7	0.0	269.9	269.9
Sun-06	947.7	0.0	508.2	178.0	0.0	11.3	0.0	318.9	318.9
Mon-07	397.1	0.0	324.6	3.6	0.0	11.9	0.0	309.1	309.1
Tue-08	351.6	0.0	313.0	0.0	0.0	11.2	0.0	301.8	301.8
Wed-09	356.8	0.0	298.3	0.0	0.0	11.4	0.0	286.9	286.9
Thu-10	340.4	0.0	294.4	0.0	0.0	11.1	0.0	283.3	283.3
Fri-11	333.0	0.0	288.0	0.0	0.0	11.1	0.0	276.9	276.9
Sat-12	311.0	0.0	285.2	0.0	0.0	11.3	0.0	273.9	273.9
Sun-13	326.9	0.0	295.7	0.0	0.0	11.7	0.0	284.0	284.0
Mon-14	331.5	0.0	292.1	0.0	0.0	12.1	0.0	280.0	280.0
Tue-15	319.9	0.0	295.3	0.0	0.0	13.9	0.0	281.4	281.4
Wed-16	367.0	0.0	290.3	0.0	0.0	13.2	0.0	277.1	277.1
Thu-17	312.6	0.0	284.1	0.0	0.0	13.0	0.0	271.1	271.1
Fri-18	337.2	0.0	294.9	0.0	0.0	12.1	0.0	282.8	282.8
Sat-19	566.3	0.0	457.6	166.1	0.0	12.5	0.0	279.0	279.0
Sun-20	398.8	0.0	340.1	11.9	0.0	12.3	0.0	315.9	315.9
Mon-21	357.0	0.0	317.8	0.0	0.0	11.8	0.0	306.0	306.0
Tue-22	355.2	0.0	298.4	0.0	0.0	12.5	0.0	285.9	285.9
Wed-23	354.7	0.0	294.9	0.0	0.0	12.5	0.0	282.4	282.4
Thu-24	358.7	0.0	287.4	0.0	0.0	11.1	0.0	276.3	276.3
Fri-25	1,440.5	0.0	445.9	100.4	0.0	11.4	0.0	334.1	334.1
Sat-26	399.7	0.0	298.7	0.0	0.0	11.5	0.0	287.2	287.2
Sun-27	607.6	0.0	325.2	18.8	0.0	11.1	0.0	295.3	295.3
Mon-28	345.3	0.0	310.0	0.0	0.0	11.3	0.0	298.7	298.7
Tue-29	349.3	0.0	297.7	0.0	0.0	11.2	0.0	286.5	286.5
Wed-30	351.1	0.0	299.8	0.0	0.0	12.2	0.0	287.6	287.6
Thu-31	357.6	0.0	301.7	0.0	0.0	12.0	0.0	289.7	289.7
Average	429.3	0.0	316.4	15.4	0.0	11.8	0.0	289.2	289.2
Minimum	311.0	0.0	281.6	0.0	0.0	10.8	0.0	269.9	269.9
Maximum	1,440.5	0.0	508.2	178.0	0.0	13.9	0.0	334.1	334.1
Geoffean	---	---	---	---	---	---	---	---	---
TOTAL	---	0	9,809	479	0	365	0	8,965	8,965

Liquid Stream Quality

DATE	pH@25°C: RAW	pH@25°C: OUTFALL 30	pH@25°C: OUTFALL 20	pH@25°C: OUTFALL 10 FEC	TSS (mg/L): RAW	TSS (mg/L): OUTFALL 30	TSS (mg/L): OUTFALL 20	TSS (mg/L): EPSPS	TSS (mg/L): OUTFALL 10 FEC	TSS (mg/L): OUTFALL 10 FE
Tue-01	7.6	392			8.2	8.2			7.6	
Wed-02	7.5	276			9.0	9.0			7.9	
Thu-03	7.5	300			6.9	6.9			7.7	
Fri-04	7.7	268			10.9	10.9			7.6	
Sat-05	7.4	328			7.6	7.6			7.5	
Sun-06	7.4	7.5			5.3	5.3			7.6	
Mon-07	7.6	7.9			5.9	5.9			7.7	
Tue-08	7.6				6.7	6.7			7.7	
Wed-09	7.6				7.1	7.1			7.7	
Thu-10	7.5				5.9	5.9			7.7	
Fri-11	7.5				6.5	6.5			7.7	
Sat-12	7.6				5.9	5.9			7.7	
Sun-13	7.5				5.2	5.2			7.6	
Mon-14	7.5				4.3	4.3			7.7	
Tue-15	7.6				6.2	6.2			7.7	
Wed-16	7.6				4.6	4.6			7.6	
Thu-17	7.5				5.2	5.2			7.7	
Fri-18	7.4				7.0	7.0			7.6	
Sat-19	7.3	7.5			6.6	6.6			7.5	
Sun-20	7.4	7.5			5.3	5.3			7.4	
Mon-21	7.6				6.3	6.3			7.5	
Tue-22	7.5				5.7	5.7			7.6	
Wed-23	7.5				5.7	5.7			7.7	
Thu-24	7.6				5.7	5.7			7.6	
Fri-25	7.3	7.5			4.7	4.7			7.6	
Sat-26	7.4				5.6	5.6			7.5	
Sun-27	7.5	7.7			6.2	6.2			7.6	
Mon-28	7.5				6.2	6.2			7.5	
Tue-29	7.5				6.3	6.3			7.7	
Wed-30	7.7				6.2	6.2			7.9	
Thu-31	7.6				5.8	5.8			7.7	
Average	7.5	7.6	---	7.6	6.3	6.3			7.6	
Minimum	7.3	7.5	---	7.4	4.3	4.3			7.4	
Maximum	7.7	7.9	---	7.9	10.9	10.9			7.9	
Geoffean	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---

DATE	BOD_5/$cBOD_5$ (mg/L): RAW	BOD_5: OUTFALL 30	BOD_5: OUTFALL 20	BOD_5: EPSPS	$cBOD_5$: OUTFALL 10 FEC	$cBOD_5$: OUTFALL 10 FE
Tue-01	276				5	5
Wed-02	276				5	5
Thu-03	227				4	4
Fri-04	227				5	5
Sat-05	268				4	4
Sun-06	177	73			4	4
Mon-07	317	94			5	5
Tue-08	249				7	7
Wed-09	260				8	8
Thu-10	303				9	9
Fri-11	303				10	10
Sat-12	286				8	8
Sat-13	260				9	9
Mon-14	344				9	9
Tue-15	372				7	7
Wed-16	268				6	6
Thu-17	336				7	7
Fri-18	328				6	6
Sat-19	340	62			5	5
Sun-20	336	52			4	4
Mon-21	316				5	5
Tue-22	384				6	6
Wed-23	360				5	5
Thu-24	352				5	5
Fri-25	312	88			4	4
Sat-26	380				4	4
Sun-27	388	108			4	4
Mon-28	356				4	4
Tue-29	368				4	4
Wed-30	312				3	3
Thu-31	280				3	3
Average	292	89	---	---	6	6
Minimum	156	73	---	---	3	3
Maximum	344	114	---	---	10	10
Geoffean	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---

DATE	TP (mg/L): RAW	TP (mg/L): OUTFALL 30	TP (mg/L): OUTFALL 20	TP (mg/L): EPSPS	TP (mg/L): OUTFALL 10 FEC	TP (mg/L): OUTFALL 10 FE
Tue-01	7.72				0.57	0.57
Wed-02	7.76				0.50	0.50
Thu-03	7.83				0.50	0.50
Fri-04	6.70				0.37	0.37
Sat-05	7.75				0.44	0.44
Sun-06	4.59	4.36			0.38	0.38
Mon-07	6.46	6.20			0.34	0.34
Tue-08	6.64				0.41	0.41
Wed-09	7.37				0.39	0.39
Thu-10	7.73				0.38	0.38
Fri-11	7.58				0.56	0.56
Sat-12	7.28				1.11	1.11
Sat-13	7.87				0.65	0.65
Mon-14	8.21				0.49	0.49
Tue-15	8.64				0.40	0.40
Wed-16	8.13				0.34	0.34
Thu-17	9.63				0.53	0.53
Fri-18	9.20				0.47	0.47
Sat-19	6.57	6.98			0.47	0.47
Sun-20	7.36	7.05			0.41	0.41
Mon-21	8.39				0.44	0.44
Tue-22	9.86				0.41	0.41
Wed-23	8.95				0.44	0.44
Thu-24	9.39				0.43	0.43
Fri-25	5.01	4.96			0.37	0.37
Sat-26	8.54				0.39	0.39
Sun-27	7.41	9.24			0.44	0.44
Mon-28	7.88				0.74	0.74
Tue-29	7.79				0.48	0.48
Wed-30	7.58				0.40	0.40
Thu-31	7.48				0.38	0.38
Average	7.72	6.47	---	---	0.47	0.47
Minimum	4.59	4.36	---	---	0.34	0.34
Maximum	9.86	9.24	---	---	1.11	1.11
Geoffean	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---

DATE	NH3-N (mg/L): RAW	NH3-N (mg/L): OUTFALL 30	NH3-N (mg/L): OUTFALL 20	NH3-N (mg/L): EPSPS	NH3-N (mg/L): OUTFALL 10 FEC	NH3-N (mg/L): OUTFALL 10 FE
Tue-01	34.1				1.21	1.21
Wed-02	36.4				1.77	1.77
Thu-03	40.9				1.83	1.83
Fri-04	39.9				1.68	1.68
Sat-05	40.2				1.61	1.61
Sun-06	20.8	28.6			0.78	0.78
Mon-07	33.7	36.9			0.77	0.77
Tue-08	35.2				1.26	1.26
Wed-09	35.7				1.02	1.02
Thu-10	39.1				1.03	1.03
Fri-11	36.2				0.87	0.87
Sat-12	33.5				0.41	0.41
Sat-13	34.9				0.58	0.58
Mon-14	36.6				0.68	0.68
Tue-15	37.1				0.73	0.73
Wed-16	36.8				1.17	1.17
Thu-17	36.8				2.57	2.57
Fri-18	37.1				0.74	0.74
Sat-19	20.8	31.2			0.37	0.37
Sun-20	31.0	33.9			0.55	0.55
Mon-21	35.8				0.80	0.80
Tue-22	38.6				0.70	0.70
Wed-23	38.3				0.70	0.70
Thu-24	37.9				0.72	0.72
Fri-25	20.1	20.5			0.49	0.49
Sat-26	35.5				0.65	0.65
Sun-27	33.9	43.0			0.49	0.49
Mon-28	36.6				0.27	0.27
Tue-29	35.8				0.24	0.24
Wed-30	35.0				0.26	0.26
Thu-31	34.6				0.24	0.24
Average	34.8	32.4	---	---	0.88	0.88
Minimum	20.1	20.5	---	---	0.24	0.24
Maximum	40.9	43.0	---	---	2.57	2.57
Geoffean	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---

DATE	un-Ionized NH3-N (mg/L): OUTFALL 30	un-Ionized NH3-N (mg/L): OUTFALL 20	un-Ionized NH3-N (mg/L): OUTFALL 10
Tue-01			
Wed-02			
Thu-03			
Fri-04			
Sat-05			
Sun-06			
Mon-07			
Tue-08			
Wed-09			
Thu-10			
Fri-11			
Sat-12			
Sat-13			
Mon-14			
Tue-15			
Wed-16			
Thu-17			
Fri-18			
Sat-19			
Sun-20			
Mon-21			
Tue-22			
Wed-23			
Thu-24			
Fri-25			
Sat-26			
Sun-27			
Mon-28			
Tue-29			
Wed-30			
Thu-31			
Average	---	---	---
Minimum	---	---	---
Maximum	---	---	---
Geoffean	---	---	---
TOTAL	---	---	---

DATE	TKN (mg/L): RAW	TKN (mg/L): OUTFALL 30	TKN (mg/L): OUTFALL 20	TKN (mg/L): OUTFALL 10 FEC
Tue-01	55.3			3.4
Wed-02	62.3			3.8
Thu-03	57.9			4.3
Fri-04	52.8			3.0
Sat-05	58.9			3.3
Sun-06	32.0	33.0	2.4	2.4
Mon-07	48.3	43.2	1.9	1.9
Tue-08	49.0			2.9
Wed-09	50.3			3.1
Thu-10	60.6			2.9
Fri-11	53.8			2.6
Sat-12	48.1			2.3
Sat-13	55.4			2.2
Mon-14	58.1			2.8
Tue-15	61.7			2.8
Wed-16	60.8			3.5
Thu-17	63.1			5.2
Fri-18	60.6			3.0
Sat-19	39.0	37.8	2.6	2.6
Sun-20	50.2	41.7	2.3	2.3
Mon-21	55.3			2.5
Tue-22	60.8			2.6
Wed-23	62.7			2.8
Thu-24	60.4			3.0
Fri-25	31.2	25.4	2.5	2.5
Sat-26	57.7			2.4
Sun-27	52.0	55.9	2.4	2.4
Mon-28	57.6			2.2
Tue-29	56.0			2.3
Wed-30	55.4			2.2
Thu-31	53.1			2.3
Average	54.2	39.5	---	2.8
Minimum	31.2	25.4	---	1.9
Maximum	63.1	55.9	---	5.2
Geoffean	---	---	---	---
TOTAL	---	---	---	---

DATE	NO_3+NO_2 (mg/L): RAW	NO_3+NO_2 (mg/L): OUTFALL 30	NO_3+NO_2 (mg/L): OUTFALL 20	NO_3+NO_2 (mg/L): OUTFALL 10 FEC
Tue-01				9.7
Wed-02	< 0.01			10.0
Thu-03				9.7
Fri-04				10.9
Sat-05				11.5
Sun-06		0.05		8.1
Mon-07		0.04		10.5
Tue-08				11.2
Wed-09	< 0.01			10.4
Thu-10				11.4
Fri-11				11.8
Sat-12				10.1
Sun-13				11.2
Mon-14				10.6
Tue-15				10.4
Wed-16	< 0.01			11.2
Thu-17				8.6
Fri-18				11.1
Sat-19		0.04		9.3
Sun-20		0.34		7.7
Mon-21				11.2
Tue-22				11.6
Wed-23	< 0.01			12.0
Thu-24				12.6
Fri-25		0.18		9.5
Sat-26				13.0
Sun-27		0.08		12.7
Mon-28				12.0
Tue-29				11.5
Wed-30	< 0.01			10.2
Thu-31				11.4
Average	< 0.01	0.12	---	10.7
Minimum	< 0.01	0.04	---	7.7
Maximum	< 0.01	0.34	---	13.0
Geoffean	---	---	---	---
TOTAL	---	---	---	---

DATE	Chloride (mg/L): RAW	Chloride (mg/L): OUTFALL 30	Chloride (mg/L): OUTFALL 20	Chloride (mg/L): OUTFALL 10 FEC
Tue-01	93.9			102
Wed-02	102			99.8
Thu-03	96.6			108
Fri-04	96.2			109
Sat-05	89.3			106
Sun-06	57.8	65.8		85.7
Mon-07	89.7	86.8		81.0
Tue-08	98.7			98.7
Wed-09	101			104
Thu-10	102			109
Fri-11	97.3			108
Sat-12	93.8			102
Sat-13	91.6			98.0
Mon-14	98.0			98.1
Tue-15	95.5			102
Wed-16	96.8			99.4
Thu-17	101			102
Fri-18	95.6			107
Sat-19	60.3	63.5		96.6
Sun-20	73.2	62.7		66.9
Mon-21	79.8			82.7
Tue-22	86.8			96.1
Wed-23	88.5			94.2
Thu-24	91.6			98.6
Fri-25	55.6	48.2		82.3
Sat-26	78.8			87.3
Sun-27	75.9	71.8		86.8
Mon-28	79.6			91.7
Tue-29	82.9			86.2
Wed-30	84.0			87.7
Thu-31	83.0			89.4
Average	87.5	60.6	---	96.5
Minimum	55.6	48.2	---	66.9
Maximum	102	86.8	---	109
Geoffean	---	---	---	---
TOTAL	---	---	---	---

DATE	*E. coli* (Counts/100 mL): RAW	*E. coli*: OUTFALL 30	*E. coli*: OUTFALL 20	*E. coli*: OUTFALL 10 FEC
	X10^6	X10^6	X10^6	FEC
Tue-01				19
Wed-02				10
Thu-03				6
Fri-04				17
Sat-05				8
Sun-06		> 80.0		9
Mon-07		1.5		20
Tue-08				25
Wed-09				20
Thu-10				31
Fri-11				14
Sat-12				3
Sun-13				6
Mon-14				7
Tue-15				11
Wed-16				8
Thu-17				11
Fri-18				19
Sat-19		1.9		6
Sun-20		2.0		12
Mon-21				19
Tue-22				33
Wed-23				16
Thu-24				7
Fri-25		1.1		10
Sat-26				4
Sun-27		2.0		3
Mon-28				12
Tue-29				5
Wed-30				8
Thu-31				4
Average				---
Minimum				---
Maximum				33
Geoffean		3.2		10
TOTAL				---

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

Enhanced Primary Treatment (EPT) Usage

Total Bypass (hr)	EPT Usage (hr)	% Usage	Total Bypass YTD (hr)	EPT Usage YTD (hr)	% Usage YTD
55	55	100%	403	403	100%

Report Comments

6-Jul-25	Outfall 30 E. Coli results significantly higher than average due to suspected laboratory dilution error. Unable to retest.

AEP Ref #

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 Pump Station
FE	Final Effluent from secondary treatment process (with biological nutrient removal). Pre-Ultraviolet disinfection.

FEC	Combined post-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
----	Alberta Environment & Parks

Jaime Gingrich P.Eng.
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Appendices A – Monthly Plant Performance Reports

Gold Bar Wastewater Treatment Plant
Plant Performance Report
August 2025

Digested Sludge: Total Monthly Volume (ML)	68.7

Volume of Flow (ML)

DATE	Peak Flow (ML/D)	Influent	Effluent						
			Non UV Disinfected			UV Disinfected			
		INFs	OUTFALL 30	OUTFALL 20	MPW	EPBPS	OUTFALL 10		
			RAW				FEC	FE	
Fri-01	354.0	0.0	302.2	0.0	0.0	11.1	0.0	291.1	291.1
Sat-02	621.4	0.0	316.8	17.2	0.0	11.4	0.0	288.2	288.2
Sun-03	332.0	0.0	306.0	0.0	0.0	11.8	0.0	294.2	294.2
Mon-04	353.6	0.0	297.5	0.0	0.0	10.3	0.0	287.2	287.2
Tue-05	349.4	0.0	303.2	0.0	0.0	10.0	0.0	293.2	293.2
Wed-06	351.9	0.0	297.0	0.0	0.0	9.9	0.0	287.1	287.1
Thu-07	1,678.9	10.7	542.8	182.1	0.0	11.0	0.0	349.7	349.7
Fri-08	368.8	0.0	332.5	0.0	0.0	10.3	0.0	322.2	322.2
Sat-09	363.3	0.0	301.6	0.0	0.0	10.4	0.0	291.2	291.2
Sun-10	477.5	0.0	304.2	11.5	0.0	10.3	0.0	282.4	282.4
Mon-11	464.6	0.0	311.7	5.4	0.0	9.7	0.0	296.6	296.6
Tue-12	778.9	0.0	310.8	9.7	0.0	10.9	0.0	290.2	290.2
Wed-13	792.7	0.0	422.4	107.2	0.0	11.4	0.0	303.8	303.8
Thu-14	422.1	0.0	314.9	4.4	0.0	11.8	0.0	298.7	298.7
Fri-15	451.7	0.0	319.7	8.0	0.0	11.6	0.0	300.1	300.1
Sat-16	1,260.8	0.0	325.9	28.0	0.0	11.1	0.0	286.8	286.8
Sun-17	1,087.3	0.0	358.5	36.9	0.0	11.0	0.0	310.6	310.6
Mon-18	429.5	0.0	314.1	2.5	0.0	11.2	0.0	300.4	300.4
Tue-19	408.1	0.0	307.6	2.4	0.0	11.4	0.0	293.8	293.8
Wed-20	347.9	0.0	299.8	0.0	0.0	11.8	0.0	288.0	288.0
Thu-21	335.6	0.0	294.2	0.0	0.0	12.0	0.0	282.2	282.2
Fri-22	329.5	0.0	293.4	0.0	0.0	12.1	0.0	281.3	281.3
Sat-23	320.2	0.0	288.7	0.0	0.0	12.5	0.0	276.2	276.2
Sun-24	391.9	0.0	294.6	0.0	0.0	12.7	0.0	281.9	281.9
Mon-25	368.9	0.0	303.9	0.0	0.0	12.7	0.0	291.2	291.2
Tue-26	347.0	0.0	299.2	0.0	0.0	12.3	0.0	286.9	286.9
Wed-27	348.1	0.0	296.7	0.0	0.0	12.6	0.0	284.1	284.1
Thu-28	339.8	0.0	298.0	0.0	0.0	12.0	0.0	286.0	286.0
Fri-29	342.5	0.0	302.5	0.0	0.0	12.1	0.0	290.4	290.4
Sat-30	320.4	0.0	293.8	0.0	0.0	11.6	0.0	282.2	282.2
Sun-31	323.0	0.0	283.0	0.0	0.0	13.0	0.0	270.0	270.0
Average	466.8	0.3	317.3	13.4	0.0	11.4	0.0	292.5	292.5
Minimum	320.2	0.0	283.0	0.0	0.0	9.7	0.0	270.0	270.0
Maximum	1,678.9	10.7	542.8	182.1	0.0	13.0	0.0	349.7	349.7
Geoffean	---	---	---	---	---	---	---	---	---
TOTAL	---	11	9,837	415	0	354	0	9,068	9,068

Liquid Stream Quality

DATE	pH@25°C				TSS (mg/L)						BOD$_5$/cBOD$_5$ (mg/L)								TP (mg/L)						NH3-N (mg/L)						un-Ionized NH3-N (mg/L)			TKN (mg/L)				NO$_3$+NO$_2$ (mg/L)				Chloride (mg/L)				E. coli (Counts/100 mL)			
	RAW	OUTFALL 30	OUTFALL 20	OUTFALL 10	RAW	OUTFALL 30	OUTFALL 20	EPBPS	OUTFALL 10		RAW	OUTFALL 30	OUTFALL 20	EPEPS	OUTFALL 10				RAW	OUTFALL 30	OUTFALL 20	EPBPS	OUTFALL 10		RAW	OUTFALL 30	OUTFALL 20	EPBPS	OUTFALL 10		OUTFALL 30	OUTFALL 20	OUTFALL 10	RAW	OUTFALL 30	OUTFALL 20	OUTFALL 10	RAW	OUTFALL 30	OUTFALL 20	OUTFALL 10	RAW	OUTFALL 30	OUTFALL 20	OUTFALL 10
				FEC					FEC	FE	BOD$_5$	BOD$_5$	BOD$_5$	BOD$_5$	cBOD$_5$	cBOD$_5$	FEC	FE					FEC	FE					FEC	FE				FEC						FEC				FEC	X10^6	X10^6	X10^6	FEC
Fri-01	7.5			7.6	328				5.6	5.6	246				3	3			8.17				0.34	0.34	33.4				0.26	0.26				58.5			2.1				11.3	82.6				88.5				2
Sat-02	7.5	7.6		7.6	368	81			5.9	5.9	230	122			3	3			7.68	8.07			0.36	0.36	29.6	33.6			0.26	0.26				56.7	46.1		2.1		0.07		10.6	74.4	62.9			87.5		1.5		4
Sun-03	7.6			7.7	364				4.3	4.3	232				4	4			8.32				0.28	0.28	33.0				0.44	0.44				51.9			2.2				10.8	79.2				77.8				3
Mon-04	7.6			7.7	392				5.3	5.3	239				3	3			8.55				0.40	0.40	35.3				0.94	0.94				59.1			2.9				12.0	79.5				78.5				11
Tue-05	7.5			7.6	354				5.1	5.1	262				2	2			8.35				0.35	0.35	35.1				0.65	0.65				63.7			2.6				11.1	83.7				83.7				10
Wed-06	7.5	7.3		7.7	284	127			4.5	4.5	251	90			3	3			6.86	2.66			0.34	0.34	35.2	11.8			0.44	0.44				55.6	18.6		2.1	< 0.01	0.28		9.8	86.5	37.3			86.9				11
Thu-07	7.4	7.5		7.4	276	40			2.5	2.5	201	48			2	2			5.96	2.93			0.29	0.29	27.8	20.5			0.32	0.32				47.6	26.6		1.7		0.15		7.5	71.0	54.1			75.4		1.8		7
Fri-08	7.5	7.6		7.5	296	42			1.6	1.6	194	53			3	3			6.57	2.43			0.25	0.25	34.5	19.2			0.36	0.36				56.9	25.5		1.8		1.76		9.9	78.8	64.4			74.5				17
Sat-09	7.5			7.6	272				2.5	2.5	235				2	2			7.40				0.29	0.29	34.8				0.49	0.49				56.0			2.0				10.4	75.4				84.4				12
Sun-10	7.4	7.7		7.6	280	80			3.3	3.3	253	153			4	4			6.90	6.05			0.27	0.27	36.2	32.5			0.88	0.88				52.9	44.4		2.4		0.09		10.6	80.4	81.8			84.3		2.2		7
Mon-11	7.4	7.7		7.6	296	76			4.0	4.0	210	104			3	3			7.07	4.91			0.29	0.29	35.6	30.1			1.02	1.02				57.1	39.9		2.7		0.03		9.2	84.0	74.9			86.7		1.8		20
Tue-12	7.5	7.7		7.8	300	109			5.1	5.1	262	120			4	4			8.04	6.08			0.28	0.28	35.6	28.6			0.94	0.94				56.9	41.5		2.9		0.05		9.2	83.6	76.2			91.1		3.9		17
Wed-13	7.5	7.6		7.6	308	68			4.5	4.5	197	82			4	4			5.61	5.67			0.29	0.29	22.6	34.8			0.58	0.58				35.7	42.8		2.2	< 0.01	0.07		9.2	61.1	86.2			90.2	3.5	2.4		15
Thu-14	7.5	7.7		7.3	300	67			4.8	4.8	255	94			3	3			6.86	5.76			0.26	0.26	31.7	35.7			0.61	0.61				46.4	41.6		2.1		0.03		10.3	87.1	78.6			81.2	3.2	1.9		38
Fri-15	7.5	7.6		7.4	243	80			5.3	5.3	228	107			4	4			6.61	7.82			0.32	0.32	33.3	43.7			1.58	1.58				46.4	54.7		3.1		0.02		11.8	88.9	97.1			95.5		2.6		13
Sat-16	7.5			7.5	412	121			4.6	4.6	238	148			4	4			6.65				0.34	0.34	30.4				1.20	1.20				43.6			2.8				12.3	76.5				95.5		5.5		12
Sun-17	7.6	7.6		7.5	368	59			4.3	4.3	209	48			3	3			6.76	3.07			0.33	0.33	27.1	20.0			1.20	1.20				44.8	25.7		2.7		0.09		10.3	71.6	51.8			80.9		1.2		13
Mon-18	7.5	7.8		7.5	288	166			4.2	4.2	244	186			4	4			7.23	7.91			0.52	0.52	35.2	32.4			0.88	0.88				49.1	44.7		2.5		0.36		11.8	89.0	83.3			87.2		4.6		8
Tue-19	7.6	7.9		7.5	337	83			3.6	3.6	241	138			4	4			7.37	7.22			0.42	0.42	33.0	37.4			0.62	0.62				47.3	44.7		1.7		0.04		11.5	88.5	93.4			94.7		4.7		13
Wed-20	7.5			7.4	356				3.6	3.6	248				4	4			7.69				0.62	0.62	38.6				0.78	0.78				53.4			2.2	< 0.01			11.2	87.8				97.6				16
Thu-21	7.5			7.5	312				4.3	4.3	260				3	3			8.27				0.48	0.48	41.6				0.72	0.72				58.4			2.1				11.4	93.1				99.6				20
Fri-22	7.6			7.5	360				3.8	3.8	260				3	3			8.89				0.42	0.42	41.8				0.63	0.63				60.0			2.7				11.7	91.3				100.0				10
Sat-23	7.6			7.6	436				4.1	4.1	357				3	3			9.12				0.40	0.40	41.3				1.00	1.00				62.8			2.6				10.8	91.1				98.4				93
Sun-24	7.5			7.5	388				4.2	4.2	296				3	3			8.31				0.39	0.39	39.6				1.28	1.28				58.1			2.9				10.8	84.8				93.2				77
Mon-25	7.5			7.6	332				4.2	4.2	307				3	3			8.24				0.43	0.43	38.6				1.26	1.26				55.3			2.8				10.1	99.0				91.0				18
Tue-26	7.5			7.6	348				4.1	4.1	296				3	3			8.15				0.36	0.36	38.4				0.72	0.72				54.9			2.6				9.3	93.9				99.4				17
Wed-27	7.5			7.6	228				3.9	3.9	273				3	3			7.63				0.31	0.31	36.6				1.16	1.16				53.4			2.4	< 0.01			10.4	88.9				98.5				8
Thu-28	7.5			7.5	428				3.8	3.8	270				3	3			8.26				0.36	0.36	24.2				1.41	1.41				58.8			2.8				10.6	101.0				101.5				9
Fri-29	7.5			7.5	412				3.3	3.3	317				3	3			8.83				0.36	0.36	38.4				1.31	1.31				57.8			2.9				10.7	93.0				100.0				5
Sat-30	7.5			7.6	432				4.8	4.8	323				3	3			8.68				0.38	0.38	38.0				1.03	1.03				57.5			2.6				10.3	98.7				101.5				8
Sun-31	7.5			7.6	388				3.8	3.8	295				3	3			8.48				0.36	0.36	35.0				0.97	0.97				51.5			2.5				10.8	91.2				97.7				7
Average	7.5	7.7	---	7.6	338	85	---	---	4.2	4.2	256	107	---	---	3	3			7.66	5.43	---	---	0.36	0.36	34.6	29.3	---	---	0.94	0.94	---	---	---	54.1	38.2	---	2.4	< 0.01	0.23	---	10.6	85.0	72.5	---		90.6				
Minimum	7.3	7.3	---	7.3	228	40	---	---	1.6	1.6	194	48	---	---	2	2			5.61	2.43	---	---	0.25	0.25	22.6	11.8	---	---	0.26	0.26	---	---	---	35.7	18.6	---	1.7	< 0.01	0.02	---	7.5	61.1	37.3	---		74.5	3.2	1.2	---	2
Maximum	7.6	7.9	---	7.8	436	166	---	---	5.9	5.9	357	186	---	---	4	4			9.12	8.07	---	---	0.62	0.62	41.8	43.7	---	---	1.58	1.58	---	---	---	63.7	54.7	---	3.1	< 0.01	1.76	---	12.3	101.0	97.1	---		106.0	3.5	5.5	---	93
Geoffean	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

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

Enhanced Primary Treatment (EPT) Usage

Total Bypass (hr)	EPT Usage (hr)	% Usage	Total Bypass YTD (hr)	EPT Usage YTD (hr)	% Usage YTD
55	55	100%	458	458	100%

Report Comments

AEP Ref #

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 Pump Station
FE	Final Effluent from secondary treatment process (with biological nutrient removal). Pre-Ultraviolet disinfection.

FEC	Combined post-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
AEP	Alberta Environment & Parks

Jamie Gingrich P.Eng.
Senior Manager, WWTP Operations

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Senior Manager, Analytical Operations

Appendices A – Monthly Plant Performance Reports

PROVIDING MORE EPCOR

Gold Bar Wastewater Treatment Plant
Plant Performance Report
September 2025

Digested Sludge: Total Monthly Volume (ML)	67.3

Volume of Flow (ML) / pH / TSS / BOD (part 1 of 2)

DATE	Peak Flow (MLD)	Influent: INFs	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	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 $cBOD_5$
Mon-01	367.5	0.0	287.5	0.0	0.0	11.7	0.0	275.8	275.8	7.6			7.7	380				5.2	5.2	290				3	3
Tue-02	361.3	0.0	292.1	0.0	0.0	11.5	0.0	280.6	280.6	7.5			7.6	468				4.4	4.4	335				3	3
Wed-03	358.6	0.0	295.9	0.0	0.0	11.6	0.0	284.3	284.3	7.5			7.7	308				5.1	5.1	297				3	3
Thu-04	328.8	0.0	286.6	0.0	0.0	12.4	0.0	274.2	274.2	7.6			7.6	344				3.6	3.6	301				3	3
Fri-05	319.2	0.0	286.9	0.0	0.0	10.9	0.0	276.0	276.0	7.5			7.6	376				3.7	3.7	283				3	3
Sat-06	324.0	0.0	281.4	0.0	0.0	10.6	0.0	270.8	270.8	7.6			7.5	348				4.0	4.0	310				3	3
Sun-07	362.0	0.0	284.8	0.0	0.0	10.7	0.0	274.1	274.1	7.5			7.6	376				3.4	3.4	277				3	3
Mon-08	352.9	0.0	296.5	0.0	0.0	10.3	0.0	286.2	286.2	7.4			7.6	428				4.1	4.1	288				3	3
Tue-09	339.8	0.0	286.5	0.0	0.0	10.3	0.0	276.2	276.2	7.4			7.6	408				4.1	4.1	320				3	3
Wed-10	334.4	0.0	287.0	0.0	0.0	9.3	0.0	277.7	277.7	7.6			7.7	420				4.0	4.0	331				3	3
Thu-11	328.8	0.0	284.3	0.0	0.0	8.7	0.0	275.6	275.6	7.6			7.6	404				3.5	3.5	328				3	3
Fri-12	324.4	0.0	287.1	0.0	0.0	9.9	0.0	277.2	277.2	7.5			7.6	404				2.7	2.7	308				3	3
Sat-13	327.6	0.0	281.0	0.0	0.0	9.4	0.0	271.6	271.6	7.6			7.6	424				3.8	3.8	302				2	2
Sun-14	368.2	0.0	282.4	0.0	0.0	8.8	0.0	273.6	273.6	7.5			7.7	424				3.3	3.3	294				3	3
Mon-15	350.1	0.0	291.4	0.0	0.0	8.8	0.0	282.6	282.6	7.5			7.6	340				2.9	2.9	298				2	2
Tue-16	325.3	0.0	281.5	0.0	0.0	9.1	0.0	272.4	272.4	7.5			7.7	376				3.1	3.1	274				2	2
Wed-17	328.9	0.0	280.4	0.0	0.0	9.9	0.0	270.5	270.5	7.5			7.7	404				2.8	2.8	266				2	2
Thu-18	327.0	0.0	279.8	0.0	0.0	8.8	0.0	271.0	271.0	7.5			7.6	424				3.3	3.3	290				2	2
Fri-19	326.2	0.0	281.1	0.0	0.0	8.4	0.0	272.7	272.7	7.6			7.6	380				5.0	5.0	304				3	3
Sat-20	322.1	0.0	274.4	0.0	0.0	8.9	0.0	265.5	265.5	7.6			7.6	376				2.5	2.5	303				3	3
Sun-21	351.7	0.0	278.3	0.0	0.0	9.1	0.0	269.2	269.2	7.5			7.6	340				3.1	3.1	292				2	2
Mon-22	335.5	0.0	283.2	0.0	0.0	8.9	0.0	274.3	274.3	7.5			7.6	340				3.2	3.2	264				3	3
Tue-23	325.3	0.0	278.9	0.0	0.0	9.9	0.0	269.0	269.0	7.4			7.5	336				2.7	2.7	320				2	2
Wed-24	329.1	0.0	276.9	0.0	0.0	8.2	0.0	268.7	268.7	7.5			7.5	300				4.3	4.3	288				3	3
Thu-25	326.8	0.0	271.0	0.0	0.0	9.8	0.0	261.2	261.2	7.6			7.6	384				4.2	4.2	314				3	3
Fri-26	319.8	0.0	270.9	0.0	0.0	9.7	0.0	261.2	261.2	7.5			7.7	388				3.8	3.8	272				2	2
Sat-27	330.4	0.0	272.8	0.0	0.0	9.7	0.0	263.1	263.1	7.7			7.7	244				2.7	2.7	325				3	3
Sun-28	347.0	0.0	282.0	0.0	0.0	9.0	0.0	273.0	273.0	7.5			7.6	488				3.5	3.5	271				3	3
Mon-29	331.7	0.0	287.5	0.0	0.0	9.3	0.0	278.2	278.2	7.6			7.7	340				3.7	3.7	248				3	3
Tue-30	348.2	0.0	281.1	0.0	0.0	10.4	0.0	270.7	270.7	7.6			7.6	408				3.7	3.7	271				3	3
Average	337.4	0.0	283.0	0.0	0.0	9.8	0.0	273.2	273.2	7.5	---	---	7.6	379	---	---	---	3.6	3.6	295	---	---	---	3	3
Minimum	319.2	0.0	270.9	0.0	0.0	8.2	0.0	261.2	261.2	7.4	---	---	7.5	244	---	---	---	2.5	2.5	248	---	---	---	2	2
Maximum	368.2	0.0	296.5	0.0	0.0	12.4	0.0	286.2	286.2	7.7	---	---	7.7	488	---	---	---	5.2	5.2	335	---	---	---	3	3
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	0	8,491	0	0	294	0	8,197	8,197	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Liquid Stream Quality (part 2 of 2)

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	un-ionized NH3-N (mg/L): OUT-FAL 30	OUT-FAL 20	OUT-FAL 10	TKN (mg/L): RAW	TKN: OUTFALL 30	TKN: OUTFALL 20	TKN: OUTFALL 10 FEC	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
Mon-01	8.49				0.36	0.36	38.4				1.31	1.31				60.0			2.7				10.9	82.5			85.0				4
Tue-02	9.88				0.38	0.38	39.4				1.26	1.26				74.4			3.0				9.6	86.5			84.9	4.8			14
Wed-03	7.72				0.30	0.30	39.0				0.42	0.42				61.3			2.0	< 0.01			8.3	87.4			89.8				6
Thu-04	8.04				0.28	0.28	39.0				0.63	0.63				61.8			2.0				8.1	85.5			89.7				8
Fri-05	8.84				0.29	0.29	40.2				0.68	0.68				69.9			2.0				8.7	82.6			87.7				4
Sat-06	8.58				0.28	0.28	40.3				0.81	0.81				65.0			2.4				8.6	79.2			86.4				9
Sun-07	10.70				0.28	0.28	41.4				1.08	1.08				84.4			2.5				8.0	72.9			80.0				5
Mon-08	7.74				0.25	0.25	40.3				1.01	1.01				64.0			2.7				7.2	81.2			79.2				6
Tue-09	8.94				0.26	0.26	43.3				0.92	0.92				66.2			2.4				8.2	75.8			84.9				7
Wed-10	8.22				0.28	0.28	43.0				0.95	0.95				65.5			2.3	< 0.01			8.6	72.3			81.8				11
Thu-11	8.03				0.26	0.26	40.2				0.82	0.82				64.2			2.3				8.1	77.3			86.1				15
Fri-12	7.87				0.26	0.26	39.5				0.85	0.85				60.9			2.3				8.3	71.4			81.4				4
Sat-13	8.28				0.24	0.24	40.0				0.90	0.90				57.3			2.2				8.3	78.9			86.4				4
Sun-14	7.59				0.22	0.22	39.3				1.07	1.07				58.8			2.5				8.1	71.7			77.3				4
Mon-15	7.08				0.22	0.22	38.7				0.90	0.90				57.2			2.3				7.5	85.0			79.2				7
Tue-16	7.86				0.20	0.20	42.1				0.57	0.57				59.8			2.0				8.4	86.4			86.8				5
Wed-17	8.07				0.21	0.21	42.0				0.65	0.65				61.9			2.0	< 0.01			9.3	74.3			83.5				8
Thu-18	8.38				0.23	0.23	41.6				0.82	0.82				69.9			2.2				9.5	85.1			87.7				10
Fri-19	8.18				0.24	0.24	42.0				0.66	0.66				62.4			2.2				10.1	84.3			88.3				4
Sat-20	9.74				0.25	0.25	41.2				0.74	0.74				69.4			2.0				10.4	72.0			86.8				4
Sun-21	8.48				0.23	0.23	40.9				1.01	1.01				65.1			2.3				9.6	72.3			81.6				9
Mon-22	8.81				0.25	0.25	40.7				1.05	1.05				65.1			2.4				9.2	84.6			79.6				4
Tue-23	8.35				0.21	0.21	42.3				0.89	0.89				62.3			2.2				9.8	77.1			89.0				5
Wed-24	7.94				0.25	0.25	43.3				1.10	1.10				66.8			2.9	< 0.15			10.3	78.8			86.3				2
Thu-25	7.86				0.21	0.21	40.6				1.14	1.14				65.6			2.6				10.3	79.3			84.8				6
Fri-26	8.10				0.24	0.24	42.8				1.19	1.19				60.8			2.5				10.6	67.8			86.0				7
Sat-27	7.99				0.27	0.27	42.7				1.22	1.22				60.3			2.5				10.0	79.2			83.6				6
Sun-28	7.70				0.24	0.24	43.3				1.42	1.42				60.0			2.7				9.9	77.5			80.5				3
Mon-29	7.57				0.20	0.20	41.1				1.64	1.64				61.4			3.3				9.2	80.7			78.9				6
Tue-30	8.51				0.23	0.23	41.4				1.12	1.12				66.5			2.5				10.5	81.3			84.9				6
Average	8.32	---	---	---	0.25	0.25	41.0	---	---	---	0.96	0.96	---	---	---	64.3	---	---	2.4	< 0.05	---	---	9.1	79.0	---	---	84.3				
Minimum	7.08	---	---	---	0.20	0.20	38.4	---	---	---	0.42	0.42	---	---	---	57.2	---	---	2.0	< 0.01	---	---	7.2	67.8	---	---	77.3	4.8	---	---	2
Maximum	10.70	---	---	---	0.38	0.38	43.3	---	---	---	1.64	1.64	---	---	---	84.4	---	---	3.3	< 0.15	---	---	10.9	87.4	---	---	89.8	4.8	---	---	15
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4.8	---	---	6
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

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

Enhanced Primary Treatment (EPT) Usage					
Total Bypass (hr)	EPT Usage (hr)	% Usage	Total Bypass YTD (hr)	EPT Usage YTD (hr)	% Usage YTD
0	0	100%	458	458	100%

Report Comments

AEP Ref #

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 Pump Station
FE	Final Effluent from secondary treatment process (with biological nutrient removal). Pre-Ultraviolet disinfection.
FEC	Combined post-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
AEP	Alberta Environment & Parks

Jamie Gingrich **P.Eng.**
Senior Manager, WWTP Operations

Paul Jacquier **MBA, BMSc.**
Senior Manager, Analytical Operations

Appendices A – Monthly Plant Performance Reports

PROVIDING MORE EPCOR

Gold Bar Wastewater Treatment Plant
Plant Performance Report
October 2025

Digested Sludge: Total Monthly Volume (ML)	66.5

Volume of Flow (ML)

DATE	Peak Flow (MLD)	Influent INFs	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
Wed-01	338.3	0.0	280.5	0.0	0.0	11.0	0.0	269.5	269.5
Thu-02	355.9	0.0	302.0	0.0	0.0	12.2	0.0	289.8	289.8
Fri-03	335.4	0.0	274.6	0.0	0.0	12.6	0.0	262.0	262.0
Sat-04	321.4	0.0	273.9	0.0	0.0	12.9	0.0	261.0	261.0
Sun-05	330.5	0.0	281.0	0.0	0.0	12.2	0.0	268.8	268.8
Mon-06	326.6	0.0	277.0	0.0	0.0	12.2	0.0	264.8	264.8
Tue-07	328.5	0.0	273.0	0.0	0.0	13.0	0.0	260.0	260.0
Wed-08	327.4	0.0	272.7	0.0	0.0	13.3	0.0	259.4	259.4
Thu-09	327.2	0.0	274.2	0.0	0.0	12.6	0.0	261.6	261.6
Fri-10	343.3	0.0	269.3	0.0	0.0	11.9	0.0	257.4	257.4
Sat-11	372.8	0.0	283.0	0.0	0.0	12.1	0.0	270.9	270.9
Sun-12	338.7	0.0	278.5	0.0	0.0	12.3	0.0	266.2	266.2
Mon-13	345.7	0.0	280.5	0.0	0.0	11.3	0.0	269.2	269.2
Tue-14	477.6	0.0	273.6	0.0	0.0	10.9	0.0	262.7	262.7
Wed-15	330.1	0.0	277.6	0.0	0.0	11.1	0.0	266.5	266.5
Thu-16	323.3	0.0	264.9	0.0	0.0	11.4	0.0	253.5	253.5
Fri-17	325.6	0.0	271.5	0.0	0.0	11.4	0.0	260.1	260.1
Sat-18	320.1	0.0	273.1	0.0	0.0	11.8	0.0	261.3	261.3
Sun-19	361.2	0.0	277.1	0.0	0.0	12.7	0.0	264.4	264.4
Mon-20	330.0	0.0	282.1	0.0	0.0	12.6	0.0	269.5	269.5
Tue-21	323.1	0.0	274.0	0.0	0.0	11.8	0.0	262.2	262.2
Wed-22	343.9	0.0	274.5	0.0	0.0	12.4	0.0	262.1	262.1
Thu-23	335.1	0.0	274.8	0.0	0.0	12.5	0.0	262.3	262.3
Fri-24	334.0	0.0	276.2	0.0	0.0	11.3	0.0	264.9	264.9
Sat-25	441.0	0.0	300.3	1.4	0.0	11.9	0.0	287.0	287.0
Sun-26	1,116.3	0.0	417.3	78.9	0.0	11.5	0.0	326.9	326.9
Mon-27	397.1	0.0	317.8	0.0	0.0	11.6	0.0	306.2	306.2
Tue-28	343.5	0.0	283.5	0.0	0.0	11.6	0.0	271.9	271.9
Wed-29	341.2	0.0	282.2	0.0	0.0	11.6	0.0	270.6	270.6
Thu-30	423.5	0.0	271.2	0.0	0.0	11.7	0.0	259.5	259.5
Fri-31	394.4	0.0	267.9	0.0	0.0	11.6	0.0	256.3	256.3
Average	375.9	0.0	283.2	2.6	0.0	12.0	0.0	268.7	268.7
Minimum	320.1	0.0	264.9	0.0	0.0	10.9	0.0	253.5	253.5
Maximum	1,116.3	0.0	417.3	78.9	0.0	13.3	0.0	326.9	326.9
GeoMean	---	---	---	---	---	---	---	---	---
TOTAL	---	0	8,780	80	0	371	0	8,328	8,328

Liquid Stream Quality

DATE	pH@25°C RAW	pH@25°C OUTFALL 30	pH@25°C OUTFALL 20	pH@25°C OUTFALL 10 FEC	TSS (mg/L) RAW	TSS (mg/L) OUTFALL 30	TSS (mg/L) OUTFALL 20	TSS (mg/L) EPEPS	TSS (mg/L) OUTFALL 10 FEC	TSS (mg/L) OUTFALL 10 FE
Wed-01	7.5			7.6	444				3.0	3.0
Thu-02	7.4			7.5	368				2.5	2.5
Fri-03	7.5			7.5	320				2.8	2.8
Sat-04	7.6			7.6	340				4.0	4.0
Sun-05	7.5			7.5	340				3.6	3.6
Mon-06	7.5			7.7	316				4.2	4.2
Tue-07	7.5			7.7	496				4.5	4.5
Wed-08	7.6			7.6	444				5.3	5.3
Thu-09	7.5			7.6	360				4.4	4.4
Fri-10	7.5			7.6	312				4.2	4.2
Sat-11	7.5			7.6	352				4.0	4.0
Sun-12	7.6			7.6	320				3.9	3.9
Mon-13	7.5			7.5	328				4.7	4.7
Tue-14	7.5			7.6	320				4.2	4.2
Wed-15	7.5			7.7	328				4.4	4.4
Thu-16	7.5			7.6	312				4.3	4.3
Fri-17	7.6			7.7	376				4.2	4.2
Sat-18	7.6			7.7	444				5.6	5.6
Sun-19	7.6			7.6	400				4.4	4.4
Mon-20	7.5			7.6	368				5.4	5.4
Tue-21	7.5			7.9	384				5.0	5.0
Wed-22	7.5			7.7	420				5.2	5.2
Thu-23	7.6			7.7	444				5.2	5.2
Fri-24	7.6			7.8	452				5.2	5.2
Sat-25	7.6	7.8		7.6	372	176			5.1	5.1
Sun-26	7.4	7.3		7.6	388	115			5.5	5.5
Mon-27	7.5			7.6	320				5.3	5.3
Tue-28	7.6			7.9	352				6.7	6.7
Wed-29	7.5			7.6	376				4.6	4.6
Thu-30	7.5			7.6	436				4.4	4.4
Fri-31	7.6			7.8	376				4.9	4.9
Average	7.5	7.5	---	7.6	374	146	---	---	4.5	4.5
Minimum	7.4	7.3	---	7.5	312	115	---	---	2.5	2.5
Maximum	7.6	7.8	---	7.9	496	176	---	---	6.7	6.7
GeoMean	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---

DATE	$BOD_5/cBOD_5$ (mg/L) RAW BOD_5	OUTFALL 30 BOD_5	OUTFALL 20 BOD_5	EPEPS BOD_5	OUTFALL 10 FEC $cBOD_5$	OUTFALL 10 FE $cBOD_5$	TP (mg/L) RAW	TP OUTFALL 30	TP OUTFALL 20	TP EPEPS	TP OUTFALL 10 FEC	TP OUTFALL 10 FE
Wed-01	256				3	3	7.59				0.24	0.24
Thu-02	263				3	3	8.89				0.25	0.25
Fri-03	277				3	3	7.58				0.25	0.25
Sat-04	291				3	3	8.01				0.24	0.24
Sun-05	250				3	3	8.52				0.25	0.25
Mon-06	234				3	3	7.52				0.20	0.20
Tue-07	322				3	3	8.99				0.17	0.17
Wed-08	302				3	3	8.58				0.22	0.22
Thu-09	277				2	2	8.33				0.24	0.24
Fri-10	275				3	3	7.80				0.25	0.25
Sat-11	266				3	3	7.93				0.19	0.19
Sun-12	295				3	3	5.70				0.24	0.24
Mon-13	279				3	3	8.66				0.25	0.25
Tue-14	285				4	4	8.71				0.26	0.26
Wed-15	305				4	4	8.28				0.28	0.28
Thu-16	305				3	3	8.19				0.27	0.27
Fri-17	324				3	3	8.66				0.26	0.26
Sat-18	367				3	3	8.65				0.26	0.26
Sun-19	248				3	3	7.67				0.26	0.26
Mon-20	271				3	3	8.00				0.24	0.24
Tue-21	231				3	3	8.19				0.50	0.50
Wed-22	288				3	3	8.23				0.23	0.23
Thu-23	266				3	3	9.66				0.32	0.32
Fri-24	290				3	3	9.13				0.30	0.30
Sat-25	268	180			4	4	8.29	7.54			0.38	0.38
Sun-26	206	92			4	4	5.96	2.58			0.30	0.30
Mon-27	281				4	4	7.52				0.29	0.29
Tue-28	311				4	4	8.27				0.44	0.44
Wed-29	263				3	3	8.62				0.27	0.27
Thu-30	326				4	4	8.71				0.26	0.26
Fri-31	312				3	3	9.00				0.23	0.23
Average	282	136	---	---	3.2	3.2	8.19	5.06	---	---	0.27	0.27
Minimum	206	92	---	---	2	2	5.70	2.58	---	---	0.17	0.17
Maximum	367	180	---	---	4	4	9.66	7.54	---	---	0.50	0.50
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---

DATE	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	un-ionized NH3-N (mg/L) OUT-FAL 30	un-ionized NH3-N OUT-FAL 20	un-ionized NH3-N OUT-FAL 10	TKN (mg/L) RAW	TKN OUTFALL 30	TKN OUTFALL 20	TKN OUTFALL 10 FEC
Wed-01	41.1				0.94	0.94				61.0			2.4
Thu-02	38.0				0.41	0.41				65.3			2.0
Fri-03	40.3				0.35	0.35				56.7			1.9
Sat-04	41.0				0.70	0.70				64.8			2.1
Sun-05	44.3				1.00	1.00				67.1			2.6
Mon-06	43.6				0.82	0.82				58.1			2.1
Tue-07	44.4				0.61	0.61				67.0			1.2
Wed-08	43.7				0.64	0.64				62.8			1.8
Thu-09	44.5				0.68	0.68				58.0			2.0
Fri-10	43.0				0.71	0.71				57.0			2.2
Sat-11	41.9				0.86	0.86				56.6			2.1
Sun-12	43.6				1.29	1.29				40.8			2.7
Mon-13	46.0				1.50	1.50				68.4			2.9
Tue-14	43.9				1.25	1.25				69.3			2.7
Wed-15	45.2				0.89	0.89				62.7			2.3
Thu-16	44.1				0.58	0.58				61.3			2.0
Fri-17	43.4				0.46	0.46				62.4			1.9
Sat-18	44.0				0.50	0.50				66.9			2.2
Sun-19	43.0				0.67	0.67				56.9			2.2
Mon-20	41.2				0.56	0.56				59.8			1.8
Tue-21	41.8				0.23	0.23				58.7			1.4
Wed-22	40.6				0.23	0.23				59.3			1.4
Thu-23	41.5				0.29	0.29				60.9			1.8
Fri-24	40.6				0.41	0.41				57.0			1.8
Sat-25	38.2	33.0			0.45	0.45				54.0	45.2		2.0
Sun-26	25.1	16.9			0.21	0.21				37.6	23.1		2.5
Mon-27	38.0				2.59	2.59				56.3			4.1
Tue-28	42.4				3.34	3.34				60.4			5.2
Wed-29	42.2				2.35	2.35				63.8			3.9
Thu-30	42.4				1.85	1.85				59.0			3.2
Fri-31	39.8				2.10	2.10				65.2			3.2
Average	41.7	25.0	---	---	0.95	0.95	---	---	---	59.8	34.2	---	2.4
Minimum	25.1	16.9	---	---	0.21	0.21	---	---	---	37.6	23.1	---	1.2
Maximum	46.0	33.0	---	---	3.34	3.34	---	---	---	69.3	45.2	---	5.2
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---	---

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
Wed-01	< 0.01			9.7	82.1			86.1				6
Thu-02				8.8	83.4			83.9				3
Fri-03				8.7	80.7			84.1				8
Sat-04				9.5	75.4			84.0				7
Sun-05				10.1	76.3			77.7				6
Mon-06				9.5	81.3			78.6				11
Tue-07				9.4	82.1			82.5				6
Wed-08	< 0.01			9.6	82.5			83.9				12
Thu-09				9.8	83.8			84.2				13
Fri-10				9.8	84.9			87.3				5
Sat-11				9.8	80.8			83.9				2
Sun-12				9.2	75.8			77.1				14
Mon-13				9.7	74.6			78.4				11
Tue-14				9.7	81.2			78.8				9
Wed-15	< 0.01			9.8	85.1			84.3				9
Thu-16				10.6	82.1			87.3				5
Fri-17				10.7	72.9			85.1				6
Sat-18				10.6	69.1			83.7				10
Sun-19				11.6	70.4			78.6				6
Mon-20				10.8	72.7			75.0	5.3			2
Tue-21				10.0	77.6			81.7				9
Wed-22	< 0.01			10.2	81.0			85.6				4
Thu-23				10.0	75.7			84.9				6
Fri-24				9.6	78.0			86.4				5
Sat-25		0.28		9.0	65.2	59.8		80.7		> 80		2
Sun-26		0.49		6.1	49.3	37.5		66.2		4.4		12
Mon-27				6.4	73.9			67.9				21
Tue-28				6.1	71.7			75.1				11
Wed-29	< 0.01			7.1	73.1			79.1				6
Thu-30				6.5	72.4			84.6				9
Fri-31				9.9	71.5			81.7				18
Average	< 0.01	0.38	---	9.3	76	49	---	81.2			---	
Minimum	< 0.01	0.28	---	6.1	49.3	38	---	66.2	5.3	4.4	---	2
Maximum	< 0.01	0.49	---	11.6	85	60	---	87.3	5.3	> 80.0	---	21
GeoMean	---	---	---	---	---	---	---	---	5.3	18.8	---	7
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---

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

Enhanced Primary Treatment (EPT) Usage					
Total Bypass (hr)	EPT Usage (hr)	% Usage	Total Bypass YTD (hr)	EPT Usage YTD (hr)	% Usage YTD
10	10	100%	468	468	100%

Report Comments

25-Oct-25	Outfall 30 E. Coli results signficiantly higher than average due to suspected laboratory dilution error. Unable to retest.

AEP Ref #

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 Pump Station
FE	Final Effluent from secondary treatment process (with biological nutrient removal). Pre-Ultraviolet disinfection.
FEC	Combined post-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
AEP	Alberta Environment & Parks

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Appendices A – Monthly Plant Performance Reports

PROVIDING MORE EPCOR

Gold Bar Wastewater Treatment Plant
Plant Performance Report
November 2025

Digested Sludge: Total Monthly Volume (ML)	67.4

Volume of Flow (ML) / pH@25°C

DATE	Peak Flow (MLD)	Influent INFs	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	pH@25°C RAW	pH OUTFALL 30	pH OUTFALL 20	pH OUTFALL 10 FEC
Sat-01	615.3	0.0	284.8	6.9	0.0	12.0	0.0	265.9	265.9	7.8	7.7		7.7
Sun-02	669.2	0.0	337.4	23.0	0.0	12.0	0.0	302.4	302.4	7.6	7.7		7.6
Mon-03	398.9	0.0	287.1	0.0	0.0	11.7	0.0	275.4	275.4	7.5			7.5
Tue-04	382.4	0.0	280.2	0.0	0.0	11.8	0.0	268.4	268.4	7.6			7.7
Wed-05	327.5	0.0	278.4	0.0	0.0	11.9	0.0	266.5	266.5	7.7			7.9
Thu-06	385.2	0.0	322.2	0.0	0.0	11.5	0.0	310.7	310.7	7.5			7.6
Fri-07	377.1	0.0	296.5	0.0	0.0	10.9	0.0	285.6	285.6	7.6			7.6
Sat-08	452.9	0.0	298.6	9.9	0.0	11.3	0.0	277.4	277.4	7.6	7.6		7.7
Sun-09	375.7	0.0	284.3	0.0	0.0	11.4	0.0	272.9	272.9	7.5			7.6
Mon-10	332.9	0.0	281.1	0.0	0.0	11.4	0.0	269.7	269.7	7.7			7.6
Tue-11	322.8	0.0	269.0	0.0	0.0	12.1	0.0	256.9	256.9	7.7			7.9
Wed-12	346.7	0.0	275.6	0.0	0.0	11.6	0.0	264.0	264.0	7.6			7.6
Thu-13	431.9	0.0	279.2	0.0	0.0	11.9	0.0	267.3	267.3	7.6			7.7
Fri-14	341.7	0.0	277.8	0.0	0.0	11.9	0.0	265.9	265.9	7.8			7.8
Sat-15	352.3	0.0	277.6	0.0	0.0	12.0	0.0	265.6	265.6	7.7			7.8
Sun-16	362.9	0.0	276.0	0.0	0.0	12.1	0.0	263.9	263.9	7.7			7.7
Mon-17	347.9	0.0	280.3	0.0	0.0	11.8	0.0	268.5	268.5	7.7			7.7
Tue-18	341.7	0.0	275.1	0.0	0.0	12.0	0.0	263.1	263.1	7.6			7.5
Wed-19	332.6	0.0	272.8	0.0	0.0	12.4	0.0	260.4	260.4	7.6			7.7
Thu-20	325.7	0.0	276.3	0.0	0.0	12.4	0.0	263.9	263.9	7.6			7.6
Fri-21	322.3	0.0	280.2	0.0	0.0	12.2	0.0	268.0	268.0	7.7			7.6
Sat-22	346.8	0.0	274.0	0.0	0.0	11.8	0.0	262.2	262.2	7.6			7.5
Sun-23	452.5	0.0	274.7	0.0	0.0	11.5	0.0	263.2	263.2	7.6			7.5
Mon-24	420.5	0.0	279.3	0.0	0.0	3.0	0.0	276.3	276.3	7.6			7.6
Tue-25	407.0	0.0	276.2	0.0	0.0	4.6	0.0	271.6	271.6	7.6			7.4
Wed-26	350.5	0.0	273.0	0.0	0.0	11.5	0.0	261.5	261.5	7.7			7.8
Thu-27	347.6	0.0	276.3	0.0	0.0	13.1	0.0	263.2	263.2	7.6			7.5
Fri-28	323.2	0.0	275.2	0.0	0.0	13.0	0.0	262.2	262.2	7.7			7.7
Sat-29	344.1	0.0	275.7	0.0	0.0	11.6	0.0	264.1	264.1	7.6			7.5
Sun-30	367.6	0.0	280.8	0.0	0.0	11.7	0.0	269.1	269.1	7.6			7.5
Average	383.5	0.0	282.5	1.3	0.0	11.3	0.0	269.9	269.9	7.6	7.7	---	7.6
Minimum	322.3	0.0	269.0	0.0	0.0	3.0	0.0	256.9	256.9	7.5	7.6	---	7.4
Maximum	669.2	0.0	337.4	23.0	0.0	13.1	0.0	310.7	310.7	7.8	7.7	---	7.9
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	0	8,476	40	0	340	0	8,096	8,096	---	---	---	---

Liquid Stream Quality — TSS (mg/L) / BOD₅/cBOD₅ (mg/L)

DATE	TSS RAW	TSS OUTFALL 30	TSS OUTFALL 20	TSS EPEPS	TSS OUTFALL 10 FEC	TSS OUTFALL 10 FE	RAW BOD_5	OUTFALL 30 BOD_5	OUTFALL 20 BOD_5	EPEPS BOD_5	OUTFALL 10 FEC $cBOD_5$	OUTFALL 10 FE $cBOD_5$
Sat-01	488	136			4.6	4.6	309	215			3	3
Sun-02	392	124			4.7	4.7	228	126			3	3
Mon-03	356				4.7	4.7	242				3	3
Tue-04	376				4.4	4.4	310				3	3
Wed-05	488				3.6	3.6	298				3	3
Thu-06	416				5.5	5.5	260				2	2
Fri-07	296				5.0	5.0	251				3	3
Sat-08	424	128			5.5	5.5	312	143			3	3
Sun-09	372				5.2	5.2	244				3	3
Mon-10	404				5.6	5.6	295				3	3
Tue-11	404				5.1	5.1	309				3	3
Wed-12	1140				4.9	4.9	311				3	3
Thu-13	512				4.4	4.4	318				3	3
Fri-14	592				4.4	4.4	339				3	3
Sat-15	568				3.9	3.9	300				4	4
Sun-16	500				5.7	5.7	290				3	3
Mon-17	436				6.4	6.4	279				4	4
Tue-18	420				5.6	5.6	216				3	3
Wed-19	352				4.4	4.4	241				3	3
Thu-20	440				2.1	2.1	316				3	3
Fri-21	412				3.4	3.4	290				3	3
Sat-22	448				3.1	3.1	275				2	2
Sun-23	460				3.5	3.5	262				< 2	< 2
Mon-24	464				1.8	1.8	282				3	3
Tue-25	496				4.7	4.7	345				3	3
Wed-26	400				3.5	3.5	312				3	3
Thu-27	412				3.2	3.2	211				3	3
Fri-28	432				4.1	4.1	325				4	4
Sat-29	424				4.8	4.8	340				4	4
Sun-30	500				4.6	4.6	259				6	6
Average	461	129	---	---	4.4	4.4	286	161	---	---	3.1	3.1
Minimum	296	124	---	---	1.8	1.8	211	126	---	---	< 2	< 2
Maximum	1,140	136	---	---	6.4	6.4	345	215	---	---	6	6
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---

Liquid Stream Quality — TP (mg/L) / NH3-N (mg/L)

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
Sat-01	9.45	4.84			0.24	0.24	39.6	30.5			1.87	1.87
Sun-02	7.24	3.90			0.19	0.19	27.6	25.2			1.92	1.92
Mon-03	7.03				0.23	0.23	38.3				1.82	1.82
Tue-04	7.63				0.21	0.21	38.1				1.78	1.78
Wed-05	8.90				0.25	0.25	36.8				1.28	1.28
Thu-06	8.29				0.26	0.26	32.2				1.40	1.40
Fri-07	7.96				0.26	0.26	34.7				1.90	1.90
Sat-08	8.26	5.41			0.25	0.25	34.3	42.1			1.60	1.60
Sun-09	10.50				0.29	0.29	40.3				1.95	1.95
Mon-10	8.75				0.24	0.24	39.2				1.42	1.42
Tue-11	8.88				0.23	0.23	38.9				1.33	1.33
Wed-12	12.40				0.30	0.30	37.8				1.55	1.55
Thu-13	9.10				0.25	0.25	36.3				1.70	1.70
Fri-14	9.48				0.22	0.22	38.6				1.73	1.73
Sat-15	9.80				0.24	0.24	37.8				2.12	2.12
Sun-16	9.06				0.23	0.23	37.5				2.26	2.26
Mon-17	8.22				0.25	0.25	37.2				1.99	1.99
Tue-18	15.60				0.29	0.29	37.5				1.60	1.60
Wed-19	8.19				0.24	0.24	40.7				2.04	2.04
Thu-20	8.67				0.26	0.26	39.7				2.44	2.44
Fri-21	8.21				0.25	0.25	35.7				2.80	2.80
Sat-22	8.69				0.26	0.26	39.4				2.45	2.45
Sun-23	8.57				0.23	0.23	38.4				3.32	3.32
Mon-24	8.15				0.21	0.21	38.5				2.75	2.75
Tue-25	8.93				0.22	0.22	38.4				2.16	2.16
Wed-26	9.48				0.25	0.25	39.4				2.32	2.32
Thu-27	8.91				0.26	0.26	38.2				2.14	2.14
Fri-28	8.50				0.26	0.26	38.1				2.35	2.35
Sat-29	8.20				0.30	0.30	40.6				2.63	2.63
Sun-30	8.74				0.28	0.28	39.6				2.78	2.78
Average	8.99	4.72	---	---	0.25	0.25	37.6	32.6	---	---	2.05	2.05
Minimum	7.03	3.90	---	---	0.19	0.19	27.6	25.2	---	---	1.28	1.28
Maximum	15.60	5.41	---	---	0.30	0.30	40.7	42.1	---	---	3.32	3.32
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---

Liquid Stream Quality — un-ionized NH3-N (mg/L) / TKN (mg/L) / NO_2+NO_3 (mg/L) / Chloride (mg/L) / *E. coli* (Counts/100 mL)

DATE	un-ionized NH3-N OUT-FAL 30	un-ionized OUT-FAL 20	un-ionized OUT-FAL 10	TKN RAW	TKN OUTFALL 30	TKN OUTFALL 20	TKN OUTFALL 10 FEC	NO_2+NO_3 RAW	NO_2+NO_3 OUTFALL 30	NO_2+NO_3 OUTFALL 20	NO_2+NO_3 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
Sat-01				57.3	35.8		2.9				9.1	67.0			83.2		2.7		3
Sun-02				49.2	29.7		3.2		0.11		7.9	59.2	48.6		71.5		1.1		6
Mon-03				51.1			3.1				7.6	80.9			74.6				7
Tue-04				54.1			2.7				7.2	81.7			82.2				7
Wed-05				53.5			2.7	< 0.01			8.1	82.3			83.4				1
Thu-06				48.0			2.9				7.6	79.0			83.5				12
Fri-07				49.5			3.2				7.0	118.0			86.0				5
Sat-08				56.6	50.8		3.0		0.04		7.1	106.0	131.0		116.0		0.7		8
Sun-09				58.3			3.3				7.5	79.0			99.9				5
Mon-10				57.0			3.0				8.2	88.4			83.5				9
Tue-11				58.8			2.8				8.6	85.9			88.9				5
Wed-12				79.0			2.8	< 0.01			8.7	88.3			84.9				14
Thu-13				59.1			3.1				8.1	91.0			87.0				3
Fri-14				60.0			2.4				8.3	93.0			97.6				5
Sat-15				61.1			3.5				8.1	80.8			94.5				5
Sun-16				56.5			3.8				9.1	81.6			84.1				8
Mon-17				59.2			3.6				8.0	82.4			81.7				6
Tue-18				90.9			3.5				8.4	83.5			86.7				4
Wed-19				57.5			3.4	< 0.01			9.0	88.8			87.4				10
Thu-20				61.5			3.9				9.4	77.3			87.6				6
Fri-21				54.6			3.8				10.4	75.3			87.3				4
Sat-22				59.9			4.1				9.2	67.7			88.9				14
Sun-23				62.3			4.5				10.0	75.0			81.3				28
Mon-24				58.9			3.9				8.8	64.4			79.4	3.2			4
Tue-25				60.4			3.3				8.7	71.4			84.8				3
Wed-26				63.0			3.6	< 0.01			8.9	72.9			84.5				4
Thu-27				61.7			3.3				9.5	79.6			84.7				4
Fri-28				55.5			3.4				9.1	89.3			89.6				6
Sat-29				62.8			3.9				8.7	89.6			99.2				10
Sun-30				61.5			4.2				8.9	76.2			100.0				4
Average	---	---	---	59.3	38.8	---	3.4	< 0.01	0.07	---	8.5	82	90	---	87			---	
Minimum	---	---	---	48.0	29.7	---	2.4	< 0.01	0.04	---	7.0	59.2	49	---	71.5	3.2	0.7	---	1
Maximum	---	---	---	90.9	50.8	---	4.5	< 0.01	0.11	---	10.4	118	131	---	116	3.2	2.7	---	28
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3.2	1.3	---	6
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

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

Enhanced Primary Treatment (EPT) Usage					
Total Bypass (hr)	EPT Usage (hr)	% Usage	Total Bypass YTD (hr)	EPT Usage YTD (hr)	% Usage YTD
9	9	100%	477	477	100%

Report Comments

AEP Ref #

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 Pump Station
FE	Final Effluent from secondary treatment process (with biological nutrient removal). Pre-Ultraviolet disinfection.
FEC	Combined post-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
AEP	Alberta Environment & Parks

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Appendices A – Monthly Plant Performance Reports

PROVIDING MORE EPCOR

Gold Bar Wastewater Treatment Plant
Plant Performance Report
December 2025

Digested Sludge: Total Monthly Volume (ML)	67.5

Volume of Flow (ML)

DATE	Peak Flow (MLD)	Influent INFs	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
Mon-01	390.9	0.0	282.3	0.0	0.0	11.5	0.0	270.8	270.8
Tue-02	360.4	0.0	291.0	0.0	0.0	11.9	0.0	279.1	279.1
Wed-03	348.3	0.0	273.0	0.0	0.0	12.0	0.0	261.0	261.0
Thu-04	516.0	0.0	335.5	31.4	0.0	12.0	0.0	292.1	292.1
Fri-05	388.9	0.0	293.9	0.0	0.0	12.0	0.0	281.9	281.9
Sat-06	341.9	0.0	280.9	0.0	0.0	12.2	0.0	268.7	268.7
Sun-07	371.6	0.0	285.4	0.0	0.0	12.4	0.0	273.0	273.0
Mon-08	348.6	0.0	282.4	0.0	0.0	12.1	0.0	270.3	270.3
Tue-09	336.9	0.0	277.0	0.0	0.0	12.3	0.0	264.7	264.7
Wed-10	339.3	0.0	278.4	0.0	0.0	12.3	0.0	266.1	266.1
Thu-11	341.5	0.0	276.1	0.0	0.0	12.3	0.0	263.8	263.8
Fri-12	334.0	0.0	283.2	0.0	0.0	12.4	0.0	270.8	270.8
Sat-13	356.7	0.0	278.1	0.0	0.0	12.0	0.0	266.1	266.1
Sun-14	361.4	0.0	278.5	0.0	0.0	12.0	0.0	266.5	266.5
Mon-15	380.8	0.0	292.2	0.0	0.0	12.5	0.0	279.7	279.7
Tue-16	348.9	0.0	282.0	0.0	0.0	12.3	0.0	269.7	269.7
Wed-17	338.5	0.0	280.0	0.0	0.0	12.1	0.0	267.9	267.9
Thu-18	337.9	0.0	279.5	0.0	0.0	11.9	0.0	267.6	267.6
Fri-19	323.6	0.0	281.9	0.0	0.0	11.5	0.0	270.4	270.4
Sat-20	349.0	0.0	280.3	0.0	0.0	11.5	0.0	268.8	268.8
Sun-21	349.5	0.0	278.9	0.0	0.0	11.3	0.0	267.6	267.6
Mon-22	339.3	0.0	281.0	0.0	0.0	11.1	0.0	269.9	269.9
Tue-23	334.1	0.0	281.8	0.0	0.0	11.2	0.0	270.6	270.6
Wed-24	356.5	0.0	282.1	0.0	0.0	10.8	0.0	271.3	271.3
Thu-25	320.4	0.0	258.2	0.0	0.0	11.0	0.0	247.2	247.2
Fri-26	317.8	0.0	258.0	0.0	0.0	10.9	0.0	247.1	247.1
Sat-27	333.4	0.0	266.0	0.0	0.0	11.0	0.0	255.0	255.0
Sun-28	335.8	0.0	271.0	0.0	0.0	10.9	0.0	260.1	260.1
Mon-29	363.1	0.0	281.0	0.0	0.0	10.7	0.0	270.3	270.3
Tue-30	359.9	0.0	287.9	0.0	0.0	10.9	0.0	277.0	277.0
Wed-31	368.2	0.0	289.7	0.0	0.0	11.3	0.0	278.4	278.4
Average	354.6	0.0	281.5	1.0	0.0	11.7	0.0	268.8	268.8
Minimum	317.8	0.0	258.0	0.0	0.0	10.7	0.0	247.1	247.1
Maximum	516.0	0.0	335.5	31.4	0.0	12.5	0.0	292.1	292.1
GeoMean	---	---	---	---	---	---	---	---	---
TOTAL	---	0	8,727	31	0	362	0	8,333	8,333

Liquid Stream Quality

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
Mon-01	7.7			7.7	644				2.4	2.4
Tue-02	7.6			7.5	404				3.8	3.8
Wed-03	7.6			7.7	396				4.1	4.1
Thu-04	7.4	7.3		7.4	276	228			4.4	4.4
Fri-05	7.5			7.4	312				5.4	5.4
Sat-06	7.5			7.4	288				4.8	4.8
Sun-07	7.6			7.7	308				4.7	4.7
Mon-08	7.4			7.6	284				3.0	3.0
Tue-09	7.3			7.4	284				5.4	5.4
Wed-10	7.6			7.6	296				4.9	4.9
Thu-11	7.5			7.4	272				3.9	3.9
Fri-12	7.5			7.5	256				4.5	4.5
Sat-13	7.6			7.5	200				4.4	4.4
Sun-14	7.4			7.5	236				4.4	4.4
Mon-15	7.5			7.5	304				5.0	5.0
Tue-16	7.5			7.5	284				4.6	4.6
Wed-17	7.5			7.7	288				4.5	4.5
Thu-18	7.5			7.4	286				4.6	4.6
Fri-19	7.5			7.5	266				4.6	4.6
Sat-20	7.6			7.5	286				4.3	4.3
Sun-21	7.5			7.6	332				2.8	2.8
Mon-22	7.5			7.5	316				4.7	4.7
Tue-23	7.5			7.5	488				4.8	4.8
Wed-24	7.6			7.6	417				5.1	5.1
Thu-25	7.6			7.4	344				4.2	4.2
Fri-26	7.6			7.6	436				3.7	3.7
Sat-27	7.6			7.5	280				4.1	4.1
Sun-28	7.5			7.5	392				5.1	5.1
Mon-29	7.5			7.4	400				3.4	3.4
Tue-30	7.6			7.4	320				2.8	2.8
Wed-31	7.5			7.5	344				2.2	2.2
Average	7.5	7.3	---	7.5	330	228	---	---	4.2	4.2
Minimum	7.3	7.3	---	7.4	200	228	---	---	2.2	2.2
Maximum	7.7	7.3	---	7.7	644	228	---	---	5.4	5.4
GeoMean	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---

DATE	$BOD_5/cBOD_5$ (mg/L) RAW BOD_5	OUTFALL 30 BOD_5	OUTFALL 20 BOD_5	EPEPS BOD_5	OUTFALL 10 FEC $cBOD_5$	OUTFALL 10 FE $cBOD_5$	TP (mg/L) RAW	TP OUTFALL 30	TP OUTFALL 20	TP EPEPS	TP OUTFALL 10 FEC	TP OUTFALL 10 FE
Mon-01	357				4	4	9.21				0.23	0.23
Tue-02	328				4	4	7.55				0.23	0.23
Wed-03	295				4	4	7.80				0.25	0.25
Thu-04	195	172			4	4	5.91	4.44			0.24	0.24
Fri-05	244				4	4	7.04				0.23	0.23
Sat-06	258				4	4	7.57				0.23	0.23
Sun-07	267				4	4	7.58				0.25	0.25
Mon-08	281				4	4	7.39				0.22	0.22
Tue-09	256				4	4	7.53				0.22	0.22
Wed-10	275				4	4	7.71				0.22	0.22
Thu-11	243				4	4	7.58				0.24	0.24
Fri-12	311				4	4	7.72				0.23	0.23
Sat-13	202				4	4	6.90				0.25	0.25
Sun-14	229				4	4	8.23				0.26	0.26
Mon-15	272				4	4	7.97				0.27	0.27
Tue-16	238				4	4	8.05				0.28	0.28
Wed-17	250				3	3	8.41				0.30	0.30
Thu-18	252				3	3	8.20				0.32	0.32
Fri-19	254				3	3	9.25				0.27	0.27
Sat-20	300				4	4	8.18				0.31	0.31
Sun-21	305				4	4	8.06				0.30	0.30
Mon-22	247				4	4	8.01				0.29	0.29
Tue-23	432				4	4	8.63				0.30	0.30
Wed-24	305				4	4	9.17				0.26	0.26
Thu-25	345				4	4	8.74				0.26	0.26
Fri-26	398				4	4	8.90				0.22	0.22
Sat-27	310				4	4	8.44				0.20	0.20
Sun-28	282				3	3	9.24				0.24	0.24
Mon-29	311				4	4	8.08				0.23	0.23
Tue-30	300				3	3	8.08				0.24	0.24
Wed-31	309				4	4	8.55				0.22	0.22
Average	286	172	---	---	4	4	8.05	4.44	---	---	0.25	0.25
Minimum	195	172	---	---	3	3	5.91	4.44	---	---	0.20	0.20
Maximum	432	172	---	---	4	4	9.25	4.44	---	---	0.32	0.32
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---

DATE	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	un-ionized NH3-N (mg/L) OUT-FAL 30	un-ionized OUT-FAL 20	un-ionized OUT-FAL 10	TKN (mg/L) RAW	TKN OUTFALL 30	TKN OUTFALL 20	TKN OUTFALL 10 FEC
Mon-01	36.3				2.68	2.68				59.1			3.7
Tue-02	36.2				2.04	2.04				53.9			3.4
Wed-03	39.8				2.08	2.08				55.2			3.4
Thu-04	35.2	34.3			1.83	1.83				48.2	42.9		3.4
Fri-05	41.4				2.08	2.08				54.9			3.3
Sat-06	43.5				3.28	3.28				57.7			4.5
Sun-07	43.1				3.49	3.49				56.2			4.7
Mon-08	42.0				2.72	2.72				59.0			3.9
Tue-09	42.8				2.12	2.12				57.3			3.1
Wed-10	42.0				2.12	2.12				55.3			3.2
Thu-11	43.7				2.33	2.33				56.8			3.3
Fri-12	42.6				2.81	2.81				60.3			4.0
Sat-13	43.6				3.04	3.04				54.4			4.2
Sun-14	44.2				3.07	3.07				58.1			4.5
Mon-15	41.2				2.62	2.62				57.9			4.2
Tue-16	41.7				3.05	3.05				59.4			3.6
Wed-17	41.8				2.18	2.18				60.0			3.4
Thu-18	41.2				2.93	2.93				62.8			4.1
Fri-19	38.4				2.32	2.32				66.9			3.7
Sat-20	42.6				2.80	2.80				59.8			3.9
Sun-21	40.6				2.75	2.75				56.6			3.8
Mon-22	41.8				2.64	2.64				56.4			3.9
Tue-23	41.8				1.95	1.95				62.6			4.1
Wed-24	41.0				2.73	2.73				65.0			4.0
Thu-25	45.1				2.32	2.32				71.4			3.3
Fri-26	44.3				2.20	2.20				74.9			3.9
Sat-27	45.0				3.31	3.31				64.1			4.3
Sun-28	43.5				3.26	3.26				71.5			4.3
Mon-29	41.1				2.79	2.79				59.7			3.5
Tue-30	39.7				2.41	2.41				54.6			3.6
Wed-31	39.9				2.25	2.25				57.6			3.8
Average	41.5	34.3	---	---	2.59	2.59	---	---	---	59.6	42.9	---	3.8
Minimum	35.2	34.3	---	---	1.83	1.83	---	---	---	48.2	42.9	---	3.1
Maximum	45.1	34.3	---	---	3.49	3.49	---	---	---	74.9	42.9	---	4.7
GeoMean	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---	---

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
Mon-01				7.9	115			88				9
Tue-02				8.6	171			163				49
Wed-03	< 0.01			8.7	164			151	2.2			7
Thu-04		0.09		9.0	416	541		254		1.8		9
Fri-05				7.1	142			330				18
Sat-06				8.8	117			169				12
Sun-07				9.0	98			116				8
Mon-08				7.9	117			107				8
Tue-09				8.3	130			127				6
Wed-10	< 0.01			8.9	119			126				8
Thu-11				9.1	116			117				4
Fri-12				9.6	96			107				2
Sat-13				9.2	83			101				4
Sun-14				8.9	93			90				8
Mon-15				8.6	294			124				11
Tue-16				8.6	148			314				8
Wed-17	< 0.01			9.4	123			186				14
Thu-18				9.5	110			135				5
Fri-19				9.6	105			120				3
Sat-20				9.8	92			115				4
Sun-21				9.2	86			97				6
Mon-22				8.8	88			89				6
Tue-23				8.7	93			96				2
Wed-24	< 0.01			8.1	95			99				5
Thu-25				8.3	89			98				6
Fri-26				10.6	83			88				5
Sat-27				11.2	89			86				6
Sun-28				9.9	84			87				4
Mon-29				9.2	127			91				4
Tue-30				8.2	167			140				6
Wed-31	< 0.01			7.8	137			167				9
Average	< 0.01	0.09	---	8.9	129	541	---	135			---	
Minimum	< 0.01	0.09	---	7.1	83	541	---	86	2.2	1.8	---	2
Maximum	< 0.01	0.09	---	11.2	416	541	---	330	2.2	1.8	---	49
GeoMean	---	---	---	---	---	---	---	---	2.2	1.8	---	7
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---

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

Enhanced Primary Treatment (EPT) Usage

Total Bypass (hr)	EPT Usage (hr)	% Usage	Total Bypass YTD (hr)	EPT Usage YTD (hr)	% Usage YTD
10	10	100%	487	487	100%

Report Comments

AEP Ref #

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 Pump Station
FE	Final Effluent from secondary treatment process (with biological nutrient removal). Pre-Ultraviolet disinfection.
FEC	Combined post-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
AEP	Alberta Environment & Parks

Jamie Gingrich P.Eng.
Senior Manager, WWTP Operations

Paul Jacquier MBA, BMSc.
Senior Manager, Analytical Operations

Appendix B – WWTP Chemicals

2025 Secondary Alum Usage (kg 100%)

	January	February	March	April	May	June	July	August	September	October	November	December
1	0	0	0	0	0	68	0	0	85	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	100	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	224	0	0	0	0	0	0
7	0	0	0	0	0	40	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	389	0	0	0	0	0
13	0	0	0	0	0	0	394	0	0	0	0	0
14	0	0	0	0	0	113	0	0	0	0	0	0
15	0	0	0	0	0	10	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	42	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	193	0	0	0	0	0	0
21	0	0	0	0	0	1522	0	1037	0	0	0	0
22	0	0	0	0	0	480	0	0	0	0	0	0
23	0	0	0	0	0	529	0	0	0	0	0	0
24	0	0	0	0	0	346	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	370	0	0	0	0	0	0
29	0		0	0	0	1089	0	0	0	0	0	0
30	0		0	0	87	213	0	0	0	0	0	0
31	0		0		71		0	242		0		0
Total (kg)	**0**	**0**	**0**	**0**	**159**	**5,341**	**783**	**1,279**	**85**	**0**	**0**	**0**

2025 EPT Alum Usage (kg 100%)

	January	February	March	April	May	June	July	August	September	October	November	December
1	0	0	6960	7950	0	0	0	0	0	0	652	0
2	0	0	6748	1503	0	0	0	2841	0	0	1907	0
3	0	0	5539	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	7845
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	4106	0	0	0	15349	0	0	0	0	0
7	0	0	3826	0	0	0	998	8410	0	0	0	0
8	0	0	3944	0	0	0	0	0	0	0	3357	0
9	0	0	6589	20	0	0	0	0	0	0	0	0
10	2803	0	848	0	0	0	0	1482	0	0	0	0
11	1679	0	0	0	3311	0	0	888	0	0	0	0
12	0	0	0	0	4718	0	0	551	0	0	0	0
13	0	0	0	0	295	8898	0	8552	0	0	0	0
14	0	0	0	0	0	13384	0	1503	0	0	0	0
15	0	0	0	0	1975	2762	0	2424	0	0	0	0
16	0	0	0	0	0	929	0	1281	0	0	0	0
17	0	0	0	0	0	0	0	2589	0	0	0	0
18	0	0	4195	0	0	0	0	456	0	0	0	0
19	0	0	405	0	0	11078	11164	666	0	0	0	0
20	0	0	0	0	3842	5373	3267	0	0	0	0	0
21	0	0	0	0	3319	1247	0	0	0	0	0	0
22	0	6727	3191	0	3369	2069	0	0	0	0	0	0
23	0	6227	0	0	5424	2642	0	0	0	0	0	0
24	0	5732	0	0	0	0	0	0	0	0	0	0
25	0	5518	0	0	0	4839	4208	0	0	715	0	0
26	0	4786	0	0	3641	3534	0	0	0	5896	0	0
27	0	7621	7992	3071	1798	4689	2133	0	0	0	0	0
28	0	6973	847	0	0	0	0	0	0	0	0	0
29	0		0	0	995	0	0	0	0	0	0	0
30	0		0	0	1439	0	0	0	0	0	0	0
31	0		4869		0		0	0		0		0
Total (kg)	**4,483**	**43,584**	**60,057**	**12,545**	**34,127**	**61,444**	**37,119**	**31,642**	**0**	**6,611**	**5,916**	**7,845**

2025 EPT Polymer Usage (kg 100%)

	January	February	March	April	May	June	July	August	September	October	November	December
1	0	0	23	26	0	0	0	0	0	0	2	0
2	0	0	23	4	0	0	0	118	0	0	7	0
3	0	0	17	0	0	4	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	18
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	12	0	0	0	46	0	0	0	0	0
7	0	0	11	0	0	0	3	50	0	0	0	0
8	0	0	11	0	0	0	0	0	0	0	8	0
9	0	0	21	0	0	0	0	0	0	0	0	0
10	28	0	3	0	0	0	0	5	0	0	0	0
11	28	0	0	0	6	0	0	3	0	0	0	0
12	14	0	0	0	12	0	0	2	0	0	0	0
13	20	0	0	0	1	19	0	35	0	0	0	0
14	0	0	0	0	0	53	0	6	0	0	0	0
15	0	0	0	0	6	8	0	8	0	0	0	0
16	0	0	0	0	0	3	0	4	0	0	0	0
17	0	0	0	0	0	0	0	10	0	0	0	0
18	0	0	9	0	0	0	0	2	0	0	0	0
19	0	0	1	0	0	40	18	2	0	0	0	0
20	0	0	0	0	7	19	11	0	0	0	0	0
21	0	0	0	0	9	4	0	0	0	0	0	0
22	0	15	9	0	10	6	0	0	0	0	0	0
23	0	20	0	0	15	8	0	0	0	0	0	0
24	0	18	0	0	0	0	0	0	0	0	0	0
25	0	17	0	0	0	14	25	0	0	0	0	0
26	0	85	0	0	11	10	0	0	0	17	0	0
27	0	69	21	6	6	14	21	0	0	0	0	0
28	0	23	3	0	0	0	0	0	0	0	0	0
29	0		0	0	3	0	0	0	0	0	0	0
30	0		0	0	4	0	0	0	0	0	0	0
31	0		14		0		0	0		0		0
Total (kg)	**90**	**248**	**178**	**36**	**90**	**201**	**124**	**244**	**0**	**17**	**16**	**18**

2025 DAF Polymer Usage (kg 100%)

	January	February	March	April	May	June	July	August	September	October	November	December
1	60	60	65	64	57	53	55	65	59	49	51	48
2	58	60	66	20	56	61	52	64	59	49	53	48
3	60	60	65	62	58	55	48	58	56	50	51	50
4	61	57	54	57	61	60	51	55	58	50	52	54
5	59	58	49	74	60	58	51	59	58	46	52	57
6	59	62	50	67	31	55	46	58	59	50	50	52
7	55	62	47	64	59	55	42	45	60	44	55	52
8	21	65	47	69	59	54	39	56	58	44	57	52
9	61	62	44	65	56	53	50	59	58	47	57	53
10	61	60	42	73	57	53	59	57	33	40	58	52
11	59	57	45	66	55	56	53	56	60	42	57	51
12	60	46	49	65	57	48	59	57	58	48	56	51
13	63	57	46	63	54	43	53	52	57	53	56	50
14	62	58	45	62	56	40	60	43	56	43	58	50
15	62	62	57	61	55	51	35	45	56	51	57	49
16	63	59	57	61	55	47	67	44	55	41	56	50
17	64	56	44	60	52	44	72	44	54	36	56	48
18	57	56	61	52	47	44	65	50	53	48	56	48
19	56	57	49	50	46	39	60	55	55	47	55	48
20	58	57	42	55	41	35	56	59	54	47	54	48
21	63	51	44	53	41	44	57	62	54	48	52	47
22	63	56	50	58	45	54	59	61	51	31	53	47
23	60	58	54	55	47	40	59	60	53	50	52	47
24	53	59	48	52	48	40	53	61	52	51	50	47
25	62	59	33	53	50	42	45	61	48	58	48	47
26	62	49	61	56	54	38	46	60	39	47	47	46
27	62	65	57	55	48	34	47	56	44	48	29	46
28	62	63	55	71	49	40	54	55	39	47	48	46
29	63		60	61	42	44	59	57	43	44	48	46
30	61		59	58	39	51	64	60	48	39	48	47
31	62		60		40		62	60		40		48
Total (kg)	**1,832**	**1,632**	**1,606**	**1,783**	**1,575**	**1,432**	**1,679**	**1,735**	**1,588**	**1,429**	**1,573**	**1,525**

2025 Membrane Bleach Usage (L as delivered 16% sodium hypochlorite solution)

	January	February	March	April	May	June	July	August	September	October	November	December
1	553	511	454	320	667	631	652	837	971	771	1189	1020
2	593	484	224	416	650	831	802	754	767	813	673	1203
3	593	477	603	360	701	603	656	805	915	859	1133	1164
4	565	489	408	443	610	660	621	685	960	934	749	1132
5	620	419	404	420	563	665	757	716	670	629	1254	1140
6	624	476	477	489	688	673	685	696	815	907	376	782
7	565	508	404	368	451	655	500	782	861	811	849	970
8	642	443	388	521	456	689	720	646	853	764	1031	993
9	571	430	457	517	693	493	598	710	792	882	1125	704
10	619	473	406	375	657	749	686	737	748	795	857	798
11	673	483	408	496	550	709	594	854	619	598	1203	689
12	596	540	381	424	868	721	759	836	921	954	1078	721
13	915	509	467	603	879	653	635	869	661	584	892	661
14	878	430	367	489	853	729	941	739	646	585	763	623
15	603	485	560	696	892	564	893	856	947	798	834	697
16	925	522	434	586	807	580	1165	715	1031	738	640	799
17	1002	400	610	497	939	559	631	768	804	578	500	734
18	784	345	498	531	887	765	1049	602	823	1044	830	624
19	784	440	763	355	445	544	1046	795	917	775	900	605
20	640	393	573	416	260	541	1005	719	985	742	812	623
21	584	396	816	527	387	466	1017	815	868	860	836	626
22	567	480	694	448	421	378	924	771	668	805	745	596
23	633	466	632	361	417	458	831	810	683	685	712	678
24	670	306	753	431	459	554	585	868	912	797	123	686
25	399	554	577	356	448	544	592	895	607	741	373	732
26	948	308	409	504	361	668	616	830	599	669	923	625
27	759	320	517	591	647	658	588	858	789	714	861	631
28	782	531	436	435	655	599	1031	868	679	1055	969	606
29	718		368	429	666	736	847	1041	541	1025	811	646
30	442		370	704	834	753	795	819	972	1288	742	751
31	457		425		830		745	1076		693		733
Total (L)	**20,706**	**12,616**	**15,283**	**14,107**	**19,640**	**18,825**	**23,965**	**24,771**	**24,025**	**24,894**	**24,782**	**23,991**

2025 Ostara Magnesium Chloride Usage (L as delivered 30% magnesium chloride solution)

	January	February	March	April	May	June	July	August	September	October	November	December
1	0	0	0	0	0	0	6227	0	0	0	0	0
2	0	0	0	0	0	0	5872	0	0	0	0	0
3	0	0	0	0	0	2044	6598	0	0	0	0	0
4	0	0	0	0	0	3993	6497	0	0	0	0	0
5	0	0	0	0	0	4728	6281	3687	0	0	0	0
6	0	0	0	0	0	2900	6334	5132	0	0	0	0
7	0	0	0	0	0	0	5890	4956	0	0	0	0
8	0	0	0	0	0	0	6708	5984	714	0	0	0
9	0	0	0	0	0	1855	6227	6052	34	0	0	0
10	0	0	0	0	0	5043	6367	6052	0	0	0	0
11	0	0	0	0	0	5528	6526	3170	0	0	0	0
12	0	0	0	0	0	5900	6520	4796	0	0	0	0
13	0	0	0	0	0	6060	6433	5146	0	0	0	0
14	0	0	0	0	0	6268	1850	5249	0	0	0	0
15	0	0	0	0	0	6232	272	4895	0	0	0	0
16	0	0	0	0	0	6307	2987	4901	0	0	0	0
17	0	0	0	0	0	6226	4647	4890	0	0	0	0
18	0	0	0	0	0	5822	2234	4994	0	0	0	0
19	0	0	0	0	0	6175	3786	5340	0	0	0	0
20	0	0	0	0	0	6144	6600	5480	0	0	0	0
21	0	0	0	0	0	6159	6412	5260	0	0	0	0
22	0	0	0	0	0	6176	6724	5167	0	0	0	0
23	0	0	0	0	0	6065	6505	3732	0	0	0	0
24	0	0	0	0	0	6283	6586	0	0	0	0	0
25	0	0	0	0	0	6065	6546	578	0	0	0	0
26	0	0	0	0	0	6286	6462	4471	0	0	0	0
27	0	0	0	0	0	4414	6221	5967	0	0	0	0
28	0	0	0	0	0	4825	2266	6340	0	0	0	0
29	0		0	0	0	6125	210	6004	0	0	0	0
30	0		0	0	0	5797	0	5142	0	0	0	0
31	0		0		0		0	0		0		0
Total (L)	**0**	**0**	**0**	**0**	**0**	**139,420**	**152,787**	**123,384**	**747**	**0**	**0**	**0**

2025 Ostara Caustic Usage (kg 100%)

	January	February	March	April	May	June	July	August	September	October	November	December
1	0	0	0	0	0	0	1429	0	0	0	0	0
2	0	0	0	0	0	0	1287	0	0	0	0	0
3	0	0	0	0	0	378	1387	0	0	0	0	0
4	0	0	0	0	0	671	1408	0	0	0	0	0
5	0	0	0	0	0	640	1236	735	0	0	0	0
6	0	0	0	0	0	411	1137	941	0	0	0	0
7	0	0	0	0	0	0	1140	938	0	0	0	0
8	0	0	0	0	0	0	1122	1088	0	0	0	0
9	0	0	0	0	0	284	1144	1066	0	0	0	0
10	0	0	0	0	0	816	1325	1066	0	0	0	0
11	0	0	0	0	0	881	1425	545	0	0	0	0
12	0	0	0	0	0	904	1329	857	0	0	0	0
13	0	0	0	0	0	892	1267	1100	0	0	0	0
14	0	0	0	0	0	924	366	923	0	0	0	0
15	0	0	0	0	0	923	0	888	0	0	0	0
16	0	0	0	0	0	936	495	884	0	0	0	0
17	0	0	0	0	0	929	713	901	0	0	0	0
18	0	0	0	0	0	839	332	969	0	0	0	0
19	0	0	0	0	0	881	600	1009	0	0	0	0
20	0	0	0	0	0	842	953	1080	0	0	0	0
21	0	0	0	0	0	743	903	928	0	0	0	0
22	0	0	0	0	0	734	895	629	0	0	0	0
23	0	0	0	0	0	765	915	422	0	0	0	0
24	0	0	0	0	0	969	981	0	0	0	0	0
25	0	0	0	0	0	1252	1086	71	0	0	0	0
26	0	0	0	0	0	1502	1176	556	0	0	0	0
27	0	0	0	0	0	1183	1150	880	0	0	0	0
28	0	0	0	0	0	1186	376	922	0	0	0	0
29	0		0	0	0	1547	0	881	0	0	0	0
30	0		0	0	0	1377	0	701	0	0	0	0
31	0		0		0		0	0		0		0
Total (kg)	**0**	**0**	**0**	**0**	**0**	**23,408**	**27,579**	**20,982**	**0**	**0**	**0**	**0**

Appendix C – Operations Monthly Reports

Gold Bar Wastewater Treatment Plant
10977 50 Street
Edmonton AB T6A 2E9
Canada
epcor.com

Approval 639-03-07
Gold Bar Waste Water Treatment Plant Operations Monthly Summary

2025

SENIOR MANAGER, OPERATIONS MANAGER, OPERATIONS	• JAMIE GINGRICH • ALLAN GORDON (LEVEL II)
LEVEL IV OPERATORS	• JANAKA LEKAMWASAM • MIKE NUNES • JODY PENNER • COLE BAKER • ANDREW NIEUWENHUIS • ISMAIL SANDOUGA • ARMEN OMERAGIC • ADAM KELLY • EMMA REES • YUSUF JAMA • RYAN VOGELGESANG • DEREK HOLDEN • ANTHONY DOWNEY

January

Bypass Events	Total: 1	January 10-11

Date	Operational Issue	Location	Potential Process Impact	Remedial Action
1/1/2025	Broken Shear Pin	Secondary 10 Cell 1	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/2/2025	Broken Shear Pin	Secondary 4 Cell 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/2/2025	Scum Trough stuck down	Secondary 6 Cell 3	Extra wasting, lowering MLSS	Lowered waste rate until mechanical repositioned trough upright
1/3/2025	Incline auger broken, bolts on housing sheared off	Grit 6	Grit unable to be removed, possible loss of plant capacity in taken OOS	Grit 6 influent closed, available if needed until repaired, repaired Jan 6
1/3/2025	Chain off of Sprocket	Primary 8 Long Collector	Stagnant sludge blanket, possible lifting	WR Mechanical repaired
1/5/2025	Broken Shear Pin	Secondary 9 West Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/7/2025	Broken Shear Pin	Secondary 6 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/10/2025	Broken Shear Pin	Secondary 1 Cell 9	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/10/2025	Broken Shear Pin	EPT 10	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/11/2025	Broken Shear Pin	EPT 11 West Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/11/2025	Broken Shear Pin	EPT 11 East Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/12/2025	Broken Shear Pin	EPT 11 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/12/2025	Broken Shear Pin	EPT 11 East Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/13/2025	Broken Shear Pin	Secondary 10 Cell 3	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/14/2025	Broken Shear Pin	Secondary 6 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/15/2025	Broken Shear Pin	Primary 11 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/17/2025	Influent Pump Failure	Bio 11	Cannot control flow to Bio 11. Loading and F/M ratio potentially affected	Opened gravity feed gate, Switched Membrane Feed to Secondary 10, Pump replaced Jan 20
1/17/2025	Broken Shear Pin	Primary 10 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/19/2025	Broken Shear Pin	Secondary 5 Cell 3	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/20/2025	Broken Shear Pin	Secondary 6 Cell 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/21/2025	Broken Shear Pin	Secondary 6 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/22/2025	Broken Shear Pin	Secondary 8 Cell 3	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/23/2025	Broken Shear Pin	EPT 11 West Flights	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/24/2025	Flood	Cloverbar Pumphouse	Supernatant unable to be returned	Supernatant off, Emergency WR for Mechanical/EI to repair
1/25/2025	Broken Shear Pin	Secondary 9 West Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
1/27/2025	Broken Shear Pin	Secondary 4 Cell 2	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day

February

Bypass Events	Total: 6	February 22-23, 23-24, 24-25, 26-27, 27, 28-March 1

Date	Operational Issue	Location	Potential Process Impact	Remedial Action
2/2/2025	Flood	Fermenter 4 Sump	Possible damage to process equipment in the Fermenter Gallery	Isolated passing check valve, set up submersible in sump until check valve replaced
2/3/2025	Broken Shear Pin	EPT 9 East Flights	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day

2/5/2025	Pin Hole Leak	RAS 2	Potential loss of tank if leak cannot be repaired	Short outage, RAS isolated and pin hole patched, outage lasted 45 mins
2/6/2025	Broken Shear Pin	EPT 10 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
2/7/2025	Broken Shear Pin	Secondary 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
2/7/2025	Broken Shear Pin	Secondary 9	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
2/8/2025	Broken Shear Pin	Secondary 4 Cell 5	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
2/9/2025	Broken Shear Pin	Secondary 4 Cell 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
2/9/2025	Broken Shear Pin	EPT 11 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
2/11/2025	Broken Shear Pin	EPT 12	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
2/12/2025	Power Blip	DeltaV	Reset DeltaV to offline set points, interrupted sequencers and controllers	Emergency WR EI/CAE, reverted set points, ran equipment manually until set points could be restored
2/12/2025	Broken Shear Pin	Primary 8 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
2/13/2025	Tube Failure	Fermenter Scrubber Bleach Pumps	Both Bleach pumps unavailable, no chemical injection to scrubber, loss of ORP	Emergency WR, 1 hour shutdown, both bleach pumps repaired
2/14/2025	Broken Shear Pin	Secondary 3 Cell 8	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
2/16/2025	Broken Shear Pin	Primary 11 East Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
2/18/2025	Broken Shear Pin	Secondary 8 cell 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
2/21/2025	Broken Shear Pin	Primary 8 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
2/21/2025	Power Outage	Gold Bar	Lost Hardisty feed, tripping process equipment	Automatically switched to Kennedale, reset equipment and then switched feeds back to Hardisty once power was restored
2/21/2025	VFD Failure	Secondary 11 Recycle Pump	Unable to return nitrates, drop in tank performance	Emergency WR, EI replaced VFD, short outage
2/23/2025	Broken Shear Pin	EPT 9 Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
2/23/2025	Broken Shear Pin	Secondary 4 Cell 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
2/24/2025	Broken Shear Pin	Primary 8 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
2/25/2025	Broken Shear Pin	Primary 8 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
2/27/2025	Broken Shear Pin	Primary 8 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day

March

Bypass Events	Total: 6	February 22-23, 23-24, 24-25, 26-27, 27, 28-March 1

Date	Operational Issue	Location	Potential Process Impact	Remedial Action
3/1/2025	Broken Shear Pin	EPT 12 East Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
3/1/2025	Broken Shear Pin	Primary 10 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
3/2/2025	Broken Shear Pin	Secondary 10 Cell 3	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
3/4/2025	Broken Shear Pin	Secondary 4 Cell 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
3/6/2025	Broken Shear Pin	Secondary 10 West Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
3/9/2025	Broken Shear Pin	Secondary 2 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
3/11/2025	Broken Shear Pin	Secondary 5 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
3/12/2025	Broken Shear Pin	Secondary 6 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
3/13/2025	Toxic Load	Raw Influent	Potential impact to Secondary Biomass	Initiated Toxic Load SOP, samples taken, monitored Secondaries for evidence of toxicity. None Detected.

3/17/2025	Broken Shear Pin	Secondary 4 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
3/18/2025	Scum Trough stuck down	Secondary 10 Cell 1	Extra wasting, lowering MLSS	Lowered waste rate until mechanical repositioned trough upright
3/18/2025	Broken Shear Pin	Secondary 6 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
3/18/2025	Pipe Leak	RAS 9 Discharge	Potential loss of tank if leak cannot be repaired	Influent off, RAS Isolated, Clarifier dewatered. RAS Pipe Patched. Higher Loading due to tank outage, phosphorus release from dewatered sludge. Back in Full Service March 21th.
3/18/2025	Pump Failure	Fermenter Scrubber Bleach Pumps	Both Bleach pumps unavailable, no chemical injection to scrubber, loss of ORP	Emergency WR, <2 hour shutdown, both bleach pumps repaired
3/20/2025	Broken Shear Pin	Secondary 9 Cell 2	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
3/23/2025	Broken Shear Pin	Secondary 4 Cell 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
3/24/2025	Broken Shear Pin	Primary 12 East Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
3/26/2025	Broken Shear Pin	Primary 8 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
3/28/2025	Broken Shear Pin	Secondary 2 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
3/29/2025	Broken Shear Pin	Secondary 4 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
3/30/2025	Broken Shear Pin	Secondary 6 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day

April

Bypass Events	Total: 3	March 31 – April 1, 1-2, 27

Date	Operational Issue	Location	Potential Process Impact	Remedial Action
4/2/2025	Broken Shear Pin	Secondary 2 Cell 1	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
4/2/2025	Broken Shear Pin	EPT 9	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
4/2/2025	Broken Shear Pin	EPT 12	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
4/3/2025	Broken Shear Pin	Secondary 6	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
4/4/2025	Water Main Break	Plantwide	Loss of potable water to scrubbers, loss of utility water tripping equipment (compressors, blowers, pumps), potential chlorinated water to NSR	Isolated main break, opened crossover to east supply line. Sample taken from outfall 20 - no chlorine detected. Equipment restarted, scrubber outage < 2 hrs.
4/4/2025	Broken Shear Pin	Primary 8 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
4/4/2025	Instrument Failure	Digester 8 Gas Space	Reduced ability to detect foaming issues in Digester 8	Alarms disabled as they had become nuisance alarms. Level can be monitored by the side wall
4/5/2025	Low Pump Flow	Secondary 11 Waste Pump	Potential inability to waste, increase MLSS and retention time. Possible blanket lifting.	Mechanical issue. Incubated Bio 11 until repaired, increased blanket checks and dewatered when required to maintain blanket level. Piece of wood removed from impellor and returned to service April 7.
4/11/2025	Broken Shear Pin	Secondary 4 Cell 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
4/12/2025	Broken Shear Pin	EPT 11	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
4/17/2025	Broken Shear Pin	Secondary 6	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
4/19/2025	Broken Shear Pin	Primary 10 West Flights	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
4/19/2025	Broken Shear Pin	Secondary 4 Cell 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
4/21/2025	Broken Shear Pin	Secondary 1 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
4/27/2025	Broken Shear Pin	Secondary 8 Cell 1	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
4/27/2025	Broken Shear Pin	Secondary 4 Cell 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
4/27/2025	Broken Shear Pin	Secondary 1 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day

May

Bypass Events	Total: 9	May 12-13, 13-14, 15, 21-22, 22-23, 23-24, 24, 27-28, 30-31

Date	Operational Issue	Location	Potential Process Impact	Remedial Action
5/1/2025	Broken Shear Pin	Secondary 7 Cell 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/2/2025	Broken Shear Pin	Primary 8 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/3/2025	Broken Shear Pin	Primary 9 East Flights	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/4/2025	Broken Shear Pin	Secondary 1 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/11/2025	Broken Shear Pin	EPT 12 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/11/2025	Broken Shear Pin	Secondary 5 Cell 1	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/12/2025	Broken Shear Pin	Primary 8 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/15/2025	Broken Shear Pin	Secondary 1 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/15/2025	Broken Shear Pin	Secondary 10 Cell 3	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/16/2025	Broken Shear Pin	Secondary 7 Cell 3	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/16/2025	Broken Shear Pin	Secondary 8 Cell 5	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/19/2025	Broken Shear Pin	EPT 12	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/19/2025	Broken Shear Pin	EPT 11	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/21/2025	Broken Shear Pin	Secondary 1 Cell 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/21/2025	Broken Shear Pin	EPT 11 Scum Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/22/2025	Broken Shear Pin	EPT 9 East Sludge Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/22/2025	Broken Shear Pin	Secondary 1 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/24/2025	Broken Shear Pin	EPT 12	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/25/2025	Broken Shear Pin	EPT 10 West Flights	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/25/2025	Broken Shear Pin	Primary 8 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/28/2025	Broken Shear Pin	Secondary 4 Cell 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/28/2025	Broken Shear Pin	Secondary 1 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/28/2025	Broken Shear Pin	Secondary 4 Cell 3	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/28/2025	Autosampler not drawing samples	Raw and Raw Backup	Potential for no samples to be collected for regulatory testing	Emergency WR, autosampler was still drawing just lower amounts that normal. Sampler lines were cleared and no grab samples were needed.
5/29/2025	Broken Shear Pin	Secondary 2 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/29/2025	Broken Shear Pin	Secondary 1 Cell 9	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/30/2025	Broken Shear Pin	Primary 12 West Flights	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
5/31/2025	Broken Shear Pin	Primary 5 East Flights	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day

June

Bypass Events	Total: 9	June 13-15, 16-17, 19-20, 21-22, 23-24, 24, 25-26, 26-27, 27

Date	Operational Issue	Location	Potential Process Impact	Remedial Action

6/1/2025	Density Meter Incorrect Readings	Primary 5 and 6	Potential for pump outs to be insufficient and high blanket in clarifiers	Manual pump outs and monitor blanket. WR submitted to fix density meter
6/7/2025	Cross Collector Chain Break	Primary 5	Unable to remove sludge blanket from clarifier	Primary tanks 5 and 6 taken out of service to facilitate repairs to the cross collector. AEPA was notified that we were deregulated to 1000 MLD due to the reduce primary capacity. Repairs completed and tank back in service June 12, 2025.
6/11/2025	Weir Failure	EPT 11	Broken weir results in short circuiting and poor settling performance in the clarifier. This can result in higher cBOD and COD numbers	EPT 11/12 dewatered below the weirs to facilitate repairs. Weir repaired and tanks put back in service June 12, 2025
6/12/2025	Broken Shear Pin	EPT 9	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
6/14/2025	Broken Shear Pin	Primary 7	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
6/14/2025	Broken Shear Pin	EPT 11 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
6/16/2025	Broken Shear Pin	EPT 9 Scum Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
6/17/2025	Broken Shear Pin	EPT 11 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
6/17/2025	Consistently Breaking Shear Pins	Primary 7	Loss of plant capacity if tank needs repair.	Tank taken out of service for repairs during period or dry weather. Primary 7 back in service June 20.
6/18/2025	Broken Shear Pin	EPT 12 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
6/18/2025	Broken Shear Pin	EPT 12 East Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
6/21/2025	Broken Shear Pin	Primary 7	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
6/22/2025	Broken Shear Pin	Primary 7 East Flights	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
6/22/2025	Broken Shear Pin	Primary 11	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
6/23/2025	Auger Constantly Tripping	Grit 7	Loss of plant capacity if tank needs repair.	Tank taken out of service for repairs. Contacted AEPA to deregulate plant for duration of repairs. Grit 7 back in service June 25.
6/28/2025	Broken Shear Pin	Primary 10 West Collectors	Stagnant sludge blanket, possible lifting	Stagnant sludge blanket, possible lifting
6/28/2025	Broken Shear Pin	Secondary 4 Cell 4	Stagnant sludge blanket, possible lifting	Stagnant sludge blanket, possible lifting

July

Bypass Events	Total: 4	July 6-7, 19-20, 25, 27

Date	Operational Issue	Location	Potential Process Impact	Remedial Action
7/1/2025	Broken Shear Pin	Secondary 1 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
7/1/2025	Sample Lines Plugged	Raw and Raw Backup	Potential for no samples to be collected for regulatory testing	Lines were pulled and unplugged and sampler put back in service
7/2/2025	Broken Shear Pin	Secondary 5 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
7/2/2025	Broken Shear Pin	Secondary 8 Cell 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
7/2/2025	Broken Shear Pin	EPT 10 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
7/6/2025	Broken Shear Pin	Primary 8 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
7/6/2025	Broken Rake	Screen 3	Loss of capacity if tank is out of service	Screen and Grit Tank 3 taken out of service for extended period of time for repairs. Approval capacity can be met we remaining tanks so no process impact.

7/12/2025	Phosphate Release	Bio 8	Increase phophorus levels above approval limit	Secondary release caused from dormant sludge and restarting Bio 8 which was out of service. Dosed alum and stopped PE. Restarted Bio slower with gradual PE increase. Spike in daily TP but monthly average still below approval limit.
7/12/2025	Broken Shear Pin	Primary 12 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
7/13/2025	Broken Shear Pin	Secondary 4 Cell 2	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
7/15/2025	Erratic Instrument Reading	Secondary 1 Cell 7 DO Probe	Insufficient or excessive air into Bio Cell 7	Cleaned off probe until reading correctly
7/15/2025	Broken Shear Pin	EPT 10 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
7/16/2025	Broken Shear Pin	EPT 12 East Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
7/16/2025	Toxic Load	Raw Influent	Potential impact to Secondary Biomass	Initiated Toxic Load SOP, samples taken, monitered Secondaries for evidence of toxicity, increased air demand, increase in ammonia. Suspected hydrocarbon but no source identified by drainage.
7/17/2025	Weir Failure	EPT 9	Broken weir results in short circuiting and poor settling performance in the clarifier. This can result in higher cBOD and COD numbers	EPT 9/10 left in service until repairs could be made. Dewatered below the weirs to facilitate repairs on July 21, weir repaired and tanks put back in service same day.
7/19/2025	Broken Shear Pin	Primary 10 East Flights	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
7/19/2025	Broken Shear Pin	EPT 10 East Flights	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
7/19/2025	Broken Shear Pin	Secondary 1 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
7/19/2025	Toxic Load	Raw Influent	Potential impact to Secondary Biomass	Initiated Toxic Load SOP, samples taken, monitered Secondaries for evidence of toxicity. None Detected. Suspected this is a continuation from the event on July 16th.
7/20/2025	Broken Shear Pin	Secondary 9 Cell 2	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
7/21/2025	Pipe Leak	RAS 11 Discharge	Potential loss of tank if leak cannot be repaired	Emergency WR, mechanical able to repair
7/24/2025	Broken Shear Pin	Secondary 7 Cell 2	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
7/24/2025	Pump Failures	Fermenter Scrubber Bleach Pumps	Both Bleach pumps unavailable, no chemical injection to scrubber, loss of ORP	Emergency WR, tube failure on PDP 65313, rollers jammed causing over current trip on PDP 65314. Repaired and put back into service
7/26/2025	Broken Shear Pin	Primary 7	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
7/29/2025	Broken Shear Pin	Primary 10	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
7/31/2025	Broken Shear Pin	EPT 10 West Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day

August

Bypass Events	Total: 9	August 2, 7 (x2), 10-11, 12-13, 13-14, 15, 16-17, 18-19

Date	Operational Issue	Location	Potential Process Impact	Remedial Action
8/6/2025	Broken Shear Pin	EPT 12 East Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
8/6/2025	Toxic Load	Raw Influent	Potential impact to Secondary Biomass	Initiated Toxic Load SOP, samples taken, monitored Secondaries for evidence of toxicity, increased air demand. No effect on effluent, no further action.
8/7/2025	Broken Shear Pin	Primary 5	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day

8/7/2025	Recycle Pump Fail	Bio 10	Process impact, no return of nitrates to anoxic cell. Possible denitrification in the secondary clarifiers.	Temporarily put bio into winter mode until maintenance installed spare.
8/11/2025	RAS Pump Bearing Fail	Bio 2	Potential loss of Bio if RAS pump cannot be repaired.	Bio temporarily taken out of service until the RAS pump repaired.
8/11/2025	Sump Pump Strainer Plugged	East Scrubber Chemical Building	Flooding, shutdown of scrubbers	Contractors installed second pump
8/16/2025	Broken Shear Pin	Secondary 3 Cell 8	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
8/17/2025	Broken Shear Pin	Primary 8 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
8/19/2025	Broken Shear Pin	EPT 10 West Sludge Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
8/19/2025	Broken Shear Pin	EPT 12 West Sludge Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
8/19/2025	Broken Shear Pin	Secondary 4 Cell 2	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
8/29/2025	MCC Trips	Secondary 6, 7, 8	Potential loss of tanks	Scum pumps were tripping the MCC which would trip RAS and WAS pumps for Secondary 6, 7, 8. Scum pumps temporarily locked out until MCC can be repaired.

September

Bypass Events	Total: 0	N/A

Date	Operational Issue	Location	Potential Process Impact	Remedial Action
9/1/2025	Broken Shear Pin	Secondary 1 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
9/2/2025	Broken Shear Pin	Primary 9 East	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
9/5/2025	Broken Shear Pin	EPT 10 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
9/6/2025	Toxic Load	Raw Influent	Potential impact to Secondary Biomass	Initiated Toxic Load SOP, samples taken, monitored Secondaries for evidence of toxicity, green color in the primaries. No effect on effluent, no further action.
9/8/2025	Broken Shear Pin	Primary 11	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
9/10/2025	Broken Shear Pin	Primary 12 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
9/12/2025	Broken Shear Pin	Primary 8 Long Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
9/14/2025	Broken Shear Pin	Secondary 9 Cell 2	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
9/18/2025	Broken Shear Pin	Secondary 8 Cell 3	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
9/20/2025	Broken Nozzle	Scrubber 4 (Fermenter)	Possible scrubber shutdown needed for repairs and could result in odour exceedances/complaints	Scheduled shutdown for emergency repairs, completed Sept. 23. Broken line was capped. During shutdown there was exceedances in the AQMS which resulted in a 7-day letter.

October

Bypass Events	Total: 2	Oct. 25, 26

Date	Operational Issue	Location	Potential Process Impact	Remedial Action
10/4/2025	Broken Shear Pin	Secondary 8 Cell 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
10/5/2025	Broken Shear Pin	Primary 9	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
10/8/2025	Broken Shear Pin	Secondary 10 Cell 3	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
10/10/2025	Broken Shear Pin	Secondary 11 Cell 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day, had to fix twice

10/11/2025	Broken Shear Pin	Secondary 11 Cell 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day, had to fix twice
10/12/2025	Broken Shear Pin	Secondary 11 Cell 4	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day, had to fix twice
10/14/2025	Low Scrubber Efficiency	Scrubber 4 (Fermenter)	Potential odour complaints	Took scrubber out of AI control, switched ORP probes
10/18/2025	Low Scrubber Efficiency	Scrubber 4 (Fermenter)	Potential odour complaints	Took scrubber out of AI control, switched ORP probes
10/18/2025	Broken Shear Pin	Secondary 4 Cell 2	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
10/19/2025	Broken Shear Pin	Secondary 9 Cell 2	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
10/20/2025	Broken Shear Pin	Secondary 7 Cell 1	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
10/20/2025	Broken Shear Pin	Secondary 1 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
10/24/2025	Broken Shear Pin	Secondary 1 Cell 1	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
10/26/2025	Plug	Scum Tank 5	Primary Scum not removed, potential odours	Unplugged tank, ran flights to clear scum built up
10/26/2025	Plug	Scum Tank 6	Primary Scum not removed, potential odours	Unplugged tank, ran flights to clear scum built up
10/28/2025	Aeration Stopped for Capital Work	Blowers 1, 4, 5 and 6	Loss of denitrification, phosphorus release	Blowers stopped for 2 hours, blower tie in completed, minimal process impact
10/31/2025	Broken Shear Pin	Secondary 9 Cell 8	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day

November

Bypass Events	Total: 2	Nov. 1, 8

Date	Operational Issue	Location	Potential Process Impact	Remedial Action
11/1/2025	Broken Shear Pin	Secondary 1 Cell 3	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
11/10/2025	Broken Shear Pin	Secondary 1 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
11/11/2025	Permeate Water High Chlorine Residual	Membrane	High Chlorine residual affects Suncors RO units potentially tripping them. Permeate water not meeting contract specifications.	Ongoing with backpulse valves passing, spikes occurring during maintenance and recovery cleans. Attempted to manage dose rates and clean scheduling to limit impact with little effect. Train 7 left off as suspected 7 was the worst passing valve. Membrane was shutdown and backpulse valves on all trains replaced on Nov. 24.
11/12/2025	Broken Shear Pin	Secondary 10 Cell 1	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
11/21/2025	Broken Shear Pin	Secondary 10 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
11/28/2025	Broken Shear Pin	Secondary 1 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
11/30/2025	Broken Shear Pin	Secondary 10 Cell 3	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day

December

Bypass Events	Total: 1	Dec. 4

Date	Operational Issue	Location	Potential Process Impact	Remedial Action
11/1/2025	Broken Shear Pin	Secondary 1 Cell 3	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
11/10/2025	Broken Shear Pin	Secondary 1 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
11/11/2025	Permeate Water High Chlorine Residual	Membrane	High Chlorine residual affects Suncors RO units potentially tripping them. Permeate water not meeting contract specifications.	Ongoing with backpulse valves passing, spikes occurring during maintenance and recovery cleans. Attempted to manage dose rates and clean scheduling to limit impact with little effect. Train 7 left off as suspected 7 was the worst passing valve. Membrane was shutdown and backpulse valves on all trains replaced on Nov. 24.

11/12/2025	Broken Shear Pin	Secondary 10 Cell 1	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
11/21/2025	Broken Shear Pin	Secondary 10 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
11/28/2025	Broken Shear Pin	Secondary 1 Cross Collector	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day
11/30/2025	Broken Shear Pin	Secondary 10 Cell 3	Stagnant sludge blanket, possible lifting	Emergency WR Mechanical repaired same day

2025 Summary of Notifications to Alberta Environment & Protected Areas		
Date	**Summary of Notifications**	**AEPA Reference Number**
January 10, 2025 10:44	AEPA was notified with an update to REF434290, a variance from the primary treatment target operating capacity. The primary treatment capacity was returned from 600 MLD to 900 MLD, effective today.	434290
January 13, 2025 AEPA Operator: Shyla	AEPA was notified of a planned outage of odour Scrubber 4 (Fermenter) to take place from 5:30 AM - 3:00 PM on January 14, 2025 for planned equipment maintenance. Additional fence line H2S monitoring will take place during the outage.	436773
February 18, 2025 EPO Andrea Sanchez-Ponton	EPO called and left message on Feb 18, 2025 @ 11:25 referencing AEPA Ref #435525 (Scrubber 1 shutdown from November 25, 2024) and was following up as the file was still open. Returned the call at 11:33 and let them know that I did speak to an EPO on Nov 26, 2024 and that they had advised it was a notification only and no further information was needed. Andrea noted that information was missed in the file, and it looked like no one had followed-up with us. She said since we did already receive follow-up from an EPO, she would close the file.	435525
February 21, 2025 12:52 AEPA Operator: Dave	AEPA was notified of a planned outage for Scrubber 4 on Monday, February 24, 2025 from 07:00 to 12:00 to perform equipment maintenance. Additional fence line H2S monitoring will take place during the outage, as weather permits.	437910
April 4, 2025 14:16 AEPA Operator: Taryn	At approximately 11:15 AM, a contractor installing helical piles struck a potable water line at the front end of the GB WWTP near 50th Street, inside of the plant fence. EPCOR Water distribution crews were immediately dispatched to investigate the leak. Water initially flowed into the catch basins and into a sump which pumps back into the plant process. By 11:50 AM, the sump pump was no longer able to keep up and water was discharged through Outfall 20 from 11:50 AM until 1:05 PM. Dechlorination pucks were deployed in the catch basins starting at approximately 11:40 AM. Full isolation of the leak was achieved at 12:35 PM. An estimated 3000 m3 of water was discharged through Outfall 20 to the river. A chlorine sample was taken at 12:06 PM from the outfall. However, the sample was too turbid for conclusive analysis. It has been sent to the Rossdale laboratory for analysis and we are awaiting results. AEPA operator noted the potable water approval number as well. Confirmed we utilized our Environmental Release ERP. Confirmed repair is ongoing, but no business or homes were impacted by the isolation. The plant is utilizing an alternate potable water feed. Confirmed there are no road closures and no media attention. Event occurred within plant fence line. 7-day letter will be submitted. Additional follow-up: At 12:58, EPO called to get additional information on potable water release. Shared same information as original notification to AEPA. EPO requested that we send the sample results once we have them to deanna.oliver@ec.gc.ca. Results sent via email to Deanna at 15:20. No residual chlorine detected. Received voicemail from Deanna at 15:30, asking if we had a sense of how much of the water release was chlorinated, before the dechlorination pucks were placed. Responded via email and let her know that the actual volume released was 300 m3, not 3000 m3, as measured by our outfall flow meter. The dechlorination pucks were installed at 11:40 AM. The sump started overflowing and flowing through the outfall at 11:50 AM. Prior to the sump overflowing, the water was being pumped back into the wastewater treatment process. It is possible that a small amount of chlorinated water remained in the sump and mixed with the dechlorinated water before it flowed to the outfall, but we do not have a way to directly quantify that.	439428
April 11, 2025 14:25 AEPA Operator: Erin	Update for AEPA Ref #434532 reported on October 24, 2024. The ducting collecting foul air from the primary effluent channels and conveying to Scrubber 1 will remain disconnected until December 2025 to accommodate work for the flare expansion project. The odour ducting runs atop an area slated for demolition and the ducting will be temporarily removed so it is not damaged, then replaced and reconnected in the same configuration.	434532
May 22, 2025 14:25 AEPA Operator: Dave	Update to AEPA Ref# 435525 (Originally notified Nov 25, 2024) – AEPA hotline was notified that Scrubber 1 (East Scrubber) is now back in service.	435525
June 9, 2025 11:15 AEPA Operator: Darren	AEPA notified of reduction of Primary Treatment capacity from 1200 MLD to 1000 MLD from June 9 to June 12, 2025, due to a failure of a cross-collector chain in Primary 5.	441618
June 24, 2025 14:40 AEPA Operator: Natasha	AEPA notified of reduction of Primary Treatment capacity from 1200 MLD to 1000 MLD starting immediately, until end of day on June 26, 2025, due to corrective maintenance required in Grit Tank 7.	442226
July 9, 2025 10:20	AEPA notified of an outage for Scrubber 4 on July 10, 2025 from 07:00 to 15:00 for planned maintenance. Additional fence line H2S monitoring will take place during the outage.	442780

AEPA Operator: Natasha		
July 21, 2025 11:00 AEPA Operator: Erin	AEPA notified of reduction of Primary Treatment capacity from 1200 MLD to 1000 MLD starting immediately, until end of day on July 22, 2025, due to corrective maintenance required in EPT 9.	443244
September 15, 2025 3:45 pm AEPA Operator: Darren	AEPA notified of release of approximately 60 lbs of R-22 refrigerant from an air handling unit on Operations Center Roof - Originally detected June 26, 2025 by Contractor. Release was already reported by Contractor Carmichael 445322 on Sept 12, 2025, and equivalent of 7 day letter was already submitted by Carmichael on Sept 12, 2025. Classified by operator as a minor release with no follow up needed from EPCOR or Carmichael.	Carmichael HVAC 445322
October 03,2025 8:20 am AEPA Operator: Iona	AEPA was notified of a variance from the primary treatment target operating capacity. The primary treatment capacity will be reduced from 1200 MLD to 1050 MLD starting at 1800 on October 4, 2025 to October 20, 2025. The purpose of the variance is to perform primary 7/8 clarifier odour control improvement capital project.	446103
October 16, 2025 415 pm AEPA Operator: Natasha	Previous notification 446103 was updated to inform AEPA of a further reduction of target treatment capacity for primary and EPT treated wastewater from 1050 MLD to 750 MLD starting October 18 at 1pm. This reduction is required to complete scheduled maintenance on primary clarifiers 9&10 , immediately followed by scheduled maintenance on primary clarifiers 11 &12. The 750 MLD target treatment capacity is expected to extend until March 1 2026, at which point the plant will return to regular seasonal target of 900 MLD. EPCOR will update AEPA if this timeline changes.	446103
November 07, 2025 12:30 AEPA Operator: Nandi	Update for AEPA Ref #434532 reported on October 24, 2024 and previously updated on April 11, 2025. The ducting collecting foul air from the primary effluent channels and conveying to Scrubber 1 will remain disconnected until May 31, 2026 to accommodate work for the flare expansion project. The odour ducting runs atop an area slated for demolition and the ducting will be temporarily removed so it is not damaged, then replaced and reconnected in the same configuration. The completion of construction in this area continues to be delayed, but we are confident it will be completed by the new timeline. Noted that we have been monitoring odours in the area and have not detected any additional odour due to the disconnection of this foul air ducting.	434532
December 3, 2025 1:38 AEPA Operator: Dave	AEPA was notified that Scrubber 1 (East Scrubber) will be shut down today (December 03, 2025) as there are currently no sources of foul air feeding this scrubber and the scrubber fan is at risk of freezing due to drawing in ambient air. Note that we will also not be reporting the daily average pH, ORP, H2S in, or H2S out for Scrubber 1 while it is offline. When this similar notification was made in November 2024 (REF 435525), the EPO determined that a 7 day letter was not required. *Additional info: Channel 1 (including Grit Tanks 1-3 and Primary Clarifiers 3-4) is not actively treating wastewater due to low seasonal flows, and the ducting connecting the Primary Effluent channels is disconnected due to capital work (previously notified under AEPA Ref #434532). Scrubber 1 will resume operation when Channel 1 is required to treat wastewater again, which is expected to occur in Spring 2026.*	448245
December 15, 2025 AEPA Operator: Shyla	AEPA was notified of a planned outage of odour Scrubber 2 and 3 to take place from 7:00 AM for up to 8 hours (complete by 3:00 PM) on December 16, 2025 for work on a utility water line, and planned equipment maintenance. Additional fence line H2S monitoring will take place during the outage.	448591

Appendix D – Air Pollution Control System Data

Appendices D – Air Pollution Control System Data

Gold Bar Wastewater Treatment Plant
Daily Average Scrubber Report
January 2025

Date	Scrubber 1 - East				Scrubber 4 - Fermenter				Scrubber 2 - West				Scrubber 3 - EPT				Scrubber 5				Scrubber 6				GRF Scrubber				Grit 6/7 Building Scrubber	Screen 4-8 Building Scrubber	Dewatering Facility Scrubber
	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	Temperature In (°C)	Pressure In (kPa)	Pressure Out (kPa)	H_2S Out (ppm)	H_2S Out (ppb)	H_2S Out (ppb)	H_2S Out (ppb)
January 1, 2025	N/A	N/A	N/A	N/A	9.97	690.5	13.51	600.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	695.5	1.7	0.0	9.5	712.1	1.6	0.0	25.0	-0.46	0.45	0.1	0.0	6.7	
January 2, 2025	N/A	N/A	N/A	N/A	9.98	692.2	12.98	564.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	703.1	1.5	0.0	9.5	715.5	1.4	0.0	25.5	-0.45	0.46	0.1	9.1	119.0	
January 3, 2025	N/A	N/A	N/A	N/A	9.93	694.8	13.85	631.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	705.4	1.4	0.0	9.5	713.3	1.4	0.0	25.7	-0.44	0.45	0.1	0.0	167.2	
January 4, 2025	N/A	N/A	N/A	N/A	9.92	689.7	11.72	651.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	708.5	1.6	0.0	9.5	708.2	1.6	0.0	25.3	-0.45	0.44	0.1	0.0	47.3	
January 5, 2025	N/A	N/A	N/A	N/A	9.93	690.0	10.82	477.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	711.3	1.4	0.0	9.5	714.7	1.3	0.0	25.2	-0.45	0.45	0.1	0.0	26.4	
January 6, 2025	N/A	N/A	N/A	N/A	9.95	692.6	8.77	382.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	714.4	1.1	0.0	9.5	723.8	1.1	0.0	24.8	-0.46	0.45	0.1	0.0	23.3	
January 7, 2025	N/A	N/A	N/A	N/A	9.98	693.8	9.21	364.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	704.8	1.8	0.0	9.5	707.9	1.8	0.0	24.0	-0.46	0.44	0.1	0.9	64.5	
January 8, 2025	N/A	N/A	N/A	N/A	9.98	686.6	8.99	286.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	690.6	1.7	0.0	9.5	695.6	1.8	0.0	22.9	-0.48	0.45	0.1	0.0	17.1	
January 9, 2025	N/A	N/A	N/A	N/A	9.94	664.9	13.66	606.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	1.7	0.0	9.5	691.8	1.7	0.0	23.4	-0.47	0.46	0.1	0.0	34.3	
January 10, 2025	N/A	N/A	N/A	N/A	9.88	660.8	13.01	566.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	668.6	2.8	0.0	9.5	692.0	2.9	0.0	22.7	-0.48	0.40	0.1	2.4	53.2	
January 11, 2025	N/A	N/A	N/A	N/A	9.99	660.0	10.54	334.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6	676.1	1.0	0.0	9.5	704.9	1.0	0.0	23.1	-0.48	0.86	0.1	0.0	0.2	
January 12, 2025	N/A	N/A	N/A	N/A	9.91	658.7	10.18	377.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	690.5	1.7	0.0	9.5	705.9	1.8	0.0	23.3	-0.47	1.03	0.1	2.1	10.3	
January 13, 2025	N/A	N/A	N/A	N/A	9.97	654.4	12.47	416.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	696.7	1.4	0.0	9.5	713.4	1.5	0.0	23.3	-0.48	0.44	0.1	1.5	9.7	
January 14, 2025	N/A	N/A	N/A	N/A	9.84	654.0	30.48	7834.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	699.2	1.5	0.0	9.5	705.0	1.6	0.0	22.6	-0.47	0.46	0.1	0.0	5.1	
January 15, 2025	N/A	N/A	N/A	N/A	9.98	668.6	13.23	498.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	692.7	1.8	0.0	9.5	706.3	2.0	0.0	22.7	-0.48	0.45	0.1	0.7	6.9	
January 16, 2025	N/A	N/A	N/A	N/A	9.97	663.6	10.21	388.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	678.2	3.4	0.0	9.5	684.8	3.6	0.0	23.1	-0.47	0.43	0.1	4.3	11.2	Out of Service
January 17, 2025	N/A	N/A	N/A	N/A	9.90	668.1	7.06	279.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	675.2	3.5	0.1	9.5	683.1	3.7	0.1	24.6	-0.47	0.46	0.1	5.5	0.0	
January 18, 2025	N/A	N/A	N/A	N/A	9.99	659.1	9.00	404.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	686.7	2.2	0.1	9.5	694.9	2.2	0.0	25.7	-0.45	0.47	0.1	3.1	32.9	
January 19, 2025	N/A	N/A	N/A	N/A	9.96	666.4	10.58	460.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	684.0	2.4	0.1	9.5	691.6	2.5	0.0	25.2	-0.45	0.47	0.1	0.2	156.1	
January 20, 2025	N/A	N/A	N/A	N/A	9.78	670.2	9.46	579.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	682.2	2.8	0.0	9.5	690.2	2.8	0.0	25.5	-0.44	0.45	0.1	0.0	201.6	
January 21, 2025	N/A	N/A	N/A	N/A	9.74	677.9	8.74	1155.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6	663.6	2.4	0.0	9.5	665.3	3.0	0.0	23.5	-0.48	0.44	0.1	81.9	82.5	
January 22, 2025	N/A	N/A	N/A	N/A	9.95	700.5	8.77	886.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.1	1.3	33.5	9.5	670.2	3.7	69.3	23.6	-0.48	0.46	0.1	0.3	14.4	
January 23, 2025	N/A	N/A	N/A	N/A	9.89	699.5	9.68	968.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.0	3.6	0.0	9.5	684.8	3.3	0.0	23.5	-0.48	0.45	0.1	0.0	28.7	
January 24, 2025	N/A	N/A	N/A	N/A	9.91	698.6	12.79	1190.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.8	3.5	0.0	9.5	694.9	3.7	0.0	23.8	-0.48	0.44	0.1	0.0	27.6	
January 25, 2025	N/A	N/A	N/A	N/A	9.96	698.5	16.29	1227.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.8	4.5	0.0	9.5	686.0	4.8	0.0	23.9	-0.47	0.45	0.1	0.0	66.4	
January 26, 2025	N/A	N/A	N/A	N/A	9.97	696.3	17.30	1125.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.2	3.7	0.0	9.5	691.8	4.0	0.0	23.3	-0.48	0.45	0.1	0.0	43.0	
January 27, 2025	N/A	N/A	N/A	N/A	9.98	695.7	18.92	1165.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.0	3.1	0.0	9.5	699.7	3.3	0.0	22.7	-0.49	0.44	0.1	0.3	22.4	
January 28, 2025	N/A	N/A	N/A	N/A	9.95	696.1	22.03	1121.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.2	3.6	0.0	9.5	692.8	3.8	0.0	17.4	-0.43	0.45	0.1	1.9	13.7	
January 29, 2025	N/A	N/A	N/A	N/A	9.82	698.0	22.22	1667.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.1	3.1	0.0	9.5	698.1	3.4	0.0	24.3	-0.45	0.12	0.1	0.2	6.4	
January 30, 2025	N/A	N/A	N/A	N/A	9.87	700.7	17.31	1429.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	2.8	0.0	9.5	699.7	2.9	0.0	24.1	-0.46	0.46	0.1	0.1	15.6	
January 31, 2025	N/A	N/A	N/A	N/A	9.88	701.4	18.18	1920.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	3.4	0.5	9.5	692.5	3.6	0.0	24.9	-0.46	0.45	0.1	0.0	21.1	
Avg	N/A	N/A	N/A	N/A	9.93	682.00	13.29	985.86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.50	683.78	2.37	1.11	9.50	697.77	2.56	2.24	23.83	-0.46	0.47	0.06	3.70	43.06	N/A
Min	N/A	N/A	N/A	N/A	9.74	653.97	7.06	278.98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.46	663.61	0.98	0.00	9.47	665.33	1.05	0.00	17.37	-0.49	0.12	0.05	0.00	0.00	N/A
Max	N/A	N/A	N/A	N/A	9.99	701.37	30.48	7834.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.56	714.38	4.45	33.54	9.55	723.79	4.84	69.34	25.73	-0.43	1.03	0.13	81.94	201.62	N/A

Appendices D – Air Pollution Control System Data

Gold Bar Wastewater Treatment Plant
Daily Average Scrubber Report
February 2025

Date	Scrubber 1 - East				Scrubber 4 - Fermenter				Scrubber 2 - West				Scrubber 3 - EPT				Scrubber 5				Scrubber 6				GRF Scrubber				Grit 6/7 Building Scrubber	Screen 4-8 Building Scrubber	Dewatering Facility Scrubber
	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	Temperature In (°C)	Pressure In (kPa)	Pressure Out (kPa)	H_2S Out (ppm)	H_2S Out (ppb)	H_2S Out (ppb)	H_2S Out (ppb)
February 1, 2025	N/A	N/A	N/A	N/A	9.91	698.9	18.80	2267.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.0	3.5	0.4	9.5	684.2	3.9	0.0	25.7	-0.45	0.45	0.1	0.0	65.4	
February 2, 2025	N/A	N/A	N/A	N/A	9.95	699.5	19.61	2199.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.1	3.3	0.9	9.5	689.0	3.6	0.0	23.4	-0.45	0.46	0.1	0.0	285.4	
February 3, 2025	N/A	N/A	N/A	N/A	9.97	700.1	20.27	2107.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	676.0	2.2	0.7	9.5	688.9	2.3	0.0	18.8	-0.47	0.47	0.1	0.0	131.2	
February 4, 2025	N/A	N/A	N/A	N/A	9.98	699.8	19.59	1997.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	688.6	2.8	0.7	9.5	685.1	3.0	0.0	23.8	-0.45	0.46	0.1	0.0	5.8	
February 5, 2025	N/A	N/A	N/A	N/A	9.92	700.9	21.37	2332.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	696.8	2.4	1.0	9.5	687.3	2.6	0.0	25.2	-0.44	0.44	0.1	0.0	0.0	
February 6, 2025	N/A	N/A	N/A	N/A	9.93	698.4	21.65	2485.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	693.7	2.9	0.0	9.5	689.3	3.1	0.0	24.8	-0.46	0.45	0.1	0.1	0.0	
February 7, 2025	N/A	N/A	N/A	N/A	10.00	700.0	21.33	1939.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	691.0	3.2	0.0	9.5	689.1	3.5	0.0	24.7	-0.46	0.45	0.1	0.0	0.0	
February 8, 2025	N/A	N/A	N/A	N/A	10.00	699.6	24.00	2047.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	683.8	3.9	0.0	9.5	682.8	4.3	0.0	24.3	-0.47	0.44	0.1	0.0	0.0	
February 9, 2025	N/A	N/A	N/A	N/A	10.00	700.8	23.11	1972.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	682.1	4.1	0.0	9.5	683.1	4.5	0.0	23.1	-0.47	0.46	0.1	0.0	0.0	
February 10, 2025	N/A	N/A	N/A	N/A	9.90	681.3	19.39	2423.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	689.6	3.2	0.5	9.5	683.0	3.4	0.0	21.5	-0.19	1.65	0.1	1.2	0.0	
February 11, 2025	N/A	N/A	N/A	N/A	9.98	664.8	16.31	2462.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	682.0	4.2	0.0	9.5	677.2	4.5	0.0	22.1	-0.16	1.47	0.1	2.4	0.0	
February 12, 2025	N/A	N/A	N/A	N/A	9.75	690.0	15.24	2758.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	675.6	5.0	0.0	9.5	673.3	5.5	0.0	23.4	-0.45	0.45	0.1	0.0	0.0	
February 13, 2025	N/A	N/A	N/A	N/A	9.87	645.2	19.95	2587.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	677.4	4.5	0.0	9.5	678.6	4.9	0.0	22.8	-0.37	0.45	0.1	0.0	0.0	
February 14, 2025	N/A	N/A	N/A	N/A	9.79	674.0	21.69	3579.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	681.9	4.5	0.0	9.5	678.8	5.0	0.0	22.3	-0.46	0.46	0.1	0.0	0.0	Out of Service
February 15, 2025	N/A	N/A	N/A	N/A	10.00	700.1	20.82	2089.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	678.3	5.3	0.0	9.5	675.2	5.7	0.0	22.6	-0.46	0.47	0.1	3.0	0.0	
February 16, 2025	N/A	N/A	N/A	N/A	9.99	699.9	21.16	1982.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	679.7	4.6	0.3	9.5	676.7	4.9	0.0	21.1	-0.47	0.46	0.1	13.7	0.0	
February 17, 2025	N/A	N/A	N/A	N/A	9.99	695.5	17.07	1750.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	683.7	4.3	0.9	9.5	677.0	4.7	0.0	21.2	-0.46	0.46	0.1	0.3	0.0	
February 18, 2025	N/A	N/A	N/A	N/A	9.99	684.1	9.70	991.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	677.0	4.1	0.7	9.5	676.1	4.4	0.0	19.8	-0.46	0.46	0.1	6.3	0.0	
February 19, 2025	N/A	N/A	N/A	N/A	9.99	697.1	8.33	785.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.8	4.2	0.5	9.5	669.8	4.6	0.0	21.3	-0.46	0.45	0.1	5.8	3.2	
February 20, 2025	N/A	N/A	N/A	N/A	9.64	677.3	11.66	2519.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.7	4.8	0.1	9.5	669.3	5.3	0.0	23.7	-0.45	0.45	0.1	13.3	18.4	
February 21, 2025	N/A	N/A	N/A	N/A	9.99	681.6	20.50	2447.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.3	664.7	2.6	0.0	9.3	669.9	5.7	0.0	23.7	-0.52	0.37	0.2	10.2	103.6	
February 22, 2025	N/A	N/A	N/A	N/A	10.00	687.5	15.53	1338.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	669.1	0.0	0.0	9.4	673.0	6.5	0.0	23.6	-0.47	0.44	0.1	0.0	164.2	
February 23, 2025	N/A	N/A	N/A	N/A	9.86	697.6	10.14	911.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	685.9	0.0	0.0	9.5	691.8	3.4	0.0	22.8	-0.48	0.44	0.1	3.4	168.0	
February 24, 2025	N/A	N/A	N/A	N/A	9.90	696.9	14.84	2791.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	695.4	0.0	0.0	9.5	701.6	2.7	0.0	23.4	-0.48	0.44	0.1	0.4	81.1	
February 25, 2025	N/A	N/A	N/A	N/A	9.96	691.7	8.26	857.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	692.5	0.0	0.0	9.5	695.4	3.5	0.0	23.2	-0.47	0.43	0.1	0.3	2.0	
February 26, 2025	N/A	N/A	N/A	N/A	9.91	694.0	4.86	580.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	700.9	0.0	0.0	9.5	703.5	2.5	0.0	22.7	-0.48	0.45	0.1	0.0	1.4	
February 27, 2025	N/A	N/A	N/A	N/A	9.92	690.3	4.11	536.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	711.6	0.0	0.0	9.5	708.4	2.1	0.0	22.3	-0.48	0.44	0.1	0.0	14.2	
February 28, 2025	N/A	N/A	N/A	N/A	9.66	674.7	0.30	607.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	720.1	0.0	0.0	9.5	730.4	0.6	0.0	22.6	-0.49	0.45	0.1	0.0	0.0	
Avg	N/A	N/A	N/A	N/A	9.92	690.06	16.06	1905.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.49	684.18	2.84	0.24	9.49	685.27	3.94	0.00	22.85	-0.44	0.53	0.06	2.16	37.29	N/A
Min	N/A	N/A	N/A	N/A	9.64	645.19	0.30	536.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.35	664.66	-0.01	0.00	9.30	669.35	0.64	0.00	18.77	-0.52	0.37	0.06	0.00	0.00	N/A
Max	N/A	N/A	N/A	N/A	10.00	700.95	24.00	3579.36	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.54	720.07	5.28	1.05	9.54	730.41	6.46	0.00	25.66	-0.16	1.65	0.16	13.74	285.43	N/A

Appendices D – Air Pollution Control System Data

Gold Bar Wastewater Treatment Plant
Daily Average Scrubber Report
March 2025

Date	Scrubber 1 - East				Scrubber 4 - Fermenter				Scrubber 2 - West				Scrubber 3 - EPT				Scrubber 5				Scrubber 6				GRF Scrubber				Grit 6/7 Building Scrubber	Screen 4-8 Building Scrubber	Dewatering Facility Scrubber
	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	Temperature In (°C)	Pressure In (kPa)	Pressure Out (kPa)	H_2S Out (ppm)	H_2S Out (ppb)	H_2S Out (ppb)	H_2S Out (ppb)
March 1, 2025	N/A	N/A	N/A	N/A	9.59	704.7	0.00	485.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	722.9	0.0	0.0	9.5	725.0	1.1	0.0	22.6	-0.47	0.45	0.1	0.0	0.1	
March 2, 2025	N/A	N/A	N/A	N/A	9.40	699.0	0.00	628.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	721.9	0.0	0.0	9.5	726.1	1.2	0.0	23.0	-0.48	0.45	0.1	0.0	0.0	
March 3, 2025	N/A	N/A	N/A	N/A	9.49	692.2	1.81	831.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	718.6	0.8	0.0	9.5	715.9	1.7	0.0	23.2	-0.48	0.44	0.0	0.0	0.1	
March 4, 2025	N/A	N/A	N/A	N/A	9.89	679.0	7.31	773.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	703.0	1.8	0.0	9.5	708.2	2.0	0.0	23.7	-0.47	0.44	0.1	0.0	4.6	
March 5, 2025	N/A	N/A	N/A	N/A	9.95	659.1	6.86	877.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	725.6	2.1	0.0	9.6	672.2	2.4	0.0	23.8	-0.47	0.45	0.1	0.0	40.7	
March 6, 2025	N/A	N/A	N/A	N/A	9.98	686.3	4.34	902.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	715.1	2.7	0.0	9.5	687.4	3.1	0.0	23.7	-0.48	0.44	0.1	0.0	135.0	
March 7, 2025	N/A	N/A	N/A	N/A	9.98	694.8	5.31	892.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	692.0	2.8	1.4	9.5	693.1	3.2	0.0	23.1	-0.48	0.44	0.1	0.0	181.0	
March 8, 2025	N/A	N/A	N/A	N/A	9.99	688.1	4.25	779.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	689.2	3.3	0.2	9.5	689.3	3.8	0.0	22.6	-0.48	0.44	0.1	0.0	187.6	
March 9, 2025	N/A	N/A	N/A	N/A	9.99	690.8	3.90	738.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	697.0	2.2	0.0	9.5	701.0	2.5	0.0	23.1	-0.48	0.55	0.2	0.0	168.2	
March 10, 2025	N/A	N/A	N/A	N/A	9.99	687.7	2.82	681.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	705.7	1.8	0.0	9.6	704.4	2.0	0.0	24.0	-0.46	1.31	0.1	0.0	128.6	
March 11, 2025	N/A	N/A	N/A	N/A	9.98	679.7	3.61	801.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	692.4	3.0	0.0	9.5	691.9	3.3	0.0	23.3	-0.47	0.44	0.1	0.0	267.4	
March 12, 2025	N/A	N/A	N/A	N/A	9.86	693.6	4.57	891.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	687.9	3.5	0.0	9.5	688.1	3.8	0.0	24.2	-0.46	0.44	0.1	0.0	160.3	
March 13, 2025	N/A	N/A	N/A	N/A	9.97	691.5	5.61	855.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	681.1	4.0	0.0	9.5	682.2	4.4	0.0	24.7	-0.45	0.44	0.2	0.0	213.1	
March 14, 2025	N/A	N/A	N/A	N/A	9.90	689.3	6.90	1253.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	680.2	4.0	0.0	9.5	680.9	4.4	0.0	25.7	-0.45	0.44	0.1	0.0	279.7	
March 15, 2025	N/A	N/A	N/A	N/A	9.96	683.5	7.67	1263.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	678.5	4.2	0.0	9.5	680.0	4.6	0.0	25.2	-0.45	0.45	0.1	0.0	41.6	
March 16, 2025	N/A	N/A	N/A	N/A	9.99	690.6	8.12	1162.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	678.6	4.1	0.0	9.5	680.6	4.6	0.0	25.0	-0.45	0.44	0.1	0.0	488.9	Out of Service
March 17, 2025	N/A	N/A	N/A	N/A	9.94	687.4	7.92	1332.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	650.8	4.4	0.0	9.5	660.5	4.7	0.0	23.8	-0.46	0.37	0.1	0.0	314.8	
March 18, 2025	N/A	N/A	N/A	N/A	9.96	691.6	8.93	1427.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	670.4	4.8	0.4	9.5	651.4	5.4	0.0	23.6	-0.46	0.45	0.1	0.2	355.9	
March 19, 2025	N/A	N/A	N/A	N/A	9.85	649.6	8.33	1670.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6	671.1	3.1	0.0	9.6	671.7	3.4	0.0	23.6	-0.47	0.45	0.1	0.9	299.7	
March 20, 2025	N/A	N/A	N/A	N/A	9.86	690.9	8.38	1481.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.1	3.7	0.0	9.5	670.1	4.0	0.0	23.4	-0.47	0.45	0.1	0.0	366.8	
March 21, 2025	N/A	N/A	N/A	N/A	9.92	692.0	8.38	1158.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	3.3	0.0	9.5	669.9	3.7	0.0	23.3	-0.47	0.45	0.1	0.1	290.6	
March 22, 2025	N/A	N/A	N/A	N/A	9.87	693.2	7.91	1143.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	669.6	4.8	3.8	9.4	669.4	5.4	0.0	23.1	-0.48	0.44	0.1	0.8	286.1	
March 23, 2025	N/A	N/A	N/A	N/A	9.89	694.7	8.35	1245.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.3	3.7	0.0	9.5	679.1	4.1	0.0	23.1	-0.48	0.44	0.1	0.0	421.1	
March 24, 2025	N/A	N/A	N/A	N/A	9.67	695.9	8.42	1671.4	9.22	453.42	0.00	0.00	N/A	N/A	N/A	N/A	9.4	664.9	8.3	226.8	9.4	719.2	1.5	0.0	22.2	-0.49	0.43	0.1	0.1	292.6	
March 25, 2025	N/A	N/A	N/A	N/A	9.63	690.0	5.04	1567.7	9.50	669.69	0.00	0.00	N/A	N/A	N/A	N/A	9.5	685.3	10.0	0.0	N/A	N/A	N/A	N/A	22.7	-0.48	0.44	0.1	70.1	316.0	
March 26, 2025	N/A	N/A	N/A	N/A	9.85	660.2	7.12	2212.9	10.85	590.36	0.00	0.00	N/A	N/A	N/A	N/A	9.5	683.5	8.0	0.0	9.3	716.7	1.6	0.0	22.6	-0.48	0.46	0.1	0.0	317.4	
March 27, 2025	N/A	N/A	N/A	N/A	9.75	685.4	10.60	2828.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	694.6	2.7	0.0	9.5	700.6	3.2	0.0	23.3	-0.47	0.31	0.1	0.0	64.2	
March 28, 2025	N/A	N/A	N/A	N/A	9.63	698.1	6.14	2226.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	697.2	2.7	0.0	9.4	701.5	2.9	0.0	23.8	-0.29	1.74	0.1	0.0	54.0	
March 29, 2025	N/A	N/A	N/A	N/A	9.73	690.6	4.42	1689.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	691.3	3.0	0.0	9.5	693.3	3.3	0.0	24.8	-0.46	2.00	0.1	0.4	117.3	
March 30, 2025	N/A	N/A	N/A	N/A	9.83	686.0	4.23	1560.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	691.7	2.8	0.0	9.5	697.3	3.1	0.0	24.4	-0.46	1.91	0.1	0.0	249.4	
March 31, 2025	N/A	N/A	N/A	N/A	9.92	679.5	5.22	1521.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	686.0	3.7	0.0	9.4	687.7	4.2	0.0	23.4	-0.47	0.45	0.1	0.0	253.8	
Avg	N/A	N/A	N/A	N/A	9.85	686.94	5.89	1243.73	9.86	571.16	0.00	0.00	N/A	N/A	N/A	N/A	9.49	688.91	3.52	7.50	9.49	690.48	3.28	0.00	23.61	-0.46	0.61	0.06	2.34	203.11	N/A
Min	N/A	N/A	N/A	N/A	9.40	649.65	0.00	485.71	9.22	453.42	0.00	0.00	N/A	N/A	N/A	N/A	9.39	650.76	-0.01	0.00	9.28	651.36	1.15	0.00	22.21	-0.49	0.31	0.05	0.00	0.00	N/A
Max	N/A	N/A	N/A	N/A	9.99	704.70	10.60	2828.36	10.85	669.69	0.00	0.00	N/A	N/A	N/A	N/A	9.57	725.61	9.99	226.83	9.59	726.05	5.36	0.00	25.70	-0.29	2.00	0.20	70.09	488.87	N/A

Indicates Data from Partial Day
-Scrubber 6 Shutdown to Test Scrubber 2

Appendices D – Air Pollution Control System Data

Gold Bar Wastewater Treatment Plant
Daily Average Scrubber Report
April 2025

Date	Scrubber 1 - East				Scrubber 4 - Fermenter				Scrubber 2 - West				Scrubber 3 - EPT				Scrubber 5				Scrubber 6				GRF Scrubber				Grit 6/7 Building Scrubber	Screen 4-8 Building Scrubber	Dewatering Facility Scrubber
	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	Temperature In (°C)	Pressure In (kPa)	Pressure Out (kPa)	H_2S Out (ppm)	H_2S Out (ppb)	H_2S Out (ppb)	H_2S Out (ppb)
April 1, 2025	N/A	N/A	N/A	N/A	9.79	696.5	5.22	956.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	684.8	2.7	0.0	9.5	694.9	3.1	0.0	23.1	-0.48	0.44	0.1	0.0	118.1	
April 2, 2025	N/A	N/A	N/A	N/A	9.81	696.3	3.20	883.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6	698.2	1.6	0.0	9.6	702.1	1.8	0.0	23.6	-0.47	0.44	0.1	0.0	16.9	
April 3, 2025	N/A	N/A	N/A	N/A	9.79	698.1	4.66	743.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	688.5	2.7	0.0	9.5	689.3	3.0	0.0	24.0	-0.48	0.43	0.1	0.0	76.8	
April 4, 2025	N/A	N/A	N/A	N/A	9.81	685.9	5.26	947.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	687.0	2.9	0.0	9.5	690.7	3.2	0.0	23.5	-0.48	0.44	0.1	0.3	199.0	
April 5, 2025	N/A	N/A	N/A	N/A	9.88	688.0	5.86	697.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	691.7	3.0	0.0	9.5	690.7	3.4	0.0	22.5	-0.50	0.44	0.1	0.0	282.4	
April 6, 2025	N/A	N/A	N/A	N/A	9.76	688.8	4.82	744.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	696.5	2.5	0.0	9.5	694.9	2.7	0.0	22.2	-0.50	0.44	0.1	0.0	203.9	
April 7, 2025	N/A	N/A	N/A	N/A	9.80	692.4	8.94	1002.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	696.9	2.6	0.0	9.5	700.7	2.8	0.0	21.9	-0.50	0.44	0.1	0.0	127.0	
April 8, 2025	N/A	N/A	N/A	N/A	9.85	694.9	13.79	1107.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	697.8	2.3	0.0	9.5	701.7	2.5	0.0	22.3	-0.49	0.44	0.1	0.0	122.8	
April 9, 2025	N/A	N/A	N/A	N/A	9.85	694.1	14.54	1277.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	698.8	2.7	0.0	9.5	695.7	2.9	0.0	22.1	-0.50	0.43	0.1	0.0	119.6	
April 10, 2025	N/A	N/A	N/A	N/A	9.88	689.1	15.10	1396.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	690.0	3.2	0.0	9.5	691.4	3.5	0.0	21.9	-0.50	0.44	0.1	0.0	141.1	
April 11, 2025	N/A	N/A	N/A	N/A	9.90	685.2	15.64	1501.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	687.1	3.8	0.0	9.5	687.9	4.2	0.0	21.7	-0.51	0.43	0.1	0.0	291.2	
April 12, 2025	N/A	N/A	N/A	N/A	9.85	694.9	16.07	1266.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	683.8	4.3	0.0	9.5	680.1	4.6	0.0	23.0	-0.50	0.44	0.1	0.0	402.1	
April 13, 2025	N/A	N/A	N/A	N/A	9.89	683.8	17.50	1715.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	684.3	4.1	0.0	9.5	684.5	4.4	0.0	22.8	-0.50	0.45	0.1	0.0	418.9	
April 14, 2025	N/A	N/A	N/A	N/A	9.89	685.1	21.08	1793.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	679.2	4.3	0.0	9.5	680.0	4.7	0.0	22.6	-0.51	0.44	0.1	0.0	464.8	
April 15, 2025	N/A	N/A	N/A	N/A	9.91	685.5	27.63	2699.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	675.7	5.0	0.0	9.5	679.9	5.4	0.0	21.9	-0.51	0.43	0.1	0.0	487.0	Out of Service
April 16, 2025	N/A	N/A	N/A	N/A	9.93	693.8	25.68	2384.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	4.9	0.0	9.5	669.4	5.4	0.0	22.6	-0.50	0.44	0.1	0.0	320.8	
April 17, 2025	N/A	N/A	N/A	N/A	9.91	691.2	24.65	2452.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.1	4.7	0.0	9.5	675.5	5.1	0.0	22.8	-0.50	0.43	0.1	0.0	8.8	
April 18, 2025	N/A	N/A	N/A	N/A	9.82	694.7	23.05	2521.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.7	4.8	0.0	9.5	672.4	5.3	0.0	22.1	-0.50	0.43	0.1	0.0	47.7	
April 19, 2025	N/A	N/A	N/A	N/A	9.82	701.0	24.23	2179.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.2	4.5	0.0	9.5	680.2	4.9	0.0	21.8	-0.51	0.39	0.1	0.0	18.3	
April 20, 2025	N/A	N/A	N/A	N/A	9.88	692.2	25.15	2256.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.0	4.8	0.0	9.5	679.6	5.1	0.0	22.5	-0.50	0.45	0.1	0.0	33.9	
April 21, 2025	N/A	N/A	N/A	N/A	9.97	689.9	23.71	2936.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.0	4.7	0.0	9.5	682.5	5.1	0.0	22.8	-0.48	0.45	0.1	0.0	51.6	
April 22, 2025	N/A	N/A	N/A	N/A	9.91	695.8	24.68	2946.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.1	5.0	0.0	9.4	677.6	5.4	0.0	22.6	-0.50	0.44	0.1	96.3	191.3	
April 23, 2025	N/A	N/A	N/A	N/A	9.82	691.8	20.82	2457.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	668.5	4.9	63.9	9.3	693.2	4.3	125.6	22.7	-0.49	0.44	0.1	33.6	79.8	
April 24, 2025	N/A	N/A	N/A	N/A	9.64	685.3	22.73	4212.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	4.6	0.0	9.5	684.9	4.9	0.0	22.2	-0.52	0.44	0.0	24.6	103.0	
April 25, 2025	N/A	N/A	N/A	N/A	9.83	690.0	24.88	2870.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.8	5.3	0.0	9.5	676.4	5.7	0.0	21.7	-0.53	0.43	0.1	0.4	132.1	
April 26, 2025	N/A	N/A	N/A	N/A	9.85	686.7	23.63	2492.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.7	5.5	0.0	9.5	678.7	5.9	0.0	21.7	-0.53	0.42	0.1	0.0	89.2	
April 27, 2025	N/A	N/A	N/A	N/A	9.89	680.1	22.74	1745.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	679.3	4.8	0.0	9.5	683.5	5.2	0.0	22.6	-0.51	0.36	0.1	0.3	118.7	
April 28, 2025	N/A	N/A	N/A	N/A	9.88	683.5	21.48	2075.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	675.1	5.0	0.0	9.5	679.4	5.4	0.0	22.0	-0.42	0.68	0.1	11.6	168.0	
April 29, 2025	N/A	N/A	N/A	N/A	9.84	689.3	26.75	2674.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.8	5.8	0.0	9.5	675.1	6.2	0.0	21.3	-0.36	1.05	0.1	37.2	177.6	
April 30, 2025	N/A	N/A	N/A	N/A	9.90	679.8	28.87	3516.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.0	6.3	0.0	9.5	670.0	6.7	0.0	21.5	-0.37	1.05	0.1	33.6	359.5	
Avg	N/A	N/A	N/A	N/A	9.85	690.1	18.08	1948.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	680.1	4.1	2.1	9.5	684.8	4.4	4.2	22.4	-0.49	0.48	0.1	7.9	179.1	N/A
Min	N/A	N/A	N/A	N/A	9.64	679.8	3.20	697.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	668.5	1.6	0.0	9.3	669.4	1.8	0.0	21.3	-0.53	0.36	0.0	0.0	8.8	N/A
Max	N/A	N/A	N/A	N/A	9.97	701.0	28.87	4212.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6	698.8	6.3	63.9	9.6	702.1	6.7	125.6	24.0	-0.36	1.05	0.1	96.3	487.0	N/A

Appendices D – Air Pollution Control System Data

Gold Bar Wastewater Treatment Plant
Daily Average Scrubber Report
May 2025

Date	Scrubber 1 - East				Scrubber 4 - Fermenter				Scrubber 2 - West				Scrubber 3 - EPT				Scrubber 5				Scrubber 6				GRF Scrubber				Grit 6/7 Building Scrubber	Screen 4-8 Building Scrubber	Dewatering Facility Scrubber
	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	Temperature In (°C)	Pressure In (kPa)	Pressure Out (kPa)	H_2S Out (ppm)	H_2S Out (ppb)	H_2S Out (ppb)	H_2S Out (ppb)
May 1, 2025	N/A	N/A	N/A	N/A	9.86	680.0	32.00	3897.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.8	6.1	0.0	9.5	669.8	6.5	0.0	21.7	-0.36	1.06	0.1	34.3	430.5	
May 2, 2025	N/A	N/A	N/A	N/A	9.82	684.9	32.23	3901.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.3	6.2	0.0	9.5	670.3	6.6	0.0	22.3	-0.36	1.06	0.1	0.0	435.9	
May 3, 2025	N/A	N/A	N/A	N/A	9.94	684.6	34.74	3040.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.7	6.1	0.0	9.5	669.7	6.5	0.0	22.3	-0.36	1.05	0.1	1.4	180.5	
May 4, 2025	N/A	N/A	N/A	N/A	9.90	692.2	37.19	3369.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.2	5.4	0.0	9.5	670.3	5.6	0.0	21.0	-0.37	1.06	0.1	6.2	133.5	
May 5, 2025	N/A	N/A	N/A	N/A	9.86	692.1	28.16	1948.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	5.6	0.0	9.5	669.9	5.9	0.0	21.4	-0.36	1.08	0.2	7.8	242.3	
May 6, 2025	N/A	N/A	N/A	N/A	9.84	690.2	12.36	159.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.1	6.8	0.0	9.5	670.1	7.2	0.0	21.6	-0.37	1.07	0.1	3.2	256.1	
May 7, 2025	N/A	N/A	N/A	N/A	9.64	671.0	17.57	1157.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.7	6.1	0.0	9.5	669.7	6.4	0.0	21.0	-0.37	1.06	0.1	15.7	200.7	
May 8, 2025	N/A	N/A	N/A	N/A	9.88	666.8	16.93	741.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	7.3	0.0	9.5	669.8	7.7	0.0	21.2	-0.36	1.07	0.1	29.2	509.9	
May 9, 2025	N/A	N/A	N/A	N/A	9.61	662.3	17.46	1232.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.6	7.5	0.0	9.5	669.6	7.9	0.0	21.4	-0.37	1.08	0.1	32.6	680.1	
May 10, 2025	N/A	N/A	N/A	N/A	9.50	669.9	16.62	1986.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.4	7.7	0.0	9.5	670.5	8.1	0.0	21.1	-0.37	1.07	0.1	62.8	264.4	
May 11, 2025	N/A	N/A	N/A	N/A	9.50	669.8	16.75	1934.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	667.0	7.8	0.5	9.4	665.2	8.4	0.0	21.0	-0.36	1.06	0.1	103.2	147.4	
May 12, 2025	N/A	N/A	N/A	N/A	9.57	664.9	14.30	1337.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	671.9	7.5	0.3	9.5	672.6	8.2	0.0	21.1	-0.36	1.08	0.1	118.1	300.9	
May 13, 2025	N/A	N/A	N/A	N/A	9.75	656.3	13.24	421.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.4	7.2	0.0	9.6	670.8	7.5	0.0	20.2	-0.35	1.02	0.1	158.8	600.4	
May 14, 2025	N/A	N/A	N/A	N/A	9.58	660.4	13.24	181.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.0	6.7	0.0	9.5	669.9	7.1	0.0	20.1	-0.37	1.08	0.1	92.8	443.1	
May 15, 2025	N/A	N/A	N/A	N/A	9.51	667.9	12.71	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.3	5.2	0.0	9.5	672.2	5.5	0.0	21.0	-0.39	0.99	0.1	219.4	107.6	
May 16, 2025	N/A	N/A	N/A	N/A	9.43	652.0	11.21	328.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.9	6.9	0.0	9.5	670.5	7.3	0.0	20.7	-0.36	1.06	0.1	265.2	439.3	Out of Service
May 17, 2025	N/A	N/A	N/A	N/A	9.58	654.5	12.22	1529.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.7	8.1	0.0	9.5	669.7	8.6	0.0	20.2	-0.36	1.06	0.1	29.2	636.0	
May 18, 2025	N/A	N/A	N/A	N/A	9.62	651.9	12.66	1364.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.7	7.3	0.0	9.5	669.9	7.8	0.0	20.0	-0.36	1.06	0.1	49.1	351.6	
May 19, 2025	N/A	N/A	N/A	N/A	9.63	652.5	13.14	1628.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.3	6.5	0.0	9.5	670.4	6.8	0.0	20.7	-0.35	1.06	0.1	41.4	337.5	
May 20, 2025	N/A	N/A	N/A	N/A	9.64	652.2	14.80	1906.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	668.5	9.6	0.0	9.4	667.3	10.2	0.0	20.9	-0.36	0.97	0.1	146.0	459.3	
May 21, 2025	N/A	N/A	N/A	N/A	9.65	655.7	14.72	1669.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6	680.7	5.4	0.0	9.5	686.4	5.9	0.0	20.9	-0.37	0.87	0.1	114.8	192.0	
May 22, 2025	8.92	606.90	0.00	0.00	9.77	650.8	11.56	953.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.7	6.9	0.0	9.5	678.1	7.4	0.0	20.7	-0.38	0.90	0.1	143.9	277.4	
May 23, 2025	9.50	670.0	0.00	0.0	9.68	652.1	10.64	836.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	672.6	7.7	0.0	9.5	671.2	8.5	0.0	20.1	-0.37	1.09	0.1	123.8	210.4	
May 24, 2025	9.50	670.4	0.00	0.0	9.58	652.8	6.87	573.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	675.7	7.1	0.0	9.5	673.1	7.4	0.0	20.3	-0.38	1.05	0.1	109.8	215.9	
May 25, 2025	9.50	669.7	0.00	0.0	9.50	652.6	7.00	550.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	676.1	6.5	0.0	9.5	677.9	6.8	2.4	21.3	-0.39	1.04	0.1	54.9	176.3	
May 26, 2025	9.50	669.8	0.00	2.4	9.55	652.7	10.35	864.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	641.4	10.9	3.5	9.4	652.2	11.6	5.4	21.2	-0.40	1.04	0.1	174.7	298.2	
May 27, 2025	9.49	670.2	0.01	0.0	9.55	654.5	7.93	515.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6	671.9	6.6	0.0	9.6	673.5	6.8	1.4	20.3	-0.37	1.11	0.1	254.3	262.7	
May 28, 2025	9.51	667.7	0.00	0.0	9.54	654.2	10.67	1169.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.1	6.9	0.0	9.5	667.6	6.9	5.0	21.8	-0.38	1.05	0.1	128.0	325.6	
May 29, 2025	9.50	671.4	0.00	0.0	9.64	652.4	16.68	1588.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	668.0	7.5	0.0	9.5	668.7	7.6	7.9	23.0	-0.38	1.04	0.0	115.9	342.1	
May 30, 2025	9.51	670.4	0.00	4.0	9.74	655.5	18.76	2122.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	671.6	7.5	0.0	9.5	672.6	7.9	0.4	20.2	-0.38	1.06	0.1	114.5	305.5	
May 31, 2025	9.50	670.1	0.00	0.0	9.97	652.1	21.47	1968.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	8.8	0.0	9.5	671.7	9.1	2.9	21.2	-0.38	1.03	0.2	139.7	584.7	
Avg	9.44	663.65	0.00	0.64	9.67	663.29	16.65	1447.70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.50	669.85	7.09	0.14	9.50	670.69	7.47	0.82	21.02	-0.37	1.04	0.06	93.25	333.80	N/A
Min	8.92	606.90	0.00	0.00	9.43	650.77	6.87	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.41	641.44	5.19	0.00	9.40	652.19	5.54	0.00	20.00	-0.40	0.87	0.05	0.00	107.60	N/A
Max	9.51	671.41	0.01	3.98	9.97	692.18	37.19	3901.43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.61	680.71	10.94	3.54	9.64	686.41	11.58	7.89	22.97	-0.35	1.11	0.18	265.23	680.15	N/A

Indicates Data from Partial Day
-Scrubber 1 Restart as Channel 1 back in Service

Appendices D – Air Pollution Control System Data

Gold Bar Wastewater Treatment Plant
Daily Average Scrubber Report
June 2025

Date	Scrubber 1 - East				Scrubber 4 - Fermenter				Scrubber 2 - West				Scrubber 3 - EPT				Scrubber 5				Scrubber 6				GRF Scrubber				Grit 6/7 Building Scrubber	Screen 4-8 Building Scrubber	Dewatering Facility Scrubber
	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	Temperature In (°C)	Pressure In (kPa)	Pressure Out (kPa)	H_2S Out (ppm)	H_2S Out (ppb)	H_2S Out (ppb)	H_2S Out (ppb)
June 1, 2025	9.50	670.5	0.00	0.8	9.98	652.8	23.41	2338.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.5	9.2	0.0	9.5	669.1	9.5	0.0	19.7	-0.37	1.06	0.1	231.3	1023.7	
June 2, 2025	9.50	670.3	0.00	3.9	9.99	656.4	24.52	2528.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.7	9.6	0.0	9.5	669.6	9.9	0.0	20.0	-0.37	1.08	0.1	147.2	958.7	
June 3, 2025	9.50	672.9	0.00	0.9	9.96	686.4	24.41	1842.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.0	10.2	0.0	9.5	670.2	10.5	0.0	20.1	-0.36	1.06	0.1	168.1	487.8	
June 4, 2025	9.50	670.4	0.00	0.0	9.83	696.9	24.71	2217.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.7	8.4	0.1	9.5	669.9	8.4	0.0	20.0	-0.37	1.06	0.1	167.0	633.3	
June 5, 2025	9.50	669.9	0.00	2.1	9.90	688.5	27.07	2303.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	10.9	0.0	9.5	669.5	11.2	0.1	20.9	-0.37	1.05	0.1	144.0	851.5	
June 6, 2025	9.50	670.6	0.00	0.0	9.92	683.6	27.29	2004.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	11.8	0.0	9.5	670.0	12.1	0.0	20.3	-0.37	1.04	0.1	175.2	974.8	
June 7, 2025	9.50	670.1	0.00	0.0	9.92	674.0	22.78	1706.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.8	10.0	0.0	9.5	671.0	10.3	0.0	19.7	-0.38	1.05	0.1	303.6	653.3	
June 8, 2025	9.50	676.1	0.00	0.0	9.95	679.2	23.00	1918.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.0	8.5	0.0	9.5	670.1	8.8	0.0	21.1	-0.37	1.05	0.1	236.3	929.8	
June 9, 2025	9.49	667.6	0.00	0.0	9.89	690.1	25.63	2022.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	668.9	8.5	0.0	9.5	667.9	8.5	0.0	20.8	-0.39	1.04	0.1	74.7	486.9	
June 10, 2025	9.47	665.1	0.10	3.9	9.88	678.4	24.59	1487.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.3	9.2	0.0	9.5	670.3	9.7	0.0	20.2	-0.38	1.05	0.1	158.6	983.8	
June 11, 2025	9.43	693.0	0.27	0.0	9.64	664.4	23.66	2800.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.3	8.1	0.0	9.5	669.3	8.6	0.0	19.6	-0.37	1.06	0.1	86.3	948.3	
June 12, 2025	9.50	671.5	0.19	0.0	9.51	670.2	24.81	8028.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	669.1	11.9	0.0	9.4	667.1	12.6	0.0	19.5	-0.36	1.06	0.1	68.0	943.3	
June 13, 2025	9.51	672.7	0.08	0.0	9.50	670.0	24.90	7373.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	664.2	11.5	1.8	9.4	665.9	12.3	0.0	19.3	-0.36	0.91	0.1	131.7	906.1	
June 14, 2025	9.51	671.7	0.00	0.0	9.51	671.3	17.33	2719.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6	672.5	1.7	0.0	9.5	693.4	1.9	0.0	19.6	-0.35	0.91	0.1	100.1	86.8	
June 15, 2025	9.61	659.1	0.00	0.4	9.50	670.0	10.89	561.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6	668.3	2.1	0.0	9.6	719.5	2.4	0.0	19.8	-0.35	1.03	0.1	103.0	195.7	Out of Service
June 16, 2025	9.51	680.6	0.00	0.8	9.50	669.8	12.12	1402.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.2	4.0	0.0	9.5	687.0	4.3	0.2	20.6	-0.36	1.18	0.1	108.5	273.3	
June 17, 2025	9.50	669.7	0.00	0.0	9.49	669.8	14.88	2681.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.6	5.4	0.0	9.5	679.2	5.8	0.5	20.1	-0.37	1.04	0.1	145.1	220.4	
June 18, 2025	9.50	669.7	0.00	0.4	9.50	670.0	15.68	3188.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.6	6.2	0.0	9.5	672.1	6.6	0.0	19.8	-0.37	1.05	0.1	144.6	234.3	
June 19, 2025	9.45	670.8	0.00	5.0	9.59	670.0	15.95	3110.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	679.4	5.2	0.0	9.4	683.6	5.7	0.0	19.4	-0.36	0.97	0.1	106.5	132.6	
June 20, 2025	9.50	669.5	0.00	0.5	9.70	695.1	11.61	532.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	685.5	3.8	0.0	9.5	694.9	4.1	0.0	19.7	-0.36	1.05	0.1	92.8	35.7	
June 21, 2025	9.50	669.6	0.00	0.0	9.68	692.3	12.40	791.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6	688.4	3.1	0.0	9.6	692.9	3.4	0.0	19.7	-0.35	1.07	0.1	35.6	21.0	
June 22, 2025	9.50	670.7	0.00	0.0	9.69	695.8	14.14	1107.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	678.3	5.2	0.0	9.5	683.2	5.6	0.0	19.9	-0.35	1.07	0.1	61.7	185.4	
June 23, 2025	9.49	669.7	0.00	0.0	9.66	696.4	15.56	1034.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	682.0	4.5	0.0	9.5	681.6	4.8	0.0	20.1	-0.34	1.02	0.1	59.9	124.0	
June 24, 2025	9.51	670.8	0.00	0.0	9.66	698.1	17.53	1127.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.3	7.6	0.0	9.5	672.0	8.1	0.0	20.0	-0.36	1.05	0.1	82.5	763.3	
June 25, 2025	9.48	670.5	0.05	0.0	9.61	697.5	20.51	1460.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	670.6	9.2	0.8	9.4	671.4	9.8	0.0	19.7	-0.36	0.98	0.1	78.7	458.8	
June 26, 2025	9.49	668.0	0.01	0.0	9.60	695.4	14.82	919.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6	668.7	7.4	2.1	9.5	671.0	8.0	0.7	20.3	-0.36	1.05	0.0	114.1	386.1	
June 27, 2025	9.50	670.2	0.03	0.0	9.56	692.8	18.24	1401.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.8	9.0	0.0	9.5	671.6	9.6	0.3	20.0	-0.36	0.99	0.1	179.2	478.5	
June 28, 2025	9.51	671.4	0.00	0.0	9.60	695.4	19.24	1212.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6	670.5	7.9	0.0	9.6	670.6	8.3	0.0	19.8	-0.36	1.06	0.1	110.3	239.8	
June 29, 2025	9.50	670.3	0.00	0.0	9.65	695.1	21.90	1234.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.0	6.7	0.0	9.5	670.0	7.1	0.5	20.7	-0.37	1.04	0.1	56.8	252.3	
June 30, 2025	9.50	670.1	0.00	0.0	9.58	697.2	26.46	1665.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.6	8.1	0.0	9.4	669.5	8.6	1.8	21.2	-0.37	1.04	0.1	75.4	387.7	
Avg	9.50	671.10	0.02	0.62	9.70	682.09	20.00	2157.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.50	671.85	7.50	0.16	9.50	676.11	7.89	0.14	20.06	-0.36	1.04	0.06	124.88	508.56	N/A
Min	9.43	659.12	0.00	0.00	9.49	652.83	10.89	532.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.40	664.20	1.70	0.00	9.41	665.94	1.93	0.00	19.26	-0.39	0.91	0.05	35.64	21.01	N/A
Max	9.61	693.00	0.27	5.02	9.99	698.11	27.29	8028.65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.62	688.43	11.90	2.13	9.61	719.54	12.61	1.82	21.19	-0.34	1.18	0.08	303.62	1023.66	N/A

Appendices D – Air Pollution Control System Data

Gold Bar Wastewater Treatment Plant
Daily Average Scrubber Report
July 2025

Date	Scrubber 1 - East				Scrubber 4 - Fermenter				Scrubber 2 - West				Scrubber 3 - EPT				Scrubber 5				Scrubber 6				GRF Scrubber				Grit 6/7 Building Scrubber	Screen 4-8 Building Scrubber	Dewatering Facility Scrubber
	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	Temperature In (°C)	Pressure In (kPa)	Pressure Out (kPa)	H_2S Out (ppm)	H_2S Out (ppb)	H_2S Out (ppb)	H_2S Out (ppb)
July 1, 2025	9.50	669.8	0.00	0.0	9.58	694.7	27.49	1746.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	8.1	0.0	9.5	669.8	8.5	4.4	21.7	-0.36	1.05	0.1	165.2	314.9	
July 2, 2025	9.49	669.9	0.00	0.0	9.61	693.4	29.78	1689.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.2	8.9	0.0	9.5	669.0	9.3	8.4	23.1	-0.37	1.03	0.1	58.5	420.7	
July 3, 2025	9.50	670.4	0.00	0.0	9.57	692.5	29.28	2155.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	668.1	8.5	0.0	9.5	666.9	11.6	0.1	19.9	-0.36	1.04	0.1	5.2	933.7	
July 4, 2025	9.50	670.2	0.00	0.0	9.58	695.1	28.81	2273.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	647.7	8.0	0.0	9.5	633.2	12.4	0.0	19.6	-0.36	1.06	0.1	5.8	1313.3	
July 5, 2025	9.50	670.2	0.00	0.0	9.60	691.5	29.99	2629.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	657.4	8.0	0.0	9.5	609.6	11.6	0.0	20.4	-0.35	1.05	0.1	9.2	986.7	
July 6, 2025	9.50	669.7	0.00	0.0	9.65	693.9	29.36	2256.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	666.7	8.0	0.0	9.5	665.1	10.1	0.0	19.2	-0.36	0.99	0.1	3.9	409.0	
July 7, 2025	9.50	668.6	0.00	0.0	9.63	684.0	26.47	2044.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	668.9	7.9	0.0	9.3	664.5	8.8	0.1	20.9	-0.36	1.05	0.1	0.6	748.3	
July 8, 2025	9.50	669.6	0.00	0.0	9.63	678.9	28.83	2309.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	626.7	9.5	0.0	9.5	615.1	10.5	4.4	23.1	-0.37	1.02	0.1	0.3	711.1	
July 9, 2025	9.49	670.0	0.00	0.0	9.60	677.9	27.73	2270.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	658.8	9.7	0.0	9.5	647.1	10.5	1.8	20.8	-0.37	1.03	0.1	1.2	627.3	
July 10, 2025	9.50	670.0	0.00	0.0	9.66	674.6	24.11	2852.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	665.8	11.4	0.0	9.5	665.0	12.4	0.1	19.9	-0.37	1.04	0.1	6.1	1030.6	
July 11, 2025	9.51	671.2	0.00	0.0	9.63	678.4	26.92	2151.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	664.5	11.9	0.0	9.5	663.8	12.9	0.0	21.4	-0.37	1.04	0.1	9.9	1601.5	
July 12, 2025	9.49	669.9	0.00	0.0	9.68	673.8	27.84	2069.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	666.3	11.4	0.0	9.5	665.6	12.3	0.0	22.0	-0.37	1.04	0.1	0.0	930.2	
July 13, 2025	9.50	669.8	0.00	0.0	9.63	675.0	28.69	2266.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	665.1	10.0	0.0	9.5	664.4	10.7	0.0	20.5	-0.37	1.05	0.1	0.0	575.4	
July 14, 2025	9.52	672.6	0.00	0.0	9.57	683.3	28.69	1920.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.2	657.9	12.7	0.0	9.2	649.0	13.5	0.0	19.7	-0.36	1.05	0.1	0.1	587.9	
July 15, 2025	9.50	670.0	0.00	1.4	9.60	693.1	26.04	1532.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	620.5	13.3	0.0	9.5	621.8	14.2	0.0	20.1	-0.37	1.05	0.1	1.0	2863.6	
July 16, 2025	9.50	670.3	0.00	1.3	9.54	694.3	27.51	1540.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	609.6	13.2	0.0	9.5	642.1	14.0	0.0	19.9	-0.36	1.05	0.1	0.0	1103.0	Out of Service
July 17, 2025	9.49	676.3	0.00	3.7	9.60	693.0	28.39	2178.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	577.2	13.8	0.0	9.5	575.8	14.8	0.0	20.2	-0.37	1.05	0.1	0.0	705.8	
July 18, 2025	9.50	672.7	0.00	0.6	9.60	692.6	28.86	2299.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	13.6	0.0	9.5	669.3	14.4	0.0	20.7	-0.36	1.05	0.1	0.0	930.6	
July 19, 2025	9.49	669.8	0.06	0.0	9.60	692.2	31.91	2155.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	592.3	15.6	0.0	9.4	669.6	16.8	0.0	19.5	-0.35	0.87	0.1	0.1	364.7	
July 20, 2025	9.51	670.5	0.00	0.0	9.61	694.0	29.72	1691.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.7	672.3	10.0	0.0	9.7	670.4	10.7	0.0	19.7	-0.35	0.97	0.1	0.0	149.0	
July 21, 2025	9.50	669.9	0.00	0.0	9.60	692.7	29.51	2148.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.6	11.4	0.0	9.5	669.3	12.1	0.0	19.4	-0.35	1.05	0.1	0.4	544.6	
July 22, 2025	9.50	669.9	0.00	0.0	9.72	693.0	25.76	2291.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.7	12.6	0.0	9.5	669.9	13.4	0.0	19.8	-0.35	1.06	0.1	0.4	1131.9	
July 23, 2025	9.50	669.8	0.00	0.4	9.76	694.7	22.14	2113.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.1	12.3	0.0	9.5	670.1	13.1	0.0	18.4	-0.35	1.06	0.1	0.7	986.5	
July 24, 2025	9.49	669.8	0.00	0.0	9.76	688.5	21.88	1702.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	668.9	12.5	0.0	9.5	668.6	13.3	0.0	19.3	-0.36	1.05	0.0	0.7	702.4	
July 25, 2025	9.51	669.8	0.03	0.0	9.64	688.5	17.47	1379.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	674.2	8.7	0.4	9.6	670.4	9.3	0.0	19.7	-0.36	1.03	0.1	56.9	288.0	
July 26, 2025	9.50	669.6	0.00	0.0	9.70	692.4	17.17	1333.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6	671.2	11.3	0.0	9.6	670.1	12.2	0.0	19.3	-0.35	1.06	0.1	95.2	710.0	
July 27, 2025	9.50	670.1	0.00	0.0	9.65	690.7	18.11	1634.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	10.2	0.0	9.5	670.0	11.0	0.0	19.6	-0.35	0.96	0.1	34.5	272.7	
July 28, 2025	9.47	664.1	0.00	0.0	9.63	691.0	17.73	1532.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.6	11.6	0.0	9.5	669.4	12.4	0.0	19.8	-0.36	1.05	0.1	67.8	633.5	
July 29, 2025	9.50	669.6	0.00	2.4	9.73	688.0	20.10	1432.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.3	11.7	0.0	9.5	670.3	12.4	0.0	20.6	-0.36	1.06	0.1	0.6	49.1	
July 30, 2025	9.50	669.8	0.00	0.0	9.73	687.6	21.63	1175.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.3	12.4	0.0	9.5	669.5	13.1	1.7	22.2	-0.37	1.05	0.1	0.4	43.7	
July 31, 2025	9.50	669.9	0.67	139.7	9.71	684.6	23.10	1638.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.2	11.3	0.0	9.5	670.3	11.8	0.2	22.6	-0.37	1.03	0.1	0.8	378.9	
Avg	9.50	670.13	0.02	4.83	9.64	688.32	25.84	1948.89	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.49	657.03	10.95	0.01	9.49	656.93	12.06	0.68	20.42	-0.36	1.03	0.06	16.95	743.50	N/A
Min	9.47	664.06	0.00	0.00	9.54	673.82	17.17	1175.38	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.20	577.21	7.86	0.00	9.22	575.77	8.54	0.00	18.40	-0.37	0.87	0.05	0.00	43.70	N/A
Max	9.52	676.34	0.67	139.69	9.76	695.11	31.91	2852.55	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.68	674.19	15.62	0.45	9.70	670.42	16.79	8.36	23.15	-0.35	1.06	0.10	165.19	2863.58	N/A

Appendices D – Air Pollution Control System Data

Gold Bar Wastewater Treatment Plant
Daily Average Scrubber Report
August 2025

Date	Scrubber 1 - East				Scrubber 4 - Fermenter				Scrubber 2 - West				Scrubber 3 - EPT				Scrubber 5				Scrubber 6				GRF Scrubber				Grit 6/7 Building Scrubber	Screen 4-8 Building Scrubber	Dewatering Facility Scrubber
	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	Temperature In (°C)	Pressure In (kPa)	Pressure Out (kPa)	H_2S Out (ppm)	H_2S Out (ppb)	H_2S Out (ppb)	H_2S Out (ppb)
August 1, 2025	9.50	670.2	0.00	0.0	9.70	682.3	23.16	1729.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.4	12.6	0.0	9.5	669.4	13.3	0.0	22.8	-0.36	1.04	0.1	0.1	125.6	
August 2, 2025	9.49	669.2	0.03	0.0	9.65	684.1	23.47	1842.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	671.4	13.6	0.0	9.5	671.0	14.5	0.1	22.2	-0.36	1.04	0.1	0.2	14.9	
August 3, 2025	9.51	670.3	0.00	0.0	9.67	682.6	20.40	1552.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6	669.3	8.9	0.0	9.6	669.8	9.4	0.0	20.3	-0.37	1.03	0.1	0.3	16.4	
August 4, 2025	9.50	669.9	0.00	0.0	9.67	682.1	22.31	1870.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.1	10.6	0.1	9.5	670.0	11.1	0.0	20.4	-0.36	0.99	0.1	0.5	14.9	
August 5, 2025	9.50	669.7	0.00	0.0	9.69	681.1	22.14	1820.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.2	13.0	0.0	9.5	668.9	13.7	0.2	20.9	-0.37	1.03	0.1	0.9	68.9	
August 6, 2025	9.51	670.0	0.00	0.0	9.63	696.2	22.65	1691.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.0	12.7	0.6	9.5	669.5	13.2	0.0	21.8	-0.36	1.03	0.1	0.3	48.4	
August 7, 2025	9.50	670.4	0.06	0.0	9.76	693.8	19.43	1575.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	661.6	9.7	0.0	9.5	665.7	10.5	0.0	19.8	-0.34	1.01	0.1	1.0	68.0	
August 8, 2025	9.51	671.1	0.00	0.0	9.77	689.2	16.75	1332.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	668.9	10.1	0.0	9.5	668.6	10.8	0.0	19.4	-0.35	0.91	0.1	1.4	38.1	
August 9, 2025	9.50	670.2	0.00	0.0	9.75	689.2	19.47	1645.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.4	12.7	0.0	9.5	670.7	13.3	0.0	20.2	-0.36	1.05	0.1	0.2	87.3	
August 10, 2025	9.51	669.3	0.00	0.0	9.77	691.0	23.09	1853.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	667.8	12.7	0.0	9.5	667.4	13.3	0.0	20.4	-0.35	0.97	0.1	1.4	13.4	
August 11, 2025	9.49	670.0	0.00	0.0	9.77	693.0	25.26	1972.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	671.8	12.1	0.0	9.5	672.0	12.8	0.0	20.3	-0.36	1.04	0.1	3.8	113.9	
August 12, 2025	9.50	664.9	0.04	0.0	9.76	690.5	25.13	2204.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	667.5	14.2	0.0	9.4	667.5	15.0	0.0	21.1	-0.36	1.02	0.1	1.6	44.8	
August 13, 2025	9.51	677.3	0.04	0.0	9.81	691.5	23.92	1921.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	671.3	14.8	0.0	9.4	672.0	16.0	0.0	19.5	-0.35	0.94	0.1	69.7	25.5	
August 14, 2025	9.50	669.8	0.00	0.0	9.86	693.6	21.84	2162.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6	671.1	12.7	0.0	9.6	670.4	13.6	0.0	19.8	-0.35	1.04	0.1	13.4	107.4	
August 15, 2025	9.51	670.2	0.00	0.0	9.90	692.4	20.95	1913.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	670.6	13.3	0.0	9.4	670.2	14.1	0.0	19.8	-0.34	0.96	0.1	0.0	37.7	
August 16, 2025	9.49	667.1	0.02	0.0	9.94	685.3	21.31	1819.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	665.7	13.8	0.0	9.5	666.5	14.5	0.0	19.8	-0.34	1.04	0.1	1.9	40.3	Out of Service
August 17, 2025	9.51	682.2	0.00	0.0	9.94	681.3	16.84	1315.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	673.9	9.9	0.0	9.5	673.7	10.6	0.0	20.3	-0.35	1.12	0.1	1.3	21.0	
August 18, 2025	9.50	670.2	0.00	0.0	9.86	679.0	19.05	1671.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	667.0	13.6	0.0	9.5	667.1	14.2	0.0	20.4	-0.36	1.04	0.1	3.0	86.1	
August 19, 2025	9.49	671.4	0.00	0.4	9.82	684.9	19.63	1651.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.2	13.7	0.0	9.5	670.2	14.3	0.0	20.3	-0.35	1.04	0.1	7.6	100.2	
August 20, 2025	9.50	670.1	0.00	0.3	9.82	683.1	21.93	2036.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.7	13.5	0.0	9.5	669.5	14.2	0.0	19.9	-0.36	1.04	0.0	1.8	40.3	
August 21, 2025	9.51	670.4	0.00	0.0	9.86	683.8	20.80	1906.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.2	14.4	0.0	9.5	670.0	15.2	0.0	19.6	-0.36	1.04	0.1	5.0	162.3	
August 22, 2025	9.49	670.3	0.00	0.0	9.84	685.1	22.87	2199.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.7	14.6	0.0	9.5	669.7	15.6	0.0	19.8	-0.37	1.05	0.1	0.1	60.0	
August 23, 2025	9.50	669.9	0.00	0.0	9.90	684.6	22.88	2045.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	671.3	14.3	0.0	9.5	671.4	15.2	0.0	20.3	-0.37	1.04	0.1	1.7	49.6	
August 24, 2025	9.50	670.0	0.00	0.0	9.84	689.4	21.91	1982.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.1	12.7	0.0	9.5	670.1	13.3	0.0	20.8	-0.36	1.04	0.1	0.1	30.3	
August 25, 2025	9.50	670.2	0.00	0.0	9.82	688.9	23.18	2023.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	668.9	15.4	0.0	9.5	668.9	16.1	0.0	21.3	-0.36	1.04	0.1	3.7	139.6	
August 26, 2025	9.50	669.8	0.00	0.0	9.85	685.3	22.50	1887.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.5	18.4	0.0	9.5	669.6	19.0	0.0	22.1	-0.36	1.03	0.1	2.2	51.7	
August 27, 2025	9.50	670.1	0.00	0.0	9.83	681.5	22.86	2058.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	617.3	16.4	2.0	9.4	641.2	17.7	0.2	23.0	-0.37	1.03	0.1	3.3	493.4	
August 28, 2025	9.50	670.1	0.00	0.0	9.85	680.5	24.34	2211.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.4	15.4	0.0	9.6	670.2	16.1	0.0	22.3	-0.37	1.03	0.1	5.5	105.7	
August 29, 2025	9.50	669.9	0.00	0.0	9.89	672.7	26.01	2426.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.7	16.3	0.0	9.5	669.6	17.1	0.0	22.3	-0.36	1.03	0.1	4.9	41.2	
August 30, 2025	9.50	669.8	0.00	0.0	9.89	668.8	22.76	2267.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.4	17.1	0.0	9.5	670.4	17.8	0.0	22.3	-0.36	1.03	0.1	4.4	34.1	
August 31, 2025	9.50	670.4	0.00	0.0	9.87	623.0	20.97	2123.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	14.6	0.0	9.5	669.9	15.2	0.0	21.3	-0.36	1.03	0.1	1.7	14.2	
Avg	9.50	670.47	0.01	0.02	9.80	683.54	21.93	1894.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.50	667.84	13.48	0.09	9.50	668.75	14.22	0.02	20.79	-0.36	1.03	0.06	4.61	74.05	N/A
Min	9.49	664.89	0.00	0.00	9.63	623.02	16.75	1315.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.41	617.29	8.93	0.00	9.41	641.23	9.43	0.00	19.39	-0.37	0.91	0.05	0.00	13.44	N/A
Max	9.51	682.18	0.06	0.45	9.94	696.21	26.01	2425.98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.64	673.90	18.39	2.01	9.64	673.67	19.01	0.22	22.97	-0.34	1.12	0.13	69.73	493.40	N/A

Appendices D – Air Pollution Control System Data

Gold Bar Wastewater Treatment Plant
Daily Average Scrubber Report
September 2025

Date	Scrubber 1 - East				Scrubber 4 - Fermenter				Scrubber 2 - West				Scrubber 3 - EPT				Scrubber 5				Scrubber 6				GRF Scrubber				Grit 6/7 Building Scrubber	Screen 4-8 Building Scrubber	Dewatering Facility Scrubber
	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	Temperature In (°C)	Pressure In (kPa)	Pressure Out (kPa)	H_2S Out (ppm)	H_2S Out (ppb)	H_2S Out (ppb)	H_2S Out (ppb)
September 1, 2025	9.50	669.8	0.00	0.0	9.82	675.2	20.94	1991.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.7	15.2	0.0	9.5	669.7	16.0	0.0	19.8	-0.35	1.05	0.1	1.2	39.0	
September 2, 2025	9.50	670.0	0.00	0.0	9.90	679.3	21.76	2086.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.1	18.0	0.0	9.5	668.9	18.8	0.0	19.5	-0.36	1.05	0.1	5.0	145.4	
September 3, 2025	9.50	693.2	0.00	0.0	9.85	686.0	22.54	2394.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	671.5	16.7	0.0	9.5	671.0	17.6	0.0	21.0	-0.36	1.04	0.1	6.5	190.2	
September 4, 2025	9.50	670.9	0.00	0.0	9.84	686.2	21.94	3508.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	668.8	18.1	0.0	9.5	667.9	19.0	0.0	19.5	-0.37	1.04	0.1	16.7	241.6	
September 5, 2025	9.50	670.0	0.00	0.0	9.93	697.7	17.91	2497.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.6	16.6	0.0	9.5	670.7	17.5	0.0	19.9	-0.36	1.04	0.1	0.4	120.7	
September 6, 2025	9.50	670.1	0.00	0.0	9.94	695.9	19.81	2453.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.8	18.4	0.0	9.5	670.0	19.4	0.0	20.2	-0.35	1.05	0.1	0.1	97.0	
September 7, 2025	9.50	669.9	0.00	0.0	9.94	696.7	19.44	2114.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.4	19.1	0.2	9.5	670.0	19.8	0.0	20.1	-0.34	1.04	0.1	0.4	59.3	
September 8, 2025	9.50	669.8	0.00	0.0	9.95	694.0	21.47	2226.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.4	17.5	0.0	9.5	670.9	18.1	0.0	20.6	-0.36	1.03	0.1	3.3	118.3	
September 9, 2025	9.49	670.2	0.00	0.0	9.94	690.3	23.50	2686.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	668.5	18.9	0.0	9.5	668.7	19.7	0.0	20.9	-0.36	1.03	0.1	10.5	1246.1	
September 10, 2025	9.49	671.8	0.00	0.0	9.85	691.3	20.88	3045.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.6	18.9	0.0	9.5	670.5	19.7	0.0	20.6	-0.35	1.03	0.1	7.2	1251.0	
September 11, 2025	9.51	671.0	0.00	0.0	9.94	693.0	22.01	2282.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.3	18.3	0.2	9.5	670.4	19.1	0.0	20.4	-0.35	1.04	0.1	7.8	274.2	
September 12, 2025	9.50	669.9	0.00	0.0	9.93	694.9	21.13	2096.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.2	17.0	0.2	9.5	670.1	17.7	0.0	21.2	-0.35	1.03	0.1	0.6	80.6	
September 13, 2025	9.50	676.5	0.00	0.0	9.93	694.9	20.28	2296.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.6	16.0	0.0	9.5	670.8	16.7	0.0	21.2	-0.35	1.03	0.1	0.9	73.5	
September 14, 2025	9.50	670.1	0.00	0.0	9.93	695.8	20.23	2043.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.1	16.1	0.0	9.5	669.0	16.8	0.0	20.2	-0.34	1.04	0.1	1.2	77.0	
September 15, 2025	9.50	669.9	0.00	0.0	9.94	694.3	20.61	2096.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.5	17.8	0.0	9.5	670.3	18.5	0.0	19.9	-0.36	1.03	0.2	3.3	137.2	Out of Service
September 16, 2025	9.46	693.4	0.00	0.0	9.86	698.1	19.58	2337.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	666.7	17.4	0.0	9.4	666.6	18.2	0.0	19.8	-0.35	1.03	0.1	0.4	394.5	
September 17, 2025	9.51	670.2	0.00	0.0	9.88	693.6	19.09	2480.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.3	17.0	0.0	9.5	670.4	17.7	0.0	20.8	-0.36	1.03	0.1	0.6	98.6	
September 18, 2025	9.49	670.2	0.00	0.0	9.83	689.6	19.88	3121.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.5	18.1	0.0	9.5	669.6	19.0	0.0	19.7	-0.34	1.04	0.1	1.3	356.4	
September 19, 2025	9.50	670.2	0.00	0.0	9.96	696.2	19.73	1561.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.3	16.5	0.0	9.5	670.5	17.3	0.0	19.6	-0.35	1.04	0.1	0.1	170.6	
September 20, 2025	9.50	669.8	0.00	0.0	9.80	696.3	19.61	1479.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.2	16.6	0.1	9.5	669.4	17.2	0.0	20.8	-0.34	1.03	0.1	0.6	135.6	
September 21, 2025	9.50	669.9	0.00	0.0	9.79	695.9	18.36	2008.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.4	16.8	0.0	9.5	670.4	17.5	0.0	19.6	-0.34	1.03	0.1	1.5	147.2	
September 22, 2025	9.50	670.1	0.00	0.0	9.90	696.4	17.67	1275.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.1	16.3	0.0	9.5	670.0	17.0	0.0	19.8	-0.34	1.04	0.1	3.7	290.3	
September 23, 2025	9.50	669.9	0.00	0.0	10.16	678.9	14.71	3485.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	17.8	0.0	9.5	669.7	18.4	0.0	19.8	-0.34	1.05	0.1	1.8	342.0	
September 24, 2025	9.50	670.1	0.00	0.0	9.81	687.0	19.49	5847.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.7	18.8	0.0	9.5	669.6	19.4	0.0	19.8	-0.34	1.05	0.1	11.4	1078.8	
September 25, 2025	9.51	670.2	0.00	0.0	9.70	670.2	21.12	5858.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.7	20.0	0.0	9.5	670.7	20.8	0.0	19.9	-0.34	1.03	0.0	439.4	4583.5	
September 26, 2025	9.50	670.1	0.00	0.0	9.75	676.9	20.84	4904.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.2	20.1	0.0	9.5	669.6	20.9	0.0	19.9	-0.34	1.03	0.1	6.2	1066.1	
September 27, 2025	9.50	670.0	0.00	0.0	9.93	698.8	19.90	2511.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.7	18.5	0.0	9.5	670.7	19.3	0.0	20.1	-0.39	0.81	0.1	1.7	341.9	
September 28, 2025	9.50	670.0	0.00	0.0	9.98	698.4	20.61	1675.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.5	17.0	0.0	9.5	669.2	17.8	0.0	20.3	-0.47	0.40	0.1	0.0	424.0	
September 29, 2025	9.50	674.1	0.00	0.0	9.99	703.9	20.49	1300.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	668.3	18.7	0.0	9.5	666.7	19.6	0.0	20.2	-0.47	0.38	0.1	1.8	281.5	
September 30, 2025	9.50	670.0	0.00	0.0	9.98	699.0	19.55	2202.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	671.0	19.1	0.0	9.5	671.5	19.9	0.0	19.7	-0.46	0.37	0.1	1.3	339.5	
Avg	9.50	672.04	0.00	0.00	9.90	691.49	20.17	2595.69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.50	669.85	17.72	0.03	9.50	669.77	18.48	0.00	20.17	-0.36	0.96	0.06	17.90	473.39	N/A
Min	9.46	669.76	0.00	0.00	9.70	670.22	14.71	1275.86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.42	666.66	15.23	0.00	9.41	666.58	16.02	0.00	19.51	-0.47	0.37	0.05	0.00	39.04	N/A
Max	9.51	693.37	0.00	0.00	10.16	703.92	23.50	5858.44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.54	671.47	20.14	0.25	9.53	671.47	20.86	0.00	21.21	-0.34	1.05	0.20	439.41	4583.54	N/A

Appendices D – Air Pollution Control System Data

Gold Bar Wastewater Treatment Plant
Daily Average Scrubber Report
October 2025

Date	Scrubber 1 - East				Scrubber 4 - Fermenter				Scrubber 2 - West				Scrubber 3 - EPT				Scrubber 5				Scrubber 6				GRF Scrubber				Grit 6/7 Building Scrubber	Screen 4-8 Building Scrubber	Dewatering Facility Scrubber
	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	Temperature In (°C)	Pressure In (kPa)	Pressure Out (kPa)	H_2S Out (ppm)	H_2S Out (ppb)	H_2S Out (ppb)	H_2S Out (ppb)
October 1, 2025	9.50	670.0	0.00	0.0	9.94	695.1	21.44	3261.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.0	19.9	0.0	9.5	670.0	20.5	0.0	20.0	-0.46	0.39	0.1	20.3	485.7	
October 2, 2025	9.50	669.9	0.00	0.0	9.98	697.3	22.41	2715.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.5	19.5	0.0	9.5	670.3	20.0	0.0	20.2	-0.45	0.29	0.1	14.2	526.3	
October 3, 2025	9.50	670.0	0.00	0.0	9.98	695.3	25.66	2978.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	20.2	0.0	9.5	669.8	20.8	0.0	20.1	-0.46	0.38	0.1	1.2	428.7	
October 4, 2025	9.50	670.0	0.00	0.0	9.97	697.2	26.12	2758.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	671.1	17.9	0.0	9.5	671.2	18.6	0.0	20.7	-0.46	0.39	0.1	0.0	1757.4	
October 5, 2025	9.50	670.2	0.00	0.0	9.97	698.2	24.33	2626.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.1	12.4	0.0	9.5	670.5	13.1	0.0	20.8	-0.44	0.40	0.1	0.0	9355.6	
October 6, 2025	9.50	670.2	0.00	0.0	9.96	695.6	26.44	2970.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.5	15.5	0.0	9.5	669.2	16.2	0.0	20.7	-0.44	0.39	0.1	7.0	9757.2	
October 7, 2025	9.50	670.1	0.00	0.0	9.98	695.8	26.43	2354.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	15.2	0.0	9.5	670.0	15.8	0.0	20.2	-0.45	0.38	0.1	9.5	9829.9	
October 8, 2025	9.50	679.0	0.00	0.0	9.92	680.8	22.76	2480.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.2	15.5	0.0	9.5	668.5	16.0	0.0	20.5	-0.46	0.38	0.1	62.3	12423.6	
October 9, 2025	9.48	670.1	0.00	0.0	9.81	671.9	22.81	85.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.2	14.6	0.6	9.5	671.6	15.1	0.0	20.6	-0.45	0.39	0.1	297.7	9095.7	
October 10, 2025	9.50	670.3	0.00	0.0	9.80	660.8	22.25	5097.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.0	14.6	0.0	9.5	669.3	15.2	0.0	20.3	-0.45	0.38	0.1	131.9	9619.1	
October 11, 2025	9.50	688.8	0.00	0.0	9.90	660.5	21.66	2267.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6	670.6	13.0	0.0	9.5	672.2	13.5	0.0	20.5	-0.45	0.38	0.1	31.5	6706.6	
October 12, 2025	9.50	671.1	0.00	0.0	9.58	671.2	18.49	2855.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.8	13.5	0.0	9.6	660.6	14.0	0.0	21.4	-0.44	0.38	0.1	483.5	9082.0	
October 13, 2025	9.50	670.0	0.00	0.0	9.77	665.2	15.73	573.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	11.5	0.0	9.5	670.3	11.8	0.0	21.4	-0.44	0.40	0.1	1.0	11079.8	
October 14, 2025	9.50	670.5	0.23	0.0	9.88	678.0	18.75	4411.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.8	12.8	0.0	9.5	669.4	13.2	0.0	21.2	-0.43	0.39	0.1	0.4	9647.4	
October 15, 2025	9.49	675.8	0.00	0.0	9.88	665.2	18.30	4239.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	13.8	0.0	9.5	670.1	14.2	0.0	20.3	-0.43	0.39	0.1	0.0	9584.2	
October 16, 2025	9.51	690.7	0.00	0.0	9.90	651.0	17.36	4126.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.4	13.4	0.0	9.5	668.2	13.9	0.0	20.3	-0.44	0.39	0.1	0.0	6656.0	Out of Service
October 17, 2025	9.50	670.0	0.00	0.0	9.69	657.6	19.14	3650.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.4	13.9	0.0	9.5	670.5	14.3	0.0	20.8	-0.44	0.39	0.1	0.4	7855.9	
October 18, 2025	9.50	670.4	0.00	0.0	9.60	663.9	18.58	6175.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.4	13.2	0.0	9.5	670.7	13.7	0.0	20.6	-0.45	0.38	0.1	0.0	7936.4	
October 19, 2025	9.50	669.9	0.00	0.0	9.56	663.4	18.71	1043.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.5	11.5	0.0	9.5	669.5	11.8	0.0	20.4	-0.44	0.38	0.1	0.0	7056.2	
October 20, 2025	9.50	670.1	0.00	0.0	9.59	657.4	24.49	2248.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.8	13.1	0.0	9.5	669.7	13.4	0.0	20.5	-0.44	0.39	0.1	0.0	10666.8	
October 21, 2025	9.50	683.0	0.00	0.0	9.67	653.9	21.15	1653.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	668.9	12.5	0.0	9.5	667.2	12.4	0.0	20.5	-0.44	0.38	0.1	1.8	13487.9	
October 22, 2025	9.57	673.0	0.00	0.0	9.68	653.8	15.86	268.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.9	11.7	0.0	9.6	671.3	11.9	0.0	20.6	-0.45	0.38	0.1	0.0	8843.4	
October 23, 2025	9.54	669.7	0.00	0.0	9.53	655.8	21.55	94.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	667.2	12.2	0.0	9.5	669.2	12.5	0.0	20.3	-0.46	0.38	0.1	2.6	8589.6	
October 24, 2025	9.50	671.9	0.00	0.0	9.61	678.6	19.09	1302.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	673.2	14.2	0.0	9.5	669.9	14.4	0.0	20.4	-0.46	0.38	0.1	0.0	13801.0	
October 25, 2025	9.50	669.9	0.00	0.0	9.47	665.2	24.97	795.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	673.3	12.1	0.0	9.5	673.0	12.5	0.0	20.6	-0.45	0.35	0.1	0.0	9177.9	
October 26, 2025	9.50	678.4	0.06	0.0	9.54	655.7	25.86	497.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	706.7	5.1	0.0	9.5	699.4	5.3	0.0	20.0	-0.43	0.33	0.1	0.6	3037.1	
October 27, 2025	9.50	670.0	0.00	0.0	9.68	672.4	20.62	2512.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	697.0	7.2	0.0	9.5	692.9	7.3	0.0	20.3	-0.43	0.40	0.1	6.2	3476.6	
October 28, 2025	9.51	666.0	0.00	0.0	9.81	686.5	19.02	2522.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.4	675.2	9.5	0.0	9.4	679.4	9.7	0.0	20.3	-0.45	0.40	0.1	2.4	7515.3	
October 29, 2025	9.50	681.9	0.00	0.0	9.85	680.5	18.68	1236.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	649.5	10.7	0.0	9.5	679.3	10.9	0.0	20.2	-0.44	0.39	0.1	3.8	8287.8	
October 30, 2025	9.50	670.1	0.00	0.0	9.92	670.9	19.83	1685.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.0	10.1	0.0	9.6	670.9	10.2	0.0	19.0	-0.44	0.40	0.1	1.7	8564.9	
October 31, 2025	9.50	670.0	0.00	0.0	9.71	682.5	19.79	2762.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.1	9.4	0.0	9.5	670.1	9.6	0.0	18.2	-0.45	0.39	0.1	0.0	6878.0	
Avg	9.50	672.93	0.01	0.00	9.78	673.45	21.24	2395.19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.50	671.71	13.22	0.02	9.50	672.08	13.61	0.00	20.38	-0.45	0.38	0.06	34.84	7780.97	N/A
Min	9.48	665.96	0.00	0.00	9.47	650.99	15.73	85.15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.44	649.46	5.10	0.00	9.44	660.61	5.27	0.00	18.23	-0.46	0.29	0.05	0.00	428.71	N/A
Max	9.57	690.74	0.23	0.00	9.98	698.15	26.44	6175.78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.56	706.74	20.19	0.59	9.59	699.42	20.77	0.00	21.43	-0.43	0.40	0.14	483.46	13800.99	N/A

Appendices D – Air Pollution Control System Data

Gold Bar Wastewater Treatment Plant
Daily Average Scrubber Report
November 2025

Date	Scrubber 1 - East				Scrubber 4 - Fermenter				Scrubber 2 - West				Scrubber 3 - EPT				Scrubber 5				Scrubber 6				GRF Scrubber				Grit 6/7 Building Scrubber	Screen 4-8 Building Scrubber	Dewatering Facility Scrubber
	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	Temperature In (°C)	Pressure In (kPa)	Pressure Out (kPa)	H_2S Out (ppm)	H_2S Out (ppb)	H_2S Out (ppb)	H_2S Out (ppb)
November 1, 2025	9.49	669.9	0.00	0.0	9.53	679.7	22.06	1530.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.6	10.7	0.0	9.5	668.1	10.9	0.0	18.2	-0.44	0.39	0.1	0.4	7812.9	
November 2, 2025	9.50	670.0	0.00	0.0	9.61	672.5	19.24	34.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	674.3	5.5	0.0	9.5	686.1	5.7	0.0	18.4	-0.47	0.38	0.1	0.0	2527.6	
November 3, 2025	9.51	671.6	0.00	0.0	9.55	659.2	17.95	0.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	665.9	9.2	0.0	9.4	672.0	9.3	0.0	18.3	-0.43	0.39	0.1	0.8	6820.6	
November 4, 2025	9.51	670.1	0.00	0.0	9.43	658.7	17.46	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	670.9	10.6	0.0	9.5	671.6	10.8	0.0	18.8	-0.42	0.39	0.1	0.0	6972.2	
November 5, 2025	9.49	669.8	0.00	0.0	9.50	669.8	17.13	5243.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	669.8	7.7	0.0	9.6	685.3	7.9	0.0	19.1	-0.46	0.39	0.0	0.0	4154.7	
November 6, 2025	9.50	670.0	0.00	0.0	9.50	670.0	17.05	9859.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	675.7	6.0	0.0	9.5	692.7	6.1	0.0	19.0	-0.43	0.29	0.1	0.1	3937.1	
November 7, 2025	9.50	670.1	0.00	0.0	9.68	667.8	16.12	9765.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	667.3	8.1	0.0	9.5	680.3	8.3	0.0	19.8	-0.43	0.39	0.1	0.0	5031.5	
November 8, 2025	9.50	669.9	0.00	0.0	9.62	670.3	15.15	9218.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	663.5	8.2	0.0	9.5	684.8	8.4	0.0	19.4	-0.44	0.38	0.1	0.0	5012.8	
November 9, 2025	9.50	670.2	0.00	0.0	9.74	686.9	14.57	6929.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6	677.4	6.4	0.0	9.6	697.2	6.5	0.0	19.3	-0.45	0.39	0.1	0.0	4419.2	
November 10, 2025	9.49	669.7	0.00	0.0	9.89	678.1	16.58	5084.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.3	666.3	6.4	0.0	9.5	654.2	7.5	0.0	18.6	-0.45	0.38	0.1	0.0	4749.3	
November 11, 2025	9.50	670.2	0.00	0.0	9.71	680.0	16.51	4067.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	674.3	8.6	0.0	9.5	670.2	8.9	0.0	19.0	-0.46	0.38	0.1	0.0	5833.3	
November 12, 2025	9.51	678.7	0.00	0.0	9.80	679.6	18.18	5700.7	10.31	403.95	0.00	0.00	8.55	593.32	2.30	451.51	9.67	704.79	2.72	0.00	9.51	676.95	3.25	0.00	19.6	-0.43	0.39	0.1	0.0	5200.1	
November 13, 2025	9.50	669.9	0.00	0.0	9.72	693.2	19.36	3998.5	9.50	666.7	0.00	0.0	8.99	668.2	3.3	954.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	19.07	-0.4	0.4	0.1	0.0	6002.7	
November 14, 2025	9.50	670.1	0.00	0.0	9.77	681.1	17.54	2270.7	9.50	667.1	0.00	0.0	9.00	668.1	3.3	970.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	19.6	-0.4	0.4	0.1	0.0	5324.8	
November 15, 2025	9.50	670.1	0.00	0.0	9.70	679.2	16.49	1994.7	9.50	668.2	0.00	0.0	9.00	668.6	3.1	909.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.0	-0.4	0.4	0.1	0.0	4940.2	Out of Service
November 16, 2025	9.50	669.9	0.00	0.0	9.76	675.2	17.17	2415.5	9.49	668.1	0.00	0.0	9.00	668.8	2.8	728.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	19.6	-0.4	0.4	0.1	0.0	3536.2	
November 17, 2025	9.50	670.0	0.00	0.0	9.83	671.2	17.25	2749.7	9.47	668.1	0.00	0.0	9.00	668.2	3.1	850.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	19.6	-0.4	0.4	0.1	0.0	3882.4	
November 18, 2025	9.50	670.1	0.00	0.0	9.73	678.1	15.98	4100.0	9.20	670.9	0.00	278.9	9.00	668.6	3.1	846.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.0	-0.4	0.4	0.1	0.0	4504.7	
November 19, 2025	9.50	670.0	0.00	0.0	9.68	682.0	15.24	4123.8	8.82	684.0	0.00	289.3	9.00	669.3	2.7	769.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	19.8	-0.4	0.4	0.0	0.0	3207.5	
November 20, 2025	9.50	670.1	0.00	0.0	9.82	669.0	15.60	1620.3	9.16	650.8	0.00	269.5	8.99	669.9	2.6	701.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.0	-0.4	0.4	0.1	0.0	3800.6	
November 21, 2025	9.50	669.9	0.00	0.0	9.83	667.9	16.07	1433.6	9.26	638.0	0.02	424.0	8.99	663.4	3.4	957.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18.7	-0.4	0.4	0.1	0.0	5454.1	
November 22, 2025	9.50	670.0	0.00	0.0	9.82	666.7	15.56	1386.4	9.56	665.8	0.00	55.9	9.00	667.5	3.1	861.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	17.4	-0.4	0.4	0.1	0.0	3804.6	
November 23, 2025	9.50	670.0	0.00	0.0	9.85	667.9	15.44	1832.5	9.30	668.5	0.00	200.2	9.00	667.8	2.9	776.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	19.8	-0.4	0.4	0.1	0.0	3947.4	
November 24, 2025	9.51	670.1	0.00	0.0	9.87	666.4	15.26	1978.5	9.53	666.0	0.00	9.5	9.00	667.6	2.8	761.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.3	-0.4	0.4	0.1	0.0	3732.8	
November 25, 2025	9.5	694.8	0.00	0.0	9.80	688.9	15.53	1628.8	9.50	666.0	0.00	0.0	9.01	668.7	2.9	842.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.4	-0.4	0.4	0.1	0.0	3563.7	
November 26, 2025	9.50	671.8	0.17	76.4	9.89	685.0	19.18	9486.3	9.20	678.2	0.17	441.2	9.00	683.5	3.4	1581.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.4	-0.4	0.4	0.1	0.0	2805.9	
November 27, 2025	9.50	670.0	0.00	6.0	9.98	697.8	16.82	8405.6	9.50	669.1	0.00	11.0	9.00	669.5	5.8	4124.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.6	-0.4	0.4	0.1	529.6	3542.3	
November 28, 2025	9.50	670.0	0.00	7.8	9.93	697.1	21.27	11133.4	9.50	669.2	0.00	7.5	9.00	670.2	6.2	4490.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.4	-0.4	0.4	0.1	1760.0	0.0	
November 29, 2025	9.51	670.1	0.00	13.5	9.93	690.5	18.46	10907.9	9.50	668.7	0.00	12.0	9.01	670.3	0.4	694.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.9	-0.4	0.4	0.1	1940.7	0.0	
November 30, 2025	9.50	676.6	0.00	35.0	9.65	653.0	18.74	13407.9	9.50	668.3	0.00	20.4	8.99	669.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.9	-0.4	0.4	0.1	1829.3	0.0	
Avg	9.50	671.45	0.01	4.63	9.74	676.09	17.17	4743.60	9.44	652.93	0.01	106.29	8.98	665.33	3.00	1172.19	9.49	673.33	7.51	0.00	9.50	678.29	7.79	0.00	19.50	-0.43	0.39	0.05	202.03	4150.70	N/A
Min	9.49	669.69	0.00	0.00	9.43	653.03	14.57	0.02	8.82	403.95	0.00	0.00	8.55	593.32	0.01	0.00	9.28	663.55	2.72	0.00	9.45	654.18	3.25	0.00	17.35	-0.47	0.29	-0.04	0.00	0.00	N/A
Max	9.51	694.81	0.17	76.42	9.98	697.84	22.06	13407.88	10.31	684.01	0.17	441.20	9.01	683.54	6.18	4490.00	9.67	704.79	10.69	0.00	9.57	697.18	10.91	0.00	20.94	-0.40	0.41	0.06	1940.69	7812.86	N/A

Indicates Data from Partial Day
-Scrubber 2/3 restarted and Scrubber 5/6 shutdown for acid clean

Appendices D – Air Pollution Control System Data

Gold Bar Wastewater Treatment Plant
Daily Average Scrubber Report
December 2025

Date	Scrubber 1 - East				Scrubber 4 - Fermenter				Scrubber 2 - West				Scrubber 3 - EPT				Scrubber 5				Scrubber 6				GRF Scrubber				Grit 6/7 Building Scrubber	Screen 4-8 Building Scrubber	Dewatering Facility Scrubber
	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H_2S In (ppm)	H_2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	pH	ORP (mV)	H2S In (ppm)	H2S Out (ppb)	Temperature In (°C)	Pressure In (kPa)	Pressure Out (kPa)	H_2S Out (ppm)	H_2S Out (ppb)	H_2S Out (ppb)	H_2S Out (ppb)
December 1, 2025	9.51	674.2	0.00	138.0	9.64	661.9	17.46	14263.0	9.50	669.0	0.000	0.0	9.00	669.7	2.69	1850.1	2.5	274.1	0.0	0.0	2.5	283.5	0.0	0.0	20.0	-0.42	0.31	0.1	860.7	0.0	
December 2, 2025	9.58	703.0	0.00	1.0	10.00	691.4	17.81	11521.1	9.50	669.4	0.000	0.0	9.01	670.4	5.72	4008.4	2.5	272.7	0.0	0.0	2.5	281.9	0.0	0.0	20.2	-0.42	0.40	0.1	538.2	202.8	
December 3, 2025	9.27	678.12	0.00	16.32	9.89	685.3	18.63	13429.5	9.50	669.6	0.000	0.0	8.99	669.2	5.75	4105.6	2.8	271.2	0.0	0.0	2.5	279.8	0.0	0.0	20.0	-0.42	0.31	0.1	499.3	0.0	
December 4, 2025	N/A	N/A	N/A	N/A	9.62	650.6	22.13	14994.0	9.50	671.1	0.000	0.0	8.99	662.3	6.75	4556.5	2.5	272.9	0.0	0.0	2.5	281.3	0.0	2.2	19.6	-0.43	0.33	0.1	439.4	0.0	
December 5, 2025	N/A	N/A	N/A	N/A	9.63	651.4	10.51	7994.5	9.50	669.1	0.000	0.0	9.01	669.7	1.49	994.4	2.1	371.3	0.0	0.0	2.5	329.7	0.0	0.0	20.6	-0.40	5.08	0.1	1253.8	0.0	
December 6, 2025	N/A	N/A	N/A	N/A	9.63	650.9	13.82	10268.3	9.50	669.1	0.000	7.8	9.00	669.3	0.04	0.0	2.3	397.8	0.0	0.0	2.7	342.8	0.0	0.0	21.2	-0.40	6.05	0.1	1298.4	0.0	
December 7, 2025	N/A	N/A	N/A	N/A	9.62	650.9	16.02	10801.9	9.50	668.5	0.000	26.3	9.00	670.7	0.00	3.7	2.3	393.6	0.0	0.0	2.7	353.1	0.0	0.0	21.1	-0.40	4.87	0.1	1448.9	0.0	
December 8, 2025	N/A	N/A	N/A	N/A	9.67	653.8	23.65	14605.2	9.50	668.7	0.000	0.0	9.00	678.2	0.02	101.2	2.7	463.1	0.0	0.0	3.1	340.6	0.0	0.0	21.1	-0.40	0.60	0.1	1522.6	0.0	
December 9, 2025	N/A	N/A	N/A	N/A	9.86	656.7	23.03	11968.1	9.50	669.5	0.000	36.3	9.01	669.9	0.00	192.9	4.2	608.6	0.0	0.0	5.3	406.8	0.0	0.0	21.1	-0.40	0.39	0.1	816.7	0.0	
December 10, 2025	N/A	N/A	N/A	N/A	9.88	664.4	23.23	7303.1	9.50	668.8	0.000	148.8	9.00	670.0	0.05	354.4	6.7	521.7	0.0	0.0	7.2	479.0	0.0	0.0	21.2	-0.40	0.39	0.1	709.9	25.9	
December 11, 2025	N/A	N/A	N/A	N/A	9.90	665.0	21.31	6753.6	9.50	670.1	0.000	27.8	9.00	670.4	0.00	138.0	7.8	428.7	0.0	0.0	7.8	379.1	0.0	0.0	22.1	-0.40	0.38	0.1	680.0	0.0	
December 12, 2025	N/A	N/A	N/A	N/A	9.92	663.0	22.66	7179.1	9.51	669.5	0.000	98.8	9.00	669.7	0.00	64.3	8.1	357.5	0.0	0.0	8.0	311.2	0.0	0.0	21.9	-0.40	0.41	0.1	1384.0	0.0	
December 13, 2025	N/A	N/A	N/A	N/A	9.90	663.2	22.62	7514.8	9.50	669.0	0.000	137.9	9.00	669.8	0.03	327.8	7.8	338.7	0.0	0.0	7.8	290.6	0.0	0.0	21.5	-0.39	0.39	0.1	1459.2	60.8	
December 14, 2025	N/A	N/A	N/A	N/A	9.88	663.0	24.19	8256.2	9.51	668.8	0.000	163.8	9.00	669.8	0.04	429.5	8.0	328.6	0.0	0.0	7.8	319.3	0.0	0.0	20.7	-0.41	0.38	0.1	1163.6	52.7	
December 15, 2025	N/A	N/A	N/A	N/A	9.70	660.0	26.96	9519.8	9.49	669.1	0.000	195.6	9.01	670.5	3.63	1474.5	8.1	297.2	0.0	0.0	8.0	297.4	0.0	0.0	20.3	-0.44	0.30	0.1	634.0	0.0	
December 16, 2025	N/A	N/A	N/A	N/A	9.50	654.0	22.28	8863.8	9.52	639.2	1.48	924.7	9.13	674.7	1.05	8935.3	7.2	340.3	0.0	0.0	8.2	288.0	0.0	0.0	20.9	-0.40	0.39	0.1	755.2	0.0	Out of Service
December 17, 2025	N/A	N/A	N/A	N/A	9.50	653.3	21.30	8552.8	9.52	653.9	1.01	833.2	9.04	668.4	4.29	4368.3	5.7	416.7	0.0	0.0	8.3	292.0	0.0	0.0	21.5	-0.40	0.38	0.1	1388.3	0.0	
December 18, 2025	N/A	N/A	N/A	N/A	9.77	654.2	21.74	8216.4	9.52	653.8	2.30	1252.6	9.00	669.7	6.35	4071.4	6.0	409.9	0.0	0.0	8.4	278.4	0.0	0.0	21.5	-0.39	0.37	0.1	1623.5	0.0	
December 19, 2025	N/A	N/A	N/A	N/A	9.77	666.6	20.65	7678.1	9.52	661.9	9.27	2558.8	9.00	670.2	5.65	3475.1	6.3	389.1	0.0	0.0	8.5	276.0	0.0	0.0	21.7	-0.39	0.38	0.1	2037.5	0.0	
December 20, 2025	N/A	N/A	N/A	N/A	9.99	686.3	21.70	6704.9	9.60	643.4	4.93	1676.6	9.00	670.1	5.18	3162.4	7.4	341.0	0.0	0.0	8.6	282.2	0.0	0.0	21.7	-0.39	0.39	0.1	1976.5	4.9	
December 21, 2025	N/A	N/A	N/A	N/A	9.91	687.7	20.97	6733.4	9.51	642.5	0.05	166.1	9.00	669.9	6.12	3698.2	8.1	292.2	0.0	0.0	8.7	275.7	0.0	0.0	21.9	-0.40	0.39	0.2	1894.4	97.2	
December 22, 2025	N/A	N/A	N/A	N/A	9.81	671.3	19.92	7173.6	9.60	663.7	0.01	109.6	9.00	670.0	5.38	3270.9	8.3	277.0	0.0	0.0	8.5	271.1	0.0	0.0	21.9	-0.40	0.38	0.1	1540.6	0.0	
December 23, 2025	N/A	N/A	N/A	N/A	9.98	693.3	21.37	6689.3	9.70	667.5	2.20	2008.4	9.17	683.9	6.54	6203.8	8.4	253.1	0.0	0.0	7.0	277.3	0.0	0.0	21.9	-0.40	0.40	0.1	1155.2	0.0	
December 24, 2025	N/A	N/A	N/A	N/A	9.99	696.1	23.22	6800.6	9.50	669.2	0.11	974.1	8.99	669.6	3.53	3662.1	8.4	231.2	0.0	0.0	7.7	292.5	0.0	0.0	21.9	-0.40	0.39	0.1	1279.7	371.9	
December 25, 2025	N/A	N/A	N/A	N/A	9.98	695.7	22.59	6412.4	9.53	668.3	0.69	1075.5	9.00	670.1	6.64	3666.4	8.3	230.1	0.0	0.0	7.9	292.0	0.0	0.0	21.1	-0.39	0.38	0.1	1278.9	1816.8	
December 26, 2025	N/A	N/A	N/A	N/A	9.99	696.3	21.20	6007.1	9.50	669.1	0.35	900.4	9.00	670.1	6.40	3508.5	8.3	232.5	0.0	0.0	8.1	285.5	0.0	0.0	21.1	-0.40	0.38	0.1	1249.2	692.0	
December 27, 2025	N/A	N/A	N/A	N/A	9.98	698.4	19.95	5643.5	9.53	671.0	0.01	765.0	9.00	670.2	5.91	3317.9	8.4	143.7	0.0	0.0	8.2	273.0	0.0	0.0	22.0	-0.41	0.39	0.1	1110.6	32.5	
December 28, 2025	N/A	N/A	N/A	N/A	9.98	697.2	20.01	5750.1	9.50	669.2	0.12	729.7	8.98	669.1	6.70	3884.7	8.4	125.4	0.0	1.4	8.3	260.4	0.0	0.0	21.2	-0.43	0.38	0.1	940.4	1571.4	
December 29, 2025	N/A	N/A	N/A	N/A	9.97	697.7	22.93	6240.5	9.50	669.0	0.01	490.7	9.00	670.1	8.47	4037.2	8.4	106.3	0.0	14.8	8.3	252.3	0.0	0.0	20.7	-0.46	0.38	0.2	84.6	214.9	
December 30, 2025	N/A	N/A	N/A	N/A	9.99	697.9	22.20	5742.4	9.50	669.5	0.00	409.0	9.00	669.7	9.11	4232.8	8.3	84.0	0.0	28.2	8.4	257.4	0.0	0.0	20.8	-0.47	0.39	0.1	54.5	0.0	
December 31, 2025	N/A	N/A	N/A	N/A	9.99	697.1	22.85	6303.1	9.50	668.5	0.05	603.7	9.00	669.2	8.73	4189.9	8.3	70.2	0.0	34.8	8.4	270.3	0.0	0.0	21.0	-0.45	0.40	0.1	453.8	0.0	
Avg	9.45	685.09	0.00	51.78	9.83	673.37	20.93	8576.91	9.52	665.13	0.73	526.48	9.01	670.47	3.94	2783.43	6.29	307.75	-0.01	2.55	6.59	303.23	-0.01	0.07	21.15	-0.41	0.86	0.06	1081.66	165.9	N/A
Min	9.27	674.17	0.00	0.99	9.50	650.57	10.51	5643.47	9.49	639.21	0.00	0.00	8.98	662.35	0.00	0.00	2.15	70.19	-0.02	0.00	2.47	252.30	-0.01	0.00	19.57	-0.47	0.30	0.05	54.49	0.0	N/A
Max	9.58	702.98	0.00	138.04	10.00	698.37	26.96	14994.03	9.70	671.11	9.27	2558.76	9.17	683.90	9.11	8935.27	8.42	608.62	-0.01	34.82	8.67	478.98	0.00	2.16	22.13	-0.39	6.05	0.17	2037.48	1816.8	N/A

Indicates Data from Partial Day
-Scrubber 1 Shutdown as Channel 1 Out of Service

Appendix E – Scrubber Chemicals

2025 Scrubber Bleach Usage (L as delivered 16% sodium hypochlorite solution)

	January		February		March		April		May		June		July		August		September		October		November		December	
	East	West	East	West	East	West	East	West	East	West	East	West	East	West	East	West	East	West	East	West	East	West	East	West
1	459	305	410	556	168	198	422	439	687	715	474	874	625	815	755	980	615	1168	594	1418	1185	724	341	561
2	436	312	445	395	83	221	535	283	935	654	586	955	664	894	764	1117	746	1344	748	1214	778	528	392	508
3	551	277	499	387	108	281	559	476	784	637	1048	1017	605	1108	563	732	656	1256	583	1195	338	795	433	519
4	454	298	523	484	240	333	415	525	938	599	840	874	651	1024	789	901	493	1396	657	1090	345	760	241	475
5	422	284	480	390	187	421	499	524	858	634	975	1059	569	976	789	1030	509	1322	669	814	300	627	172	355
6	402	225	601	555	342	390	416	480	717	699	862	1155	626	753	854	1070	610	1429	724	964	225	528	226	478
7	379	358	573	522	343	467	463	450	659	662	607	1010	584	691	677	828	617	1287	818	942	277	687	195	512
8	551	323	639	658	304	472	557	433	768	784	622	885	589	866	635	869	638	1236	1030	1025	314	688	229	473
9	356	264	573	639	356	327	582	502	491	812	842	924	552	847	674	1000	685	1283	2163	1040	438	577	229	494
10	412	457	356	493	337	276	592	553	514	827	793	889	481	988	772	1068	503	1329	889	1025	772	608	349	522
11	481	208	240	710	254	547	638	639	539	849	922	833	584	971	931	989	718	1240	1821	911	764	697	279	390
12	398	338	227	754	356	567	713	710	516	853	559	1236	557	962	847	1138	478	1182	1275	870	854	639	283	378
13	561	333	484	609	467	591	517	695	490	830	539	1183	566	872	812	1200	558	1123	1587	719	1043	684	265	496
14	303	339	289	670	394	656	738	699	596	779	346	298	722	1025	696	1051	626	1028	1091	793	1123	671	402	534
15	1603	395	371	751	458	623	731	773	482	690	274	358	745	1127	706	1094	634	1151	1349	862	1083	605	273	489
16	541	607	408	658	529	666	731	693	354	803	353	553	737	995	755	1121	621	1217	1347	845	1097	582	179	417
17	533	633	337	658	460	544	658	702	428	845	340	695	669	977	527	867	626	1218	1352	921	856	653	143	426
18	397	504	244	553	520	630	664	736	437	819	297	793	665	1109	555	1103	567	1309	1110	859	643	679	270	481
19	487	534	252	492	448	437	789	617	438	682	433	691	789	1199	612	1132	786	1182	1787	739	838	622	240	416
20	508	475	230	550	554	453	610	663	508	985	368	564	781	871	591	1064	667	1143	1477	881	1011	531	405	547
21	324	481	448	608	509	422	493	634	527	693	438	539	660	925	632	1114	627	1186	1194	848	1036	703	393	573
22	346	425	420	733	371	618	658	697	551	827	459	722	736	1060	692	1186	669	1181	1414	879	989	644	299	698
23	353	453	459	452	386	522	491	559	469	880	514	667	774	1021	610	1168	1008	1151	1948	913	839	610	395	355
24	388	449	448	350	329	492	399	618	349	907	518	928	794	1085	655	1007	686	1231	939	954	1187	608	518	418
25	578	573	408	502	137	458	620	746	333	853	505	951	576	819	672	1195	494	1277	1406	847	1007	530	500	421
26	511	501	438	351	198	414	651	740	334	1160	410	836	643	958	610	1370	509	1294	1558	512	428	507	562	447
27	657	396	295	292	377	459	556	667	320	729	474	931	651	865	619	1235	647	1191	894	655	522	539	476	425
28	586	474	149	120	229	447	565	772	365	758	513	767	650	957	635	1183	701	1117	677	855	515	538	518	410
29	611	423			219	522	762	765	363	875	515	719	985	894	655	1231	666	1223	925	877	452	536	694	519
30	446	379			228	500	694	720	415	797	596	879	814	1001	545	1263	559	1277	757	696	301	521	500	518
31	411	424			522	621			437	867			775	902	569	1116			952	623			420	530
Total (L)	**15,442**	**12,448**	**11,246**	**14,890**	**10,414**	**14,574**	**17,715**	**18,512**	**16,599**	**24,504**	**17,021**	**24,783**	**20,820**	**29,556**	**21,200**	**33,422**	**18,920**	**36,969**	**35,735**	**27,786**	**21,563**	**18,621**	**10,818**	**14,783**
Total (L)	**27,890**		**26,136**		**24,988**		**36,227**		**41,104**		**41,804**		**50,377**		**54,621**		**55,890**		**63,521**		**40,184**		**25,601**	

2025 Scrubber Caustic Usage (kg 100%)

	January		February		March		April		May		June		July		August		September		October		November		December	
	East	West	East	West	East	West	East	West	East	West	East	West	East	West	East	West	East	West	East	West	East	West	East	West
1	40	32	43	48	24	50	51	62	57	55	48	55	44	62	65	33	55	30	65	29	67	21	33	16
2	43	31	43	24	18	50	34	24	59	58	58	71	58	66	61	33	64	36	66	35	59	24	41	21
3	48	31	46	35	24	55	49	45	65	50	69	79	44	73	52	28	64	30	62	29	57	26	45	20
4	35	30	46	39	41	52	47	58	60	42	65	64	52	81	66	29	47	35	65	27	59	25	25	21
5	41	30	42	30	34	57	51	66	57	52	72	76	49	90	57	34	55	33	64	22	47	25	22	22
6	33	26	45	44	41	42	37	59	58	58	67	83	46	105	64	33	57	33	66	24	38	19	27	30
7	51	40	40	35	47	49	39	48	44	50	59	68	53	61	45	36	53	30	79	23	46	22	27	11
8	40	37	56	63	38	51	46	48	56	51	64	73	49	84	59	24	57	35	73	25	39	20	19	51
9	38	8	46	42	38	30	49	55	36	55	64	73	40	82	60	33	61	33	119	28	49	22	28	55
10	41	41	38	22	42	31	47	60	35	59	67	87	57	82	55	30	54	31	75	25	63	25	30	20
11	41	34	34	56	41	80	53	74	33	56	58	90	79	89	66	31	65	31	99	21	57	24	29	17
12	44	32	30	43	33	48	46	82	38	71	41	88	67	83	63	29	76	32	73	25	63	21	28	10
13	44	35	35	42	40	50	48	72	52	77	44	103	57	77	58	34	68	27	88	20	70	19	29	18
14	23	34	33	44	40	42	53	77	44	66	41	129	65	67	68	38	72	29	78	18	71	21	33	18
15	61	36	42	51	41	47	47	71	44	57	36	71	58	99	56	26	65	30	86	21	72	23	26	21
16	49	48	44	47	38	46	45	47	34	76	40	76	55	94	67	30	65	31	82	21	71	15	12	22
17	28	55	36	42	43	41	47	68	38	65	36	73	52	87	61	32	55	33	76	19	68	17	13	24
18	53	55	33	46	41	43	45	61	41	66	25	75	57	78	55	28	63	27	68	26	61	20	24	24
19	43	43	33	38	31	41	41	50	41	56	46	96	57	89	49	30	67	33	78	18	60	7	27	21
20	31	24	26	34	38	39	45	55	40	67	39	91	61	100	59	33	60	30	78	20	74	17	37	27
21	39	21	43	49	41	33	36	56	43	85	55	79	56	59	51	26	58	30	75	41	72	13	32	37
22	29	92	47	65	38	39	50	61	53	82	45	74	63	81	65	33	61	29	71	46	65	23	29	55
23	87	54	38	71	42	47	33	42	48	89	53	79	58	67	58	34	57	33	79	38	68	14	36	15
24	66	55	37	59	31	56	41	63	42	91	48	76	63	77	56	30	59	26	66	36	68	21	40	18
25	63	48	38	60	30	55	57	64	37	83	43	73	56	112	60	32	41	30	70	33	67	17	41	18
26	58	49	39	56	16	46	71	57	36	88	46	77	56	41	62	38	38	29	81	33	44	13	40	20
27	56	40	39	56	35	59	51	56	47	101	36	68	55	33	59	37	71	29	63	24	50	22	42	20
28	54	44	25	47	28	36	56	59	42	70	51	63	56	32	55	33	57	24	65	25	50	15	35	12
29	45	40			30	52	56	59	36	77	53	57	67	34	68	36	47	28	72	32	44	20	46	22
30	48	44			32	42	55	51	43	72	46	62	66	33	57	37	50	30	69	21	32	15	34	23
31	47	30			38	50			58	85			61	32	54	31			62	21			45	23
Total (kg)	**1,419**	**1,218**	**1,099**	**1,287**	**1,096**	**1,461**	**1,428**	**1,746**	**1,415**	**2,111**	**1,517**	**2,329**	**1,758**	**2,249**	**1,831**	**992**	**1,761**	**918**	**2,310**	**823**	**1,752**	**585**	**975**	**731**
Total (kg)	**2,637**		**2,386**		**2,556**		**3,174**		**3,526**		**3,847**		**4,007**		**2,823**		**2,679**		**3,133**		**2,337**		**1,706**	

Appendix F – Odour Complaints

Appendices F – Odour Complaints

Date	Time	Loacation	Complaint Description	Call Back Details	Wind Direction	Scrubber Status	Maintenance Activities	Action Taken	Is GBWWTP the Likely Source (Y/N)	Consistent with EnviroSuite Model
8/26/2025	18:58	4615 109 A Ave	Details of customer odour complaint: -Sewage odour starting on Aug 24. Odour inside or outside: Outside odour. Description of odour: Strong pungent sewage odour. Odour intensity (scale from 1-10): Aug 24 (8 or 9) Aug 25/26 (4 or 5). Time noticed odour and for how long: Started Aug 24 to Aug 26. Is it a reoccurring issue? Caller said it happens off and on since 2010 but it has gotten better over the years.	Jake Twerdochlib - 7808605709. Ongoing smell (secondary smell) since sunday (started when taking down Secondary 2)	Low Wind	Operational	Taking down Secondary 2 (Indense tank) for cleaning.	Checked odour mister was running (it was low on chemical), shift crew did jerome readings, some elevated numbers along South Ave. Checked AQMA and have elevated H2S in the area (typical seasonal exceedances), Its been hot and has not rained in a while.	Y	Y

Appendix G – Nutri-Gold Summary

Substance Loading Rates on Nutrigold Fields - 2025 Gravity Thickened

Nutrigold Field #2025SE364826			NG01		Loading Rate		Biosolids	Field Loading			Minimum		Minimum
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Tonnes/Ha	Substance	mg/Kg	Kg	Kg/Ha	N/TE	N/TE Ratio	P/TE	P/TE Ratio
16747.14	6.09	1017.66	116	47	21.7	TP	31223	31774	676				
						TN	34223	34827	741				
						NH3-N	19623	19970	425				
Landowner		Terry Hahn				As	5.3	5.39	0.115				
Legal Description		SE-36-48-26 W4				Cd	3.4	3.46	0.074	10066	1500	9183	600
Start Date		May 2nd 2025				Cr	100	101.8	2.17	342	20	312	8
End Date		May 8th 2025				Cu	327	333	7.08	105	15	95	6
Soil Class		Class 1				Pb	37	37.7	0.801	925	20	844	8
Biosolids Type		Digested				Mn	278	283	6.02				
		Gravity Thickened				Hg	1.22	1.242	0.026	28052	3000	25593	1100
						Ni	69	70.2	1.494	496	100	453	40
						Se	35.6	36.23	0.771				
						Zn	785	799	17.0	44	10	40	4
						Co	15.4	15.671964	0.333446	2222.273		2027.468	

Nutrigold Field #2025NE/SE135419			NG02		Loading Rate		Biosolids	Field Loading			Minimum		Minimum
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Tonnes/Ha	Substance	mg/Kg	Kg	Kg/Ha	N/TE	N/TE Ratio	P/TE	P/TE Ratio
25387.15	5.72	1446.89	163	66	21.9	TP	31223	45176	683				
						TN	34223	49517	749				
						NH3-N	19623	28392	429				
Landowner		Klas Wall				As	5.3	7.67	0.116				
Legal Description		NE/SE-13-54-19 W4				Cd	3.4	4.92	0.074	10066	1500	9183	600
Start Date		May 10th 2025				Cr	100	144.7	2.19	342	20	312	8
End Date		May 20th 2025				Cu	327	473	7.15	105	15	95	6
Soil Class		Class 1				Pb	37	53.5	0.810	925	20	844	8
Biosolids Type		Digested				Mn	278	402	6.08				
		Gravity Thickened				Hg	1.22	1.765	0.027	28052	3000	25593	1100
						Ni	69	99.8	1.510	496	100	453	40
						Se	35.6	51.51	0.779				
						Zn	785	1136	17.2	44	10	40	4
						Co	15.4	22.282106	0.336944	2222.273		2027.468	

Nutrigold Field #2025NW/NE085518			NG06		Loading Rate		Biosolids	Field Loading			Minimum		Minimum
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Tonnes/Ha	Substance	mg/Kg	Kg	Kg/Ha	N/TE	N/TE Ratio	P/TE	P/TE Ratio
31585.65	6.1	1927.67	210	85	22.7	TP	31223	60188	708				
						TN	34223	65971	776				
						NH3-N	19623	37827	445				
Landowner		Warren Fedun				As	5.3	10.22	0.120				
Legal Description		NW/NE-08-55-18 W4				Cd	3.4	6.55	0.077	10066	1500	9183	600
Start Date		July 15th 2025				Cr	100	192.8	2.27	342	20	312	8
End Date		July 30th 2025				Cu	327	630	7.42	105	15	95	6
Soil Class		Class 1				Pb	37	71.3	0.839	925	20	844	8
Biosolids Type		Digested				Mn	278	536	6.30				
		Gravity Thickened				Hg	1.22	2.352	0.028	28052	3000	25593	1100
						Ni	69	133.0	1.565	496	100	453	40
						Se	35.6	68.63	0.807				
						Zn	785	1513	17.8	44	10	40	4
						Co	15.4	29.686118	0.349248	2222.273		2027.468	

Nutrigold Field #2025SW145418			NG07		Loading Rate		Biosolids	Field Loading			Minimum		Minimum
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Tonnes/Ha	Substance	mg/Kg	Kg	Kg/Ha	N/TE	N/TE Ratio	P/TE	P/TE Ratio
9792.12	5.91	580.45	64	26	22.3	TP	31223	18123	697				
						TN	34223	19865	764				
						NH3-N	19623	11390	438				
Landowner		John O'Neil				As	5.3	3.08	0.118				
Legal Description		SW-14-54-18 W4				Cd	3.4	1.97	0.076	10066	1500	9183	600
Start Date		August 5th 2025				Cr	100	58.0	2.23	342	20	312	8
End Date		August 15th 2025				Cu	327	190	7.30	105	15	95	6
Soil Class		Class 1				Pb	37	21.5	0.826	925	20	844	8
Biosolids Type		Digested				Mn	278	161	6.21				
		Gravity Thickened				Hg	1.22	0.708	0.027	28052	3000	25593	1100
						Ni	69	40.1	1.540	496	100	453	40
						Se	35.6	20.66	0.795				
						Zn	785	456	17.5	44	10	40	4
						Co	15.4	8.93893	0.343805	2222.273		2027.468	

Appendices G – Nutri-Gold Summary

Nutrigold Field #2025NW245519			NG09		Loading Rate		Biosolids	Field Loading			Minimum		Minimum
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Tonnes/Ha	Substance	mg/Kg	Kg	Kg/Ha	N/TE	N/TE Ratio	P/TE	P/TE Ratio
13760.73	5.83	801.43	87	36	22.3	TP	31223	25023	695				
						TN	34223	27427	762				
						NH3-N	19623	15726	437				
Landowner		Rick Anderson				As	5.3	4.25	0.118				
Legal Description		NW-24-55-19 W4				Cd	3.4	2.72	0.076	10066	1500	9183	600
Start Date		September 4th 2025				Cr	100	80.1	2.23	342	20	312	8
End Date		September 9th 2025				Cu	327	262	7.28	105	15	95	6
Soil Class		Class 1				Pb	37	29.7	0.824	925	20	844	8
Biosolids Type		Digested				Mn	278	223	6.19				
		Gravity Thickened				Hg	1.22	0.978	0.027	28052	3000	25593	1100
						Ni	69	55.3	1.536	496	100	453	40
						Se	35.6	28.53	0.793				
						Zn	785	629	17.5	44	10	40	4
						Co	15.4	12.342022	0.342834	2222.273		2027.468	

Substance Loading Rates on Nutrigold Fields - 2025 Centrifuge Dewatered

Nutrigold Field #2025SW/SE055619			DW01		Loading Rate		Biosolids	Field Loading			Minimum		Minimum
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Tonnes/Ha	Substance	mg/Kg	Kg	Kg/Ha	N/TE	N/TE Ratio	P/TE	P/TE Ratio
5448.17		1206.2	136	55.00	21.9	TP	27561	33244	604				
						TN	31908	38487	700				
						NH3-N	7392	8916	162				
Landowner		Kevin Hackett				As	4.1	4.95	0.090				
Legal Description		SW/SE-05-56-19 W4				Cd	3.3	3.98	0.072	9669	1500	8352	600
Start Date		July 16th 2025				Cr	59	71.2	1.29	541	20	467	8
End Date		August 18th 2025				Cu	5.5	7	0.12	5801	15	5011	6
Soil Class		Class 1				Pb	30	36.2	0.658	1064	20	919	8
Biosolids Type		Centrifuge Dewatered				Mn	290	350	6.36				
						Hg	1.03	1.242	0.023	30979	3000	26758	1100
						Ni	30	36.2	0.658	1064	100	919	40
						Se	5.6	6.75	0.123				
						Zn	624	753	13.7	51	10	44	4
						Co	5.5	6.6341	0.12062	5801.455		5011.091	

Non-AG Field #2025NE345526			Krywko 1		Loading Rate		Biosolids	Field Loading			Minimum		Minimum
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Tonnes/Ha	Substance	mg/kg	Kg	Kg/Ha	N/TE	N/TE Ratio	P/TE	P/TE Ratio
4469.24	23.59	1054.29	123	49.8	21.2	TP	27561	29057	584				
						TN	31909	33641	676				
						NH3-N	7393	7794	157				
Landowner		Ken and Jeannine Krywko				As	4.1	4.3	0.09				
		Paulette Krywko				Cd	3.28	3.46	0.07	9728	1500	8403	600
Legal Description		NE-34-55-26 W4				Cr	59	62.2	1.25	541	20	467	8
Stockpiling Date		August 21 to September 9, 2025				Cu	312	329	6.61	102	15	88	6
Application Date		October 24-30, 2025				Pb	29.6	31.2	0.63	1078	20	931	8
Soil Class		Class 1 (Class 4)				Mn	290	306	6.14				
Biosolids Type		Digested, Centrifuge Dewatered				Hg	1.03	1.09	0.02	30980	3000	26758	1100
						Ni	29.8	31.4	0.63	1071	100	925	40
						Se	5.6	5.9	0.12				
						Zn	624	658	13.22	51	10	44	4
						Co	5.5	5.8	0.12	5801.636		5011.091	

Non-AG Field #2025SW/NW145626			Krywko 2		Loading Rate		Biosolids	Field Loading			Minimum		Minimum
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Tonnes/Ha	Substance	mg/kg	Kg	Kg/Ha	N/TE	N/TE Ratio	P/TE	P/TE Ratio
6092.01	22.61	1377.4	165	66.8	20.6	TP	27561	37963	569				
						TN	31909	43952	658				
						NH3-N	7393	10183	152				
Landowner		Ken and Jeannine Krywko				As	4.1	5.6	0.08				
Legal Description		SW/NW145626				Cd	3.28	4.52	0.07	9728	1500	8403	600
Stockpiling Date		September 10 to September 29, 2025				Cr	59	81.3	1.22	541	20	467	8
Application Date		October 24-30, 2025				Cu	312	430	6.44	102	15	88	6
Soil Class		Class 1 (Class 4)				Pb	29.6	40.8	0.61	1078	20	931	8
Biosolids Type		Digested, Centrifuge Dewatered				Mn	290	399	5.98				
						Hg	1.03	1.42	0.02	30980	3000	26758	1100
						Ni	29.8	41	0.61	1071	100	925	40
						Se	5.6	7.7	0.12				
						Zn	624	859	12.87	51	10	44	4
						Co	5.5	7.6	0.11	5801.636		5011.091	

Nutrigold Field #2025SE145626			Krywko 3		Loading Rate		Biosolids	Field Loading			Minimum		Minimum
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Tonnes/Ha	Substance	mg/Kg	Kg	Kg/Ha	N/TE	N/TE Ratio	P/TE	P/TE Ratio
3273.54	21.77	712.65	123	49.8	14.3	TP	27561	19641	395				
						TN	31909	22740	457				
						NH3-N	7393	5269	106				
Landowner		Ken and Jeannine Krywko				As	4.1	2.9	0.06				
Legal Description		SE-14-56-26 W4				Cd	3.28	2.34	0.05	9728	1500	8403	600
Stockpiling Date		October 3 to October 11, 2025				Cr	59	42	0.84	541	20	467	8
Application Date		October 24-30, 2025				Cu	312	222	4.47	102	15	88	6
Soil Class		Class 1				Pb	29.6	21.1	0.42	1078	20	931	8
Biosolids Type		Digested, Centrifuge Dewatered				Mn	290	207	4.15				
						Hg	1.03	0.73	0.01	30980	3000	26758	1100
						Ni	29.8	21.2	0.43	1071	100	925	40
						Se	5.6	4	0.08				
						Zn	624	445	8.93	51	10	44	4
						Co	5.5	3.9	0.08	5801.636		5011.091	

Appendices G – Nutri-Gold Summary

Nutrigold Field #2025NW145626			Krywko 2B		Loading Rate		Biosolids	Field Loading			Minimum		Minimum
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Tonnes/Ha	Substance	mg/kg	Kg	Kg/Ha	N/TE	N/TE Ratio	P/TE	P/TE Ratio
1037.47	23.77	246.61	30	12.1	20.3	TP	27561	6797	560				
						TN	31909	7869	648				
						NH3-N	7393	1823	150				
Landowner		Ken and Jeannine Krywko				As	4.1	1	0.08				
Legal Description		NW145626 (north of tracks)				Cd	3.28	0.81	0.07	9728	1500	8403	600
Stockpiling Date		September 30 to October 17, 2025				Cr	59	14.5	1.2	541	20	467	8
Application Date		October 24-30, 2025				Cu	312	77	6.34	102	15	88	6
Soil Class		Class 1				Pb	29.6	7.3	0.6	1078	20	931	8
Biosolids Type		Digested, Centrifuge Dewatered				Mn	290	72	5.89				
						Hg	1.03	0.25	0.02	30980	3000	26758	1100
						Ni	29.8	7.3	0.61	1071	100	925	40
						Se	5.6	1.4	0.11				
						Zn	624	154	12.67	51	10	44	4
						Co	5.5	1.4	0.11	5801.636		5011.091	

Appendix H – Third Party Agricultural Summary

Substance Loading Rates on Nutrigold Fields - 2025

Nutrigold Field #2025SE31/NE305318			NG03		Loading Rate		Biosolids	Field Loading			Minimum		Minimum
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Tonnes/Ha	Substance	mg/Kg	Kg	Kg/Ha	N/TE	N/TE Ratio	P/TE	P/TE Ratio
35308.23	6.05	2138.17	236	96	22.3	TP	31223	66760	695				
						TN	34223	73175	762				
						NH3-N	19623	41957	437				
Landowner		Mel Swerdan				As	5.3	11.33	0.118				
Legal Description		SE-31-53-18 W4/NE-30-53-18 W4				Cd	3.4	7.27	0.076	10066	1500	9183	600
Start Date		May 24th 2025				Cr	100	213.8	2.23	342	20	312	8
End Date		June 2nd 2025				Cu	327	699	7.28	105	15	95	6
Soil Class		Class 1				Pb	37	79.1	0.824	925	20	844	8
Biosolids Type		Digested				Mn	278	594	6.19				
		Gravity Thickened				Hg	1.22	2.609	0.027	28052	3000	25593	1100
						Ni	69	147.5	1.537	496	100	453	40
						Se	35.6	76.12	0.793				
						Zn	785	1678	17.5	44	10	40	4
						Co	15.4	32.92782	0.342998	2222.273		2027.468	

Nutrigold Field #2025SW315318			NG04		Loading Rate		Biosolids	Field Loading			Minimum		Minimum
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Tonnes/Ha	Substance	mg/Kg	Kg	Kg/Ha	N/TE	N/TE Ratio	P/TE	P/TE Ratio
14050.2	6.01	844.53	92	37	22.8	TP	31223	26369	713				
						TN	34223	28902	781				
						NH3-N	19623	16572	448				
Landowner		Tom Cossey				As	5.3	4.48	0.121				
Legal Description		SW-31-53-18 W4				Cd	3.4	2.87	0.078	10066	1500	9183	600
Start Date		June 3rd 2025				Cr	100	84.5	2.28	342	20	312	8
End Date		June 6th 2025				Cu	327	276	7.46	105	15	95	6
Soil Class		Class 1				Pb	37	31.2	0.845	925	20	844	8
Biosolids Type		Digested				Mn	278	235	6.35				
		Gravity Thickened				Hg	1.22	1.030	0.028	28052	3000	25593	1100
						Ni	69	58.3	1.575	496	100	453	40
						Se	35.6	30.07	0.813				
						Zn	785	663	17.9	44	10	40	4
						Co	15.4	13.00576	0.351507	2222.273		2027.468	

Nutrigold Field #2025NE195317			NG05		Loading Rate		Biosolids	Field Loading			Minimum		Minimum
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Tonnes/Ha	Substance	mg/Kg	Kg	Kg/Ha	N/TE	N/TE Ratio	P/TE	P/TE Ratio
20330.78	6.29	1275.73	140	57	22.4	TP	31223	39832	699				
						TN	34223	43659	766				
						NH3-N	19623	25034	439				
Landowner		Al Gavinchuk				As	5.3	6.76	0.119				
Legal Description		NE-19-53-17 W4				Cd	3.4	4.34	0.076	10066	1500	9183	600
Start Date		June 11th 2025				Cr	100	127.6	2.24	342	20	312	8
End Date		June 15th 2025				Cu	327	417	7.32	105	15	95	6
Soil Class		Class 1				Pb	37	47.2	0.828	925	20	844	8
Biosolids Type		Digested				Mn	278	355	6.22				
		Gravity Thickened				Hg	1.22	1.556	0.027	28052	3000	25593	1100
						Ni	69	88.0	1.544	496	100	453	40
						Se	35.6	45.42	0.797				
						Zn	785	1001	17.6	44	10	40	4
						Co	15.4	19.64624	0.344671	2222.273		2027.468	

Nutrigold Field #2025NW/NE205520			NG08		Loading Rate		Biosolids	Field Loading			Minimum		Minimum
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Tonnes/Ha	Substance	mg/Kg	Kg	Kg/Ha	N/TE	N/TE Ratio	P/TE	P/TE Ratio
39899.77	5.82	2317.12	255	103	22.5	TP	31223	72347	702				
						TN	34223	79299	770				
						NH3-N	19623	45469	441				
Landowner		Jason Boon				As	5.3	12.28	0.119				
Legal Description		NW/NE-20-55-20 W4				Cd	3.4	7.88	0.076	10066	1500	9183	600
Start Date		August 15th 2025				Cr	100	231.7	2.25	342	20	312	8
End Date		September 3rd 2025				Cu	327	758	7.36	105	15	95	6
Soil Class		Class 1				Pb	37	85.7	0.832	925	20	844	8
Biosolids Type		Digested				Mn	278	644	6.25				
		Gravity Thickened				Hg	1.22	2.827	0.027	28052	3000	25593	1100
						Ni	69	159.9	1.552	496	100	453	40
						Se	35.6	82.49	0.801				
						Zn	785	1819	17.7	44	10	40	4
						Co	15.4	35.68365	0.346443	2222.273		2027.468	

Appendices H – Third Party Agricultural Summary

Nutrigold Field #2025NW/NE115523			NG10		Loading Rate		Biosolids	Field Loading			Minimum		Minimum
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Tonnes/Ha	Substance	mg/Kg	Kg	Kg/Ha	N/TE	N/TE Ratio	P/TE	P/TE Ratio
40542.23	5.96	2411.92	268	108	22.3	TP	31223	75307	697				
						TN	34223	82543	764				
						NH3-N	19623	47329	438				
Landowner		Jason Lamoureux				As	5.3	12.78	0.118				
Legal Description		NW/NE-11-55-23 W4				Cd	3.4	8.20	0.076	10066	1500	9183	600
Start Date		September 11th 2025				Cr	100	241.2	2.23	342	20	312	8
End Date		September 24th 2025				Cu	327	789	7.30	105	15	95	6
Soil Class		Class 1				Pb	37	89.2	0.826	925	20	844	8
Biosolids Type		Digested				Mn	278	671	6.21				
		Gravity Thickened				Hg	1.22	2.943	0.027	28052	3000	25593	1100
						Ni	69	166.4	1.541	496	100	453	40
						Se	35.6	85.86	0.795				
						Zn	785	1893	17.5	44	10	40	4
						Co	15.4	37.14357	0.343922	2222.273		2027.468	

Nutrigold Field #2025NE/SE/SW205524			NG11		Loading Rate		Biosolids	Field Loading			Minimum		Minimum
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Tonnes/Ha	Substance	mg/Kg	Kg	Kg/Ha	N/TE	N/TE Ratio	P/TE	P/TE Ratio
60655.77	6.00	3627.62	403	163	22.3	TP	31223	113265	695				
						TN	34223	124148	762				
						NH3-N	19623	71185	437				
Landowner		Terry Valculchik				As	5.3	19.23	0.118				
Legal Description		NE/SE/SW-20-55-24 W4				Cd	3.4	12.33	0.076	10066	1500	9183	600
Start Date		September 25th 2025				Cr	100	362.8	2.23	342	20	312	8
End Date		October 18th 2025				Cu	327	1186	7.28	105	15	95	6
Soil Class		Class 1				Pb	37	134.2	0.823	925	20	844	8
Biosolids Type		Digested				Mn	278	1008	6.19				
		Gravity Thickened				Hg	1.22	4.426	0.027	28052	3000	25593	1100
						Ni	69	250.3	1.536	496	100	453	40
						Se	35.6	129.14	0.792				
						Zn	785	2848	17.5	44	10	40	4
						Co	15.4	55.86535	0.342732	2222.273		2027.468	

Nutrigold Field #2025NE135620			NG12		Loading Rate		Biosolids	Field Loading			Minimum		Minimum
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Tonnes/Ha	Substance	mg/Kg	Kg	Kg/Ha	N/TE	N/TE Ratio	P/TE	P/TE Ratio
20895.17	6.48	1347.06	146	59	22.8	TP	31223	42059	713				
						TN	34223	46100	781				
						NH3-N	19623	26433	448				
Landowner		Neil Woitas				As	5.3	7.14	0.121				
Legal Description		NE-13-56-20 W4				Cd	3.4	4.58	0.078	10066	1500	9183	600
Start Date		October 20th 2025				Cr	100	134.7	2.28	342	20	312	8
End Date		November 5th 2025				Cu	327	440	7.47	105	15	95	6
Soil Class		Class 1				Pb	37	49.8	0.845	925	20	844	8
Biosolids Type		Digested				Mn	278	374	6.35				
		Gravity Thickened				Hg	1.22	1.643	0.028	28052	3000	25593	1100
						Ni	69	92.9	1.575	496	100	453	40
						Se	35.6	47.96	0.813				
						Zn	785	1057	17.9	44	10	40	4
						Co	15.4	20.74472	0.351605	2222.273		2027.468	

Appendix I – Non-Ag Biosolids Management Report

TETRA TECH

City to Soil
Delivered by Olstad & Company

February 13, 2026

ISSUED FOR USE
FILE: ENW.BIOS03089-03
Via Email: DBartlett@epcor.com
olstad.co@gmail.com

Alberta Environment and Protected Areas
111 Twin Atria Building
4999 – 98 Avenue NW
Edmonton, AB T6B 2X3

Attention: Mohammad Raham, P.Eng.
Environmental Protection and Enhancement Act Team Lead
Capital District – Regulatory Assurance Division North

Subject: 2025 Summary Report on Dewatered Biosolids Application to Marginal Lands within Sturgeon County (Authorization No. 639-36581-SLU) and within Sturgeon County (Authorization No. 639-36989-SLU)

1.0 INTRODUCTION

Tetra Tech Canada Inc. (Tetra Tech) was retained by Olstad & Company Ltd. (Olstad & Company) and EPCOR Water Services Inc. (EPCOR) to prepare the 2025 Summary Report for Dewatered Biosolids Application to Marginal Land. Biosolids application was completed in general accordance with the Alberta Environment and Protected Areas (EPA, formerly Alberta Environment [AENV]) 2001 Guidelines for the Application of Municipal Wastewater Sludges to Agricultural Lands (the Guidelines)[1] as a beneficial, non-agricultural use of biosolids.

Olstad & Company applied dewatered biosolids to two areas in 2025; both areas are located in Sturgeon County near Morinville, AB. The first area included one field comprising approximately 53 ha of land within one quarter section (Figure 1). The second area included one field comprising approximately 69 hectares (ha) of land across two quarter sections (Figure 2). The fields were considered marginal lands as they are generally lower producing (due the lower soil pH) and have not received any soil amendments intended to increase the soil pH.

The objective was to increase the organic matter and nutrient content within the soil through the application of biosolids. The increase in soil nutrients is expected to result in better crop yields. The increased soil organic matter content is expected to:

- Improve soil health through increased soil tilth and increased soil moisture holding capacity.
- Improve productivity through the application of crop nutrients in an environmentally sound manner.
- Improve productivity through increased crop response to chemical fertilizers in the future.

[1] Alberta Environment. 2001. Guidelines for the Application of Municipal Wastewater Sludges to Agricultural Lands. Municipal Program Development Branch. Environmental Services Division. Environmental Services. Edmonton, Alberta. Pub No. T/594. ISBN: 0-7785-1490-0.

Tetra Tech Canada Inc.
14940 - 123 Avenue
Edmonton, AB T5V 1B4 CANADA
Tel 780.451.2121 Fax 780.454.5688

2.0 REGULATORY APPROVALS

On behalf of Olstad & Company and EPCOR, Tetra Tech prepared Applications[2],[3] to EPA for Authorization to surface apply and incorporate Dewatered Biosolids (anaerobically digested sludge) from EPCOR's Clover Bar lagoons. Separate Letters of Authorization were sought for this project because the marginal lands were not eligible for inclusion under the normal Notification process described in section 4.6 of EPCOR Wastewater Approval No. 639-03-06. The marginal lands had a 0-30 centimetre (cm) average pH value less than 6.0, and as such, fell outside of the standard definition of agricultural lands as defined in the Guidelines and the permitted variance which allows application of biosolids to lands with a pH of 6.0 and higher[4].

On October 30, 2025, EPCOR received Authorization No. 639-36581-SLU to apply wastewater biosolids to the following quarter section in Sturgeon County:

- NE 34-55-26 W4M

On October 30, 2025, EPCOR received Authorization No. 639-36989-SLU to apply wastewater biosolids to the following quarter sections in Sturgeon County:

- NW 14-56-26 W4M
- SW 14-56-26 W4M

Application Authorization letters are attached in Appendix B.

3.0 APPROVAL CONDITIONS

The following approval conditions for both Authorization No. 639-36581-SLU and Authorization No. 639-36989-SLU were adhered to during completion of the 2025 dewatered biosolids application to marginal lands:

- All dewatered biosolids were stockpiled in accordance with the Alberta Environment and Parks Draft Dewatered Biosolids Stockpiling Guidelines for stockpiles to be used within nine months of placement.
  - All stockpiles were placed on snow free ground.
  - All stockpiles were located outside of areas with standing water or depressional areas.
  - Permission letters were obtained from the landowners authorizing biosolids stockpiling on their property.
  - Dewatered biosolids stockpiles were located in a cultivated field with no exposure to domestic animals.
  - All buffer distances were maintained between the dewatered biosolids stockpiles and the features listed in the draft guidelines.
- Biosolids were applied in accordance with the Guidelines.

[2] Tetra Tech Canada Inc. October 2025. Application for Authorization to Apply Dewatered Biosolids to Marginal Lands within Sturgeon County, Alberta. File: ENW.BIOS03089-03. Application No. 639-36989-SLU.

[3] Tetra Tech Canada Inc. October 2025. Application for Authorization to Apply Dewatered Biosolids to Marginal Lands within Sturgeon County, Alberta. File: ENW.BIOS03089-03. Application No. 639-36581-SLU.

[4] Hemsley, T. (Reclamation & Contaminated Sites Policy Specialist, AEPA). 2025. Email communication: Guideline variance for land applying biosolids to fields with a pH of 6.0 or greater – Revision. January 17, 2025.

- Dewatered biosolids were cultivated into the soil the same day of application, or within 24 hours of application.
- No biosolids were applied to frozen or snow-covered ground.
- No parcels of land that received biosolids in 2025 had received biosolids within the previous three years.
- Olstad & Company only used agricultural equipment to spread biosolids. Written approval (i.e., crossing agreements) was obtained from pipeline authorities prior to spreading biosolids for all pipelines crossed during hauling and stockpiling activities.
- A minimum 30 metre (m) buffer with no biosolids application was maintained around all wetlands and no biosolids were applied to areas where periodic flooding or ponding crosses onto an adjacent landowner's property.
- All equipment was well maintained and no biosolids were deposited or spilled onto public roadways.
- No releases, spills, or discharge of biosolids into a watercourse or onto land not designated to receive biosolids occurred.

Post-application monitoring requirements to be completed in 2026 include:

- Sampling and analysis for Alberta Tier 1 metals for all land units where pre-application soil pH was lower than 6.0 in the 0-30 cm depth and lime is not added to adjust pH accordingly.

4.0 BIOSOLIDS APPLICATION: AUTHORIZATION NO. 639-36581-SLU

Dewatered biosolids were hauled to the NE 34-55-26 W4M field in Sturgeon County in August and September 2025 pending application submission and approval to spread biosolids on marginal lands. (If approval was not received, the biosolids would be applied to nearby Class 1 lands identified under the normal Notification process described in section 4.6 of EPCOR Wastewater Approval No. 639-03-06.)

Following EPA communication and submission of a revised authorization application on October 22, 2025, dewatered biosolids were applied to NE 34-55-26 W4M in accordance with the indicated approval conditions. A final copy of Authorization No. 639-36581-SLU was received October 30, 2025.

4.1 Landowner Information

The landowners are Paulette Krywko (780-939-2166) and Ken, and Jeannine Krywko (780-818-6057). The land manager is Daniel Krywko (780-203-5758). Signed acknowledgement and authorization letters from Paulette Krywko and Ken and Jeannine Krywko are attached in Appendix C.

4.2 Receiving Site Conditions

A summary of soil analytical results for the receiving sites, prior to biosolids application, are provided in Table A. Figures 1 shows the biosolids application areas and buffer distances for Paulette, Ken, and Jeannine Krywko field.

Table A: Marginal Lands 2024 Soil Analytical Results

Parameter	NE 34-55-26 W4M
Surface pH (0-30 cm)	*5.8*
Average pH (30-100 cm)	7.8
Texture	Loam
Slope %	1
Depth to Potable Aquifer (m)	13.5
Plant Available Nitrogen (kg/ha)	124
Plant Available Phosphorus (kg/ha)	136
Overall Land Class [1]	1

[1] The overall land class shown is based on all classification parameters except the 0-30 cm surface pH. All marginal land fields shown have a 0-30 cm surface pH less than 6.0 and fall outside of the standard definition of agricultural lands.

4.3 Biosolids Characterization and Application Rate Calculations

EPCOR collects and analyses digested biosolids samples on a regular basis and submits them to an accredited laboratory for analysis of percent total solids, total nitrogen (Total Kjeldahl Nitrogen [TKN]), ammonium nitrogen (NH_4-N), total phosphorus, and trace elements.

During the 2023 biosolids application year, dewatered biosolids were stockpiled in selected locations within fields as part of a similar marginal lands application program and samples of the stockpiled biosolids were collected and analyzed prior to application by EPCOR. The 2023 total nitrogen, ammonia nitrogen, and metals content of the stockpiled biosolids all resulted in calculated application rates greater than 25 dt/ha. Total solids was thus the most limiting parameter for determination of the biosolids application rate for the 2025 marginal lands application program based on the 2023 biosolids samples.

Dewatered biosolids samples were also collected and analyzed by EPCOR in 2024 as part of their regular Notification program and the analytical data results were provided to Tetra Tech (Table 1).

As described in the marginal lands authorization application, EPCOR collected and analyzed stockpiled biosolids samples prior to application in 2025. A review of the field collection and sample handling procedures used while sampling the 2025 stockpile samples, however, indicated that the laboratory analytical results were not reliable due to technical problems.

In accordance with EPCOR Notification applications, Olstad & Company therefore used the cumulative average dewatered biosolids sampling results from the previous year (2024) to calculate the 2025 application rates to the NE 34-55-26 W4M field in Sturgeon County.

The 2024 cumulative averages for total nitrogen (TKN), ammonium nitrogen (NH_4-N), and trace elements all resulted in calculated application rates greater than 25 dt/ha, thus the final calculated maximum biosolids application rate for the marginal lands described in Authorization No. 639-36581-SLU was 25 dt/ha for Class 1 land (Table 2). Solids was the most limiting parameter for determination of the biosolids application rate.

4.4 Biosolids Application Results

A summary of biosolids application details is provided in Table B. Detailed biosolids application rate details are provided in Table 3.

Table B: 2025 Marginal Lands Biosolids Application Rate Details

Legal Location	Land Class [1]	Allowable Rate (dt/ha)	Area (ha)	Total Applied (dt)	Application Rate (dt/ha)	Stockpiling Dates	Application Dates
NE-34-55-26 W4M	4 (1)	25	49.8	1,054.29	21.2	August 21 to September 9, 2025	October 24-30, 2025

[1] All marginal land fields are land class 4 based on a 0-30 cm surface pH less than 6.0. The overall land class shown in brackets is based on all classification parameters except the 0-30 cm surface pH and is used to determine the allowable application rate of the biosolids.

On the NE 34-55-26 W4M quarter where the biosolids were stockpiled and applied, a final application rate of 21.2 dt/ha was achieved. The application rate on this field was limited by the total amount of dewatered biosolids available for application.

5.0 BIOSOLIDS APPLICATION: AUTHORIZATION NO. 639-36989-SLU

Dewatered biosolids were hauled to the NW 14-56-26 and SW 14-56-26 W4M fields in Sturgeon County in September 2025 pending application submission and approval to spread biosolids on marginal lands. (If approval was not received, the biosolids would be applied to nearby Class 1 lands identified under the normal Notification process described in section 4.6 of EPCOR Wastewater Approval No. 639-03-06.)

Following EPA communication and submission of a revised authorization application on October 22, 2025, dewatered biosolids were applied to NW 14-56-26 W4M and SW 14-56-26 W4M in accordance with the indicated approval conditions. A final copy of Authorization No. 639-36989-SLU was received October 30, 2025.

5.1 Landowner Information

The landowners are Ken and Jeannine Krywko (780-818-6057). The land manager is Daniel Krywko (780-203-5758). A signed acknowledgement and authorization letter from Ken and Jeannine Krywko is attached in Appendix C.

5.2 Receiving Site Conditions

A summary of soil analytical results for the receiving site, prior to biosolids application, are provided in Table C. Figure 2 shows the biosolids application areas and buffer distances for Ken and Jeannine Krywko fields.

Table C: Marginal Lands 2024 Soil Analytical Results

Parameter	NW 14-56-26 W4M	SW 14-56-26 W4M
Area	38.5 ha (95 acres [ac])	30.4 ha (75 ac)
Surface pH (0-30 cm)	*5.90*	
Average pH (30-100 cm)	8.00	
Texture	Loam	
Slope %	1	
Depth to Potable Aquifer (m)	13.5	
Plant Available Nitrogen (kg/ha)	55	
Plant Available Phosphorus (kg/ha)	98	
Overall Land Class [1]	1	

[1] The overall land class shown is based on all classification parameters except the 0-30 cm surface pH. All marginal land fields shown have a 0-30 cm surface pH less than 6.0 and fall outside of the standard definition of agricultural lands.

5.3 Biosolids Characterization and Application Rate Calculations

EPCOR collects and analyses digested biosolids samples on a regular basis and submits them to an accredited laboratory for analysis of percent total solids, total nitrogen (Total Kjeldahl Nitrogen [TKN]), ammonium nitrogen (NH_4-N), total phosphorus, and trace elements.

During the 2023 biosolids application year, dewatered biosolids were stockpiled in selected locations within fields as part of a similar marginal lands application program and samples of the stockpiled biosolids were collected and analyzed prior to application by EPCOR. The 2023 total nitrogen, ammonia nitrogen, and metals content of the stockpiled biosolids all resulted in calculated application rates greater than 25 dt/ha. Total solids was thus the most limiting parameter for determination of the biosolids application rate for the 2025 marginal lands application program based on the 2023 biosolids samples.

Dewatered biosolids samples were also collected and analyzed by EPCOR in 2024 as part of their regular Notification program and the analytical data results were provided to Tetra Tech (Table 1).

As described in the marginal lands authorization application, EPCOR collected and analyzed stockpiled biosolids samples prior to application in 2025. A review of the field collection and sample handling procedures used while sampling the 2025 stockpile samples, however, indicated that the laboratory analytical results were not reliable due to technical problems.

In accordance with EPCOR Notification applications, Olstad & Company therefore used the cumulative average dewatered biosolids sampling results from the previous year (2024) to calculate the 2025 application rates for the NW 14-56-26 and SW 14-56-26 W4M field in Sturgeon County.

The 2024 cumulative averages for total nitrogen (TKN), ammonium nitrogen (NH_4-N), and trace elements all resulted in calculated application rates greater than 25 dt/ha, thus the final calculated maximum biosolids application rate for the marginal lands described in Authorization No. 639-36989-SLU was 25 dt/ha for Class 1 land (Table 2). Solids was the most limiting parameter for determination of the biosolids application rate.

5.4 Biosolids Application Results

A summary of biosolids application details is provided in Table D. Detailed biosolids application rate details are provided in Table 4.

Table D: 2025 Marginal Lands Biosolids Application Site Details

Legal Location	Land Class [1]	Allowable Rate (dt/ha)	Applied Area (ha)	Total Applied (dt)	Application Rate (dt/ha)	Stockpiling Dates	Application Dates
NW 14-56-26 W4M	4 (1)	25	66.8	1,377.40	20.6	September 10-29, 2025	October 24-30, 2025
SW 14-56-26 W4M	4 (1)						

[1] All marginal land fields are land class 4 based on a 0-30 cm surface pH less than 6.0. The overall land class shown in brackets is based on all classification parameters except the 0-30 cm surface pH and is used to determine the allowable application rate of the biosolids.

On the NW 14-56-26 W4M and SW 14-56-26 W4M quarters where the biosolids were applied, a final application rate of 20.6 dt/ha was achieved. The application rate on this field was limited by the total amount of biosolids available for application.

6.0 MONITORING PROGRAMS

No follow up sampling or analysis was completed in 2025.

As per Authorization No. 639-36581-SLU, post-application sampling and analysis for Alberta Tier 1[5] metals in the 0-15 cm and 15-30 cm depths will be conducted in 2026 in all land units where the pre-application soil pH was lower than 6.0 in the 0-30 cm depth and where dewatered biosolids were applied in 2025. These include:

- NE 34-55-26 W4M, Land Units 1, 2, 3 and 4

As per Authorization No. 639-36989-SLU, post-application sampling and analysis for Alberta Tier 1 metals in the 0-15 cm and 15-30 cm depths will be conducted in 2026 in all land units where the pre-application soil pH was lower than 6.0 in the 0-30 cm depth and where dewatered biosolids were applied in 2025. These include:

- NW 14-56-26 W4M, Land Units 1, 2, and 3
- SW 14-56-26 W4M, Land Unit 2

Olstad & Company and EPCOR will submit a follow-up dewatered biosolids application summary report including the Alberta Tier 1 metals monitoring results to the Director prior to February 28, 2027.

[5] Alberta Environment and Protected Areas (EPA). 2024. Alberta Tier 1 Soil and Groundwater Remediation Guidelines. EPA, Land Policy, 2024, No. 1.

7.0 LIMITATIONS OF REPORT

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8.0 CLOSURE

We trust this report meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully submitted,
Tetra Tech Canada Inc.

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FILE: ENW.BIOS03089-03

Feb. 13, 2026

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/ces

TABLES

Table 1: Dewatered Biosolids Laboratory Analysis - 2025 Application Year

No.	Sample Identification	Date 2024 Analytical	Al	Sb	As	Ba	Be	Sat. Paste Boron mg/L	Cd	Cr	Co	Cu	Fe	Pb	Mn	Mo	Ni	Se	Ag	Sr	Tl	Sn	Ti	V	Zn	Hg	K	Total Phosphorus mg/kg	Total Kjeldahl Nitrogen (excluding NO_3-N) mg/kg	Ammonium Nitrogen (NH4-N) mg/kg	Available Sulphate mg/kg
			(mg/kg Concentrations with Respect to Dry Weight)																												
1	GB-24-07888	July 3rd, 2024	6,580	3.0	4.4	386	0.2	0.5	4.63	86.2	6.2	401.0	12,200	38.9	270	14.9	37.5	8.5	8.4	213	0.12	29.6	48.2	13.7	884	1.5	2,800	24900	43000	8830	1,570
2	GB-24-08384	July 16th, 2024	7,070	2.8	4.8	321	0.3	0.5	4.14	67.5	6.1	436.0	13,200	33.2	290	14.8	38.3	7.0	7.0	201	0.12	25.4	44.0	14.6	861	1.3	2,700	26400	8270	8270	318
3	GB-24-08747	July 24th, 2024	7,810	2.7	4.7	329	0.3	0.5	3.87	73.9	5.7	403.0	13,600	38.2	280	14.9	39.5	6.7	7.8	198	0.12	25.1	45.6	15.5	786	1.2	2,500	24800	36500	8930	1,690
4	GB-24-08924	July 30th, 2024	6,780	2.9	4.2	362	0.2	0.5	4.38	62.9	5.6	426	12,600	39.3	270	14.3	32.4	7.3	11.6	198	0.11	28.9	48.9	13.0	790	1.31	2,700	25800	36000	7800	388
5	GB-24-09405	August 12th, 2024	6,900	1.8	3.3	270	0.3	0.5	2.67	30.4	5.1	268	11,200	20.0	300	9.4	25.0	5.0	4.0	141	0.09	16.3	51.6	12.8	520	0.83	1,900	30000	37100	6890	290
6	GB-24-10015	August 26th, 2024	4,040	1.2	2.4	222	0.2	0.6	2.26	72.0	4.0	151	7,300	27.2	340	7.3	21.2	2.3	7.4	121	0.06	9.4	51.5	8.4	312	0.85	1,500	64200	31500	4220	506
7	GB-24-10677	September 9th, 2024	9,430	0.2	5.1	144	0.5	0.05	0.22	12.1	6.3	11	13,700	7.6	320	1.0	13.1	0.8	0.1	37	0.10	1.0	42.7	22.6	56	0.05	900	590	38000	5450	371
8	GB-24-11316	September 23rd, 2024	6,880	2.6	4.0	325	0.2	0.50	4.05	66.6	5.1	397	11,600	32	250	13.1	31.7	7.3	8.2	192	0.10	24.0	36.5	12.4	783	1.25	2,500	23800	24900	8750	479
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		Average	6,936	2.2	4.1	295	0.3	0.46	3.28	59.0	5.5	312	11,925	29.6	290	11.2	29.8	5.6	6.8	163	0.10	20.0	46.1	14.1	624	1.03	2,188	27561	31909	7393	702
		Minimum	4,040	0.2	2.4	144	0.2	0.05	0.22	12.1	4.0	11	7,300	7.6	250	1.0	13.1	0.8	0.1	37	0.06	1.0	36.5	8.4	56	0.05	900	590	8270	4220	290
		Maximum	9,430	3.0	5.1	386	0.5	0.60	4.63	86.2	6.3	436	13,700	39.3	340	14.9	39.5	8.5	11.6	213	0.12	29.6	51.6	22.6	884	1.47	2,800	64200	43000	8930	1,690
		Standard Deviation	1,490	1.0	0.9	80	0.1	0.17	1.49	24.8	0.8	156	2,075	11.1	29	5.0	9.3	2.7	3.4	60	0.02	10.2	5.1	4.0	301	0.46	688	17358	10908	1744	579

Notes:

Data was collected in 2024; used to determine the application rates for 2025.

[1] Data presented as per the laboratory results.

[2] The detection limit was used to calculate the average for values reported less than the detection limit.

NA - Not Applicable.

Table 2: Municipal Biosolids Application Rate Calculations Worksheet - 2025 Application Program

MUNICIPAL BIOSOLIDS QUALITY REPORT*

Biosolids Data [1]	Average (%)	
Solids %	23.0	2025 average
Total Nitrogen % [2]	3.19	2024 average
Ammonium Nitrogen %	0.74	2024 average
Total Phosphorus %	2.76	2024 average

Notes:

[1] Dewatered biosolids 2024 analytical data provided by EPCOR.

[2] Total Kjeldahl Nitrogen (TKN).

* The Quality Report is taken from Alberta Environment (AENV) 2001 Guidelines for the Application of Municipal Wastewater Sludges to Agricultural Lands, Page 27.

Metal Concentration in Biosolids	2024 Biosolids Data (µg/g)	Nitrogen Calculations			Phosphorus Calculations		
		Calculations[1] N:metal Ratio[3]	Guide Minimum[2]	Difference[5]	Calculations[1] P:metal Ratio[4]	Guide Minimum[2]	Difference[5]
Cd	3.28	9,728	1,500	8,228	8,403	600	7,803
Cr	59.0	541	20	521	467	8	459
Cu	312	102	15	87	88	6	82
Pb	29.6	1,078	20	1,058	931	8	923
Hg	1.03	30,980	3,000	27,980	26,758	1,100	25,658
Ni	29.8	1,071	100	971	925	40	885
Zn	624	51	10	41	44	4	40

Notes:

[1] N/metal ratio = [Total N (%) *10,000]/metal (µg/g) or P/metal ratio = [Total P (%) *10,000]/metal (µg/g).

[2] The Guide Minimums are stipulated in Table 1 of the 2001 AENV Wastewater Guidelines (page 17). Biosolids is unacceptable if either the nitrogen or phosphorus criterion is not met. Spiking biosolids with nitrogen or phosphorus to achieve these ratios is not permitted.

[3] N:metal ratio is calculated as the total Nitrogen % in the biosolids divided by the metal concentration.

[4] P:metal ratio is calculated as the total phosphorus % in the biosolids divided by the metal concentration.

[5] The difference value is the guide minimum subtracted from the recorded ratio for either nitrogen or phosphorus.

MUNICIPAL BIOSOLIDS PARAMETERS LIMITING APPLICATION RATE

Parameter[1]	Calculation Formula[2,3]	CLASS 1 - Digested[4]	Calculation Formula[2,3]	CLASS 2 - Digested[4]	Calculation Formula[2,3]	CLASS 3 - Digested[4]
Solids		25		20		10
Total N	90/total N (%)	28.2	70/total N (%)	21.9	40/total N (%)	12.5
NH_4-N (Injected)	20/NH_4-N (%)[5]	27.1	20/NH_4-N (%)[5]	27.1	15/NH_4-N (%)[5]	20.3
NH_4-N (Surface)	45/NH_4-N (%)[5]	60.9	35/NH_4-N (%)[5]	47.3	20/NH_4-N (%)[5]	27.1
Cd	1,500/[3*Cd(µg/g)]	152	1,100/[3*Cd(µg/g)]	112	800/[3*Cd(µg/g)]	81
Cr	100,000/[3*Cr (µg/g)]	565	75,000/[3*Cr (µg/g)]	424	50,000/[3*Cr (µg/g)]	282
Cu	200,000/[3*Cu (µg/g)]	214	150,000/[3*Cu (µg/g)]	160	100,000/[3*Cu (µg/g)]	106.8
Pb	100,000/[3*Pb (µg/g)]	1126	75,000/[3*Pb (µg/g)]	845	50,000/[3*Pb (µg/g)]	563
Hg	500/[3*Hg (µg/g)]	162	400/[3*Hg (µg/g)]	129	200/[3*Hg (µg/g)]	64.7
Ni	25,000/[3*Ni (µg/g)]	280	19,000/[3*Ni (µg/g)]	213	12,000/[3*Ni (µg/g)]	134
Zn	300,000/[3*Zn (µg/g)]	160	200,000/[3*Zn (µg/g)]	107	150,000/[3*Zn (µg/g)]	80.1
Rate (t/ha)		25		20		10
Parameter Most Limiting[6]		Solids		Solids		Solids

Notes:

[1] The parameter is the name that is given to each row (i.e., solids, total N) and the name that is used to indicate which row is the most limiting.

[2] The calculation formulae for digested waste are taken from AENV 2001 Guidelines for the Application of Municipal Wastewater Sludges to Agricultural Lands, Page 28.

[3] Note that the laboratory reports metal analysis in units of mg/kg, which is the same as µg/g.

[4] The class relates to the site classification status where Class 1 is the most suitable, Class 2 the second most suitable, Class 3 more suitable than Class 4, and Class 4 is not at all suitable (fail).

[5] The AENV 2001 Guidelines for the Application of Municipal Wastewater Sludges to Agricultural Lands, Page 28 show the units for NH_4-N as µg/g. This is incorrect, units are NH_4-N(%) as shown in this table.

[6] The most limiting parameter relates to the lowest value for each class number and is calculated as per the given formula.

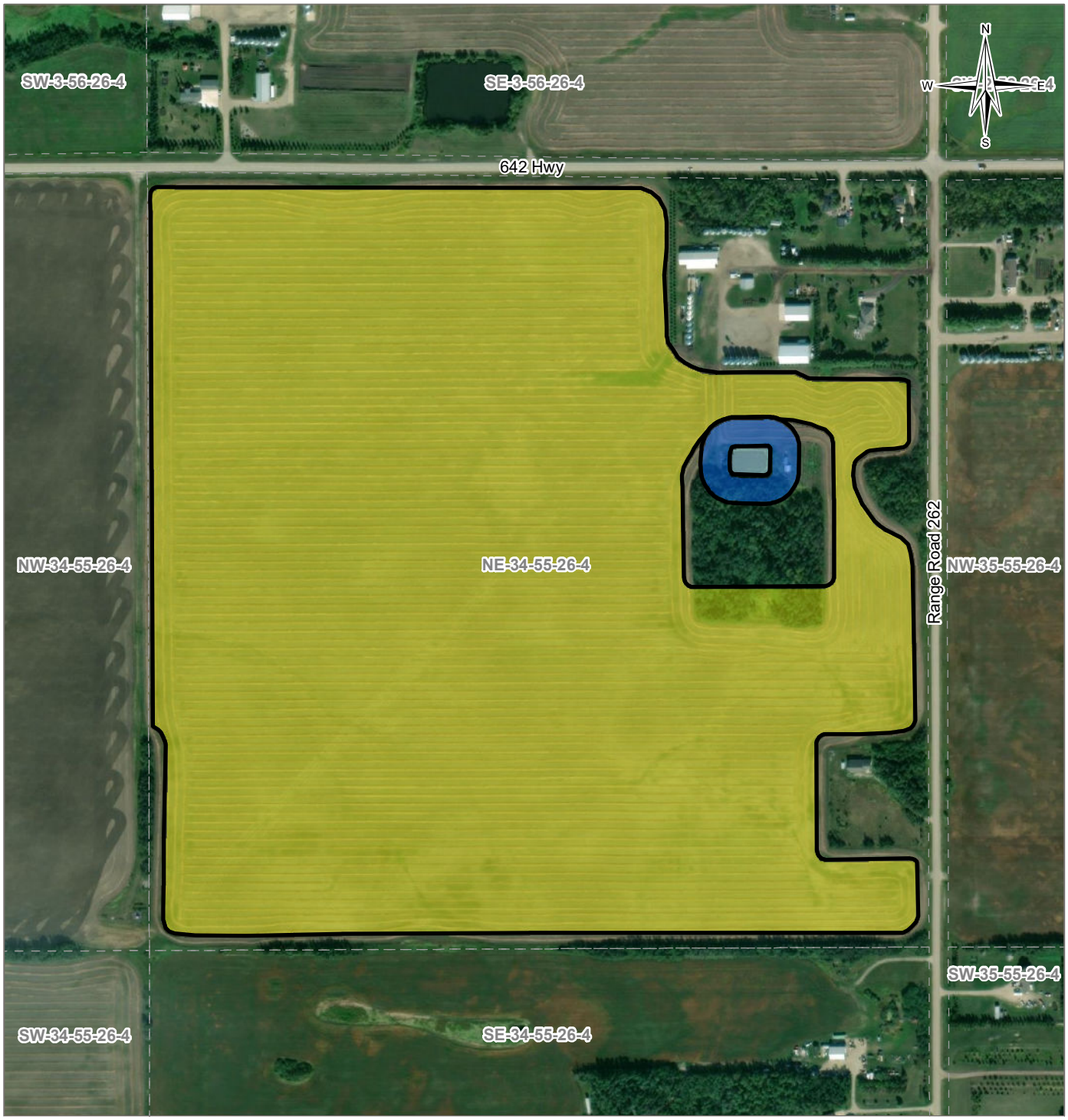
Table 3: Dewatered Biosolids Application Results - 2025 Application Year - NE 34-55-26 W4M

Authorization No. 639-36581-SLU												
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Loading Rate Tonnes/Ha	Substance	Biosolids mg/Kg	Field Loading Kg	Field Loading Kg/Ha	N/TE	Minimum N/TE Ratio	P/TE	Minimum P/TE Ratio
4469.24	23.59	1054.29	123	49.8	21.2	TP	27561	29057	584				
						TN	31909	33641	676				
						NH3-N	7393	7794	157				
Landowner		Ken and Jeannine Krywko				As	4.1	4.3	0.09				
		Paulette Krywko				Cd	3.28	3.46	0.07	9728	1500	8403	600
Legal Description		NE-34-55-26 W4				Cr	59.0	62.2	1.25	541	20	467	8
Stockpiling Date		August 21 to September 9, 2025				Cu	312	329	6.61	102	15	88	6
Application Date		October 24-30, 2025				Pb	29.6	31.2	0.63	1078	20	931	8
Soil Class		Class 1				Mn	290	306	6.14				
Biosolids Type		Digested, Centrifuge Dewatered				Hg	1.03	1.09	0.02	30980	3000	26758	1100
						Ni	29.8	31.4	0.63	1071	100	925	40
						Se	5.6	5.9	0.12				
						Zn	624	658	13.22	51	10	44	4
						Co	5.5	5.8	0.12				

Table 4: Dewatered Biosolids Application Results - 2025 Application Year - NW / SW 14-56-26 W4M

Authorization No. 639-36989-SLU												
Wet Tonnes	Ave. %TS	Dry Tonnes	Ac	Ha	Loading Rate Tonnes/Ha	Substance	Biosolids mg/Kg	Field Loading Kg	Field Loading Kg/Ha	N/TE	Minimum N/TE Ratio	P/TE	Minimum P/TE Ratio
6092.01	22.61	1377.40	165	66.8	20.6	TP	27561	37963	569				
						TN	31909	43952	658				
						NH3-N	7393	10183	152				
Landowner		Ken and Jeannine Krywko				As	4.1	5.6	0.08				
Legal Description		NW 14-56-26 W4M and SW 14-56-26 W4M				Cd	3.28	4.52	0.07	9728	1500	8403	600
Stockpiling Date		September 10-29, 2025				Cr	59.0	81.3	1.22	541	20	467	8
Application Date		October 24-30, 2025				Cu	312	430	6.44	102	15	88	6
Soil Class		Class 1				Pb	29.6	40.8	0.61	1078	20	931	8
Biosolids Type		Digested, Centrifuge Dewatered				Mn	290	399	5.98				
						Hg	1.03	1.42	0.02	30980	3000	26758	1100
						Ni	29.8	41.0	0.61	1071	100	925	40
						Se	5.6	7.7	0.12				
						Zn	624	859	12.87	51	10	44	4
						Co	5.5	7.6	0.11				

FIGURES



LEGEND

- Application Area
- Dugout Buffer (30 m)
- Dugout

NOTES
Base data source:
Imagery from ESRI; Vantor (2024)

STATUS
ISSUED FOR USE

2025 MARGINAL LANDS BIOSOLIDS APPLICATION

NE-34-55-26-W4M

PROJECTION 3TM 114	**DATUM** NAD83				**CLIENT** EPCOR
Scale: 1:6,000 — 100 50 0 100 — Metres					TETRA TECH
FILE NO. BIOS03089-03_Fig01_NE34.mxd					
OFFICE Tt-VANC	**DWN** DS	**CKD** SL	**APVD** AC	**REV** 0	**Figure 1**
DATE February 12, 2026	**PROJECT NO.** ENW.BIOS03089-03				

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LEGEND

- Application Area
- Wetland Buffer (30 m)
- Wetland
- Railway

NOTES
Base data source:
Imagery from ESRI; Vantor (2024)

STATUS
ISSUED FOR USE

2025 MARGINAL LANDS BIOSOLIDS APPLICATION

NW-14-56-26-W4M
SW-14-56-26-W4M

PROJECTION 3TM 114			**DATUM** NAD83	**CLIENT** EPCOR
Scale: 1:6,000 100 50 0 100 Metres				TETRA TECH
FILE NO. BIOS03089-03_Fig02_NW14SW14.mxd				
OFFICE Tt-VANC	**DWN** DS	**CKD** SL	**APVD** AC	**REV** 0
DATE February 12, 2026	**PROJECT NO.** ENW.BIOS03089-03			**Figure 2**

APPENDIX A

TETRA TECH'S LIMITATIONS ON THE USE OF THIS DOCUMENT

LIMITATIONS ON USE OF THIS DOCUMENT

NATURAL SCIENCES

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If any error or omission is detected by the Client or an Authorized Party, the error or omission must be immediately brought to the attention of TETRA TECH.

1.4 DISCLOSURE OF INFORMATION BY CLIENT

The Client acknowledges that it has fully cooperated with TETRA TECH with respect to the provision of all available information on the past, present, and proposed conditions on the site, including historical information respecting the use of the site. The Client further acknowledges that in order for TETRA TECH to properly provide the services contracted for in the Contract, TETRA TECH has relied upon the Client with respect to both the full disclosure and accuracy of any such information.

1.5 INFORMATION PROVIDED TO TETRA TECH BY OTHERS

During the performance of the work and the preparation of this Professional Document, TETRA TECH may have relied on information provided by persons other than the Client.

While TETRA TECH endeavours to verify the accuracy of such information, TETRA TECH accepts no responsibility for the accuracy or the reliability of such information even where inaccurate or unreliable information impacts any recommendations, design or other deliverables and causes the Client or an Authorized Party loss or damage.

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The Client, and any Authorized Party, acknowledges that the Professional Document is based on limited data and that the conclusions, opinions, and recommendations contained in the Professional Document are the result of the application of professional judgment to such limited data.

The Professional Document is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site conditions present or variation in assumed conditions which might form the basis of design or recommendations as outlined in this report, at or on the development proposed as of the date of the Professional Document requires a supplementary investigation and assessment.

TETRA TECH is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the property, the decisions on which are the sole responsibility of the Client.

1.7 ENVIRONMENTAL ISSUES

The ability to rely upon and generalize from environmental baseline data is dependent on data collection activities occurring within biologically relevant survey windows.

It is incumbent upon the Client and any Authorized Party, to be knowledgeable of the level of risk that has been incorporated into the project design or scope, in consideration of the level of the environmental baseline information that was reasonably acquired to facilitate completion of the scope.

1.8 NOTIFICATION OF AUTHORITIES

TETRA TECH professionals are bound by their ethical commitments to act within the bounds of all pertinent regulations. In certain instances, observations by TETRA TECH of regulatory contravention may require that regulatory agencies and other persons be informed. The client agrees that notification to such bodies or persons as required may be done by TETRA TECH in its reasonably exercised discretion.

APPENDIX B

LETTERS OF AUTHORIZATION - BIOSOLIDS APPLICATION TO LAND

Alberta Environment and Protected Areas

Regulatory Assurance Division
North Region – Capital District
111 Twin Atria Building
4999 - 98 Avenue
Edmonton, Alberta T6B 2X3
Telephone: 780-427-7617

www.alberta.ca

October 30, 2025

File No.: 639-36581

Diedre Bartlett
Biosolids Technologist
EPCOR Water Services
9504 49 Street NW
Edmonton AB

Dear Ms. Bartlett:

RE Letter of Authorization 639-36581– Biosolids Application to Marginal Land
EPCOR Water Services Inc. – Edmonton Wastewater System
***Environmental Protection and Enhancement Act (EPEA)* Approval No. 639-03-00**

Environment and Protected Areas (EPA) has reviewed the submission from EPCOR Water Services Inc. (EWSI) on October 22, 2025 requesting biosolids application to Marginal land.

This Letter of Authorization is issued pursuant to the *Environmental Protection and Enhancement Act*, Wastewater and Storm Drainage Regulation 119/93, Section 8 and will enable EWSI to apply wastewater biosolids to lands located at the following quarter section located in Sturgeon County:

- NE 34-055-26-W4M

If you have any questions regarding this letter, please contact Mohammad M. Rahman at 780-422-1721 or via email to Mohammad.M.Rahman@gov.ab.ca.

Regards,

Greg J. Smith
Designated Director under the Act

cc: Mark Fawcett, Tera Tech, mark.fawcett@tetratech.com
Mohammad M. Rahman, EPA

AUTHORIZATION NO.
639-36581-SLU

APPENDIX

1. The dewatered biosolids from the Edmonton Wastewater System shall be stockpiled in accordance with the Alberta Environment and Protected Areas' the Draft Dewatered Biosolids Stockpiling Guidelines (October 19, 2009, prepared by Sylvis Environmental Services Inc.).

2. The following parcel of land may receive biosolids from the Edmonton Wastewater System at a rate not exceeding the dry biosolids per hectare of land as described below:

Land Description	Area (ha)	Classification	Application Rate (dt/ha)
NE 34-055-26-W4M	53	1	25

3. Post sampling and analysis for Alberta Tier 1 metals shall be conducted for the land units where pre-application soil pH is lower than 6.0 in the 0-30 cm depth and lime is not added to adjust pH accordingly.

4. Biosolids shall be applied in accordance with Alberta Environment and Protected Areas' *Guidelines for the Application of Municipal Wastewater Sludges to Agricultural Lands*.

5. Land to which biosolids is applied shall be cultivated as soon as possible following the biosolids application.

6. Biosolids shall not be applied to soil that is frozen or snow covered.

7. EWSI shall obtain written approval from the appropriate pipeline authority or authorities before any biosolids transport or spreading vehicles cross any pipeline or pipeline corridors located on the aforementioned parcels of land. Should permission not be obtained to travel over a pipeline or pipeline corridor then the area over the corridor must be marked and tanker travel over the marked areas are prohibited.

8. Any parts of the aforementioned parcels of land which may be subject to periodic flooding or water ponding shall not receive biosolids if said flooding or ponding crosses onto an adjacent landowner's property.

9. Biosolids haulage and/or spreading vehicles shall be operated and maintained such that biosolids deposition on public roadways is minimized and does not create a public nuisance.

10. Any release, spill, or discharge into a watercourse or on land not designated to receive biosolids shall immediately be reported to the Alberta Environment and Protected Areas' at 1-780-422-4505.

11. EWSI shall submit annual biosolids application summary report including the monitoring results to the Director on or before February 28 of the year following the year in which the information was collected.

12. The Director shall be informed immediately if the scope of this activity changes prior to any biosolids applications.

13. Please note, this authorization and the abovementioned current EPEA Approval have the same expiry date.

Greg.J.Smith Digitally signed by Greg.J.Smith
Date: 2025.10.30 13:44:03 -06'00'

October 30, 2025
DATED

DESIGNATED DIRECTOR UNDER THE ACT
Greg J. Smith

Alberta Environment and Protected Areas

Regulatory Assurance Division
North Region – Capital District
111 Twin Atria Building
4999 - 98 Avenue
Edmonton, Alberta T6B 2X3
Telephone: 780-427-7617

www.alberta.ca

October 30, 2025

File No.: 639-36989

Diedre Bartlett
Biosolids Technologist
EPCOR Water Services
9504 49 Street NW
Edmonton AB

Dear Ms. Bartlett:

RE: Letter of Authorization: 639-36989 Biosolids Application to Marginal Land
EPCOR Water Services Inc. – Edmonton Wastewater System
***Environmental Protection and Enhancement Act (EPEA)* Approval No. 639-03-00**

Environment and Protected Areas (EPA) has reviewed submission from EPCOR Water Services Inc. (EWSI) on October 22, 2025 requesting biosolids application to Marginal land.

This Letter of Authorization is issued pursuant to the *Environmental Protection and Enhancement Act*, Wastewater and Storm Drainage Regulation 119/93, Section 8 and will enable EWSI to apply wastewater biosolids to lands located at the following quarter section located in Sturgeon County:

- NW 14-056-26-W4M
- SW 14-056-26-W4M

If you have any questions regarding this letter, please contact Mohammad M. Rahman at 780-422-1721 or via email to Mohammad.M.Rahman@gov.ab.ca.

Regards,

Greg.J.Smith Digitally signed by Greg.J.Smith
Date: 2025.10.30 13:55:39 -06'00'

Greg J. Smith
Designated Director under the Act

cc: Mark Fawcett, Tetra Tech
Mohammad M. Rahman, EPA

APPENDIX

1. The dewatered biosolids from the Edmonton Wastewater System shall be stockpiled in accordance with the Alberta Environment and Protected Areas' the *Draft Dewatered Biosolids Stockpiling Guidelines* (October 19, 2009, prepared by Sylvis Environmental Services Inc.).

2. The following parcel of land may receive biosolids from the Edmonton Wastewater System at a rate not exceeding the dry biosolids per hectare of land as described below:

Land Description	Area (ha)	Classification	Application Rate (dt/ha)
NW 14-056-26-W4M	38.5	1	25
SW 14-056-26-W4M	30.4	1	25

3. Post sampling and analysis for Alberta Tier 1 metals shall be conducted for the land units where pre-application soil pH is lower than 6.0 in the 0-30 cm depth and lime is not added to adjust pH accordingly.

4. Biosolids shall be applied in accordance with Alberta Environment and Protected Areas' *Guidelines for the Application of Municipal Wastewater Sludges to Agricultural Lands*.

5. Land to which biosolids is applied shall be cultivated as soon as possible following the biosolids application.

6. Biosolids shall not be applied to soil that is frozen, or snow covered.

7. EWSI shall obtain written approval from the appropriate pipeline authority or authorities before any biosolids transport or spreading vehicles cross any pipeline or pipeline corridors located on the aforementioned parcels of land. Should permission not be obtained to travel over a pipeline or pipeline corridor then the area over the corridor must be marked and tanker travel over the marked areas are prohibited.

8. Any parts of the aforementioned parcels of land which may be subject to periodic flooding or water ponding shall not receive biosolids if said flooding or ponding crosses onto an adjacent landowner's property.

9. Biosolids haulage and/or spreading vehicles shall be operated and maintained such that biosolids deposition on public roadways is minimized and does not create a public nuisance.

10. Any release, spill, or discharge into a watercourse or on land not designated to receive biosolids shall immediately be reported to the Alberta Environment and Protected Areas at 1-780-422-4505.

11. EWSI shall submit annual biosolids application summary report including the monitoring results to the Director on or before February 28 of the year following the year in which the information was collected.

12. The Director shall be informed immediately if the scope of this activity changes prior to any biosolids applications.

13. Please note, this authorization and the abovementioned EPEA Approval have the same expiry date.

October 30, 2025
DATED

DESIGNATED DIRECTOR UNDER THE ACT
Greg J. Smith

APPENDIX C

LANDOWNER ACKNOWLEDGEMENT

City to Soil
Delivered by Olstad & Company

Box 1059 Lamont, AB T0B 2R0

Dear Sir/Madam:

Re: Olstad & Company Ltd.- City to Soil Program Acknowledgement and Authorization

Thank you for your interest in the Olstad & Company Ltd. ("OLSTAD") City to Soil program.

This letter is to confirm that you have requested that the agricultural land described as:

See additional notes for locations (the "Land")

be considered a candidate site for the City to Soil program. As you know, the City to Soil program involves the application of biosolids to agricultural land in accordance with the Guidelines for the Application of Municipal Wastewater Sludges to Agricultural Lands (Updated August 2009).

If acceptable to you, please return a fully signed original of the enclosed Acknowledgement and Authorization to the attention of Larry Olstad, Director at the above-noted mailing address or email to olstad.co@gmail.com.

The Acknowledgement and Authorization must be signed by all owners and lessees of the Land. Once the fully signed Acknowledgement and Authorization has been received, OLSTAD will commence its assessment of the Land to determine if the Land is an appropriate candidate site for the City to Soil program.

For further information about the City to Soil program please call Larry Olstad [780-940-4803].

Additional Notes:
NE 34-55-26 W4 – 160 acres
SE 14-56-26 W4 – 135 acres
NW 14-56-26 W4 – 160 acres
W of SW 14-56-26 W4 – 80 acres

Enclosure (1): Acknowledgement and Authorization Form

ACKNOWLEDGEMENT AND AUTHORIZATION

Re: Potential application of biosolids to agricultural land described as:

See additional notes (above) (the "Lands").

In consideration of Olstad & Company Ltd. ("OLSTAD") (I) evaluating the Lands as a potential candidate site for the City to Soil program; and (ii) potentially applying biosolids to the Lands (if the Lands are determined to be suitable and are selected for application of biosolids, all as decided by OLSTAD in its sole discretion), the undersigned hereby agree(s) as follows:

1. I/We: Ken + Jeannine Krywko, hereby certify that we are the registered owner(s)/lessee(s) of the Lands and hereby request that the Lands be considered a candidate site for the City to Soil program.

2. I/We understand that the Guidelines for the Application of Municipal Wastewater Sludges to Agricultural Lands (Updated August 2009) (the "Guidelines") indicate as follows:

    a. biosolids application to agricultural land is intended for the production of forages, oil seeds, small grains (see the Guidelines for further recommendations), dried legumes (peas, beans, etc.), trees and commercial sod;

    b. that no direct grazing be permitted on the Lands for a period of at least three years following application of biosolids; and

    c. that biosolids not be applied on land intended for production of root crops, tobacco and crops eaten raw (including without limitation fresh fruits and vegetables) or used in dairy farm pasturing.

3. I/We acknowledge and agree that any biosolids applied to or stockpiled on the Lands are provided on an as-is where-is basis and that OLSTAD disclaims all representations or warranties, express or implied, including without limitation any implied warranties of merchantability or fitness for any particular purpose.

4. I/We understand that there may be certain inherent risks associated with the application of biosolids to the Lands and I/we assume those risks. I/we hereby release and indemnify OLSTAD, its directors, officers, employees and affiliates from any losses, injuries, claims, demands, liabilities, damages or actions brought or made against OLSTAD, its directors, officers, employees or affiliates or which they may sustain or incur as a result of or in connection with the activities described herein, including without limitation performance of soil testing, the application of biosolids to the Lands and the stockpiling of biosolids on the Lands.

5. I/We hereby authorize OLSTAD, and its authorized agents, to enter upon the Lands at any time this Acknowledgement and Authorization is in effect, in order to conduct soil testing to determine the suitability of the Lands for the City to Soil program and to communicate the results of this testing to third parties as may be required by law and for OLSTAD's administrative purposes.

6. If the Lands are determined to be suitable and are selected for the application of biosolids, I/We further authorize OLSTAD, and its authorized agents, to enter upon the Lands and apply the biosolids.

7. If OLSTAD has dewatered biosolids that it wishes to stockpile on the Lands, I/We hereby authorize OLSTAD, and its authorized agents, to enter upon the Lands to stockpile the dewatered biosolids in accordance with OLSTAD's program requirements. If there are unforeseen circumstances, including a weather event, I/We agree that OLSTAD may leave the stockpiled biosolids on the Lands until it is safe and able, in OLSTAD's sole discretion, to spread and incorporate the material onto the Lands.

8. I/We understand that the City to Soil program is a program offered by OLSTAD at the sole discretion of OLSTAD as part of its biosolids management program and that OLSTAD may cancel, withdraw or adjust the application of biosolids at any time, without liability or notice, at OLSTAD's sole discretion.

9. I/We further agree that no compensation is payable by OLSTAD for the City to Soil program, including without limitation, for the soil testing, application of biosolids, stockpiling of biosolids, or the cancellation, withdrawal or adjustment of any application of biosolids on the Lands.

10. I/We agree to advise OLSTAD if the ownership of the Lands changes or if the lessee(s) of the Lands change.

11. I/We agree to disclose that biosolids have been applied to the Lands to any potential purchaser or lessee of the Lands.

12. I/We agree that this Acknowledgement and Authorization is effective from the date of the final signature below and will be valid for a period of three (3) years.

13. I/We acknowledge that OLSTAD will be relying on the accuracy of and authorizations contained in the foregoing statements in performing the activities outlined herein, including without limitation soil testing, application of biosolids to the Lands and stockpiling of biosolids on the Lands.

14. This Acknowledgement and Authorization may be signed in any number of counterparts, each of which will be deemed to be an original and all of which taken together will be deemed to constitute one and the same document. *Counterparts may be delivered in original form or by email or text message and each will be deemed to be an original.*

15. I/We acknowledge that this agreement is exclusive and binding for 5 years and that no other biosolids may be applied or that similar agreements can be entered into without any written permission from OLSTAD. I/We understand that this exclusive agreement is with OLSTAD and all lands owned, rented or otherwise are subject to this agreement with regards to any biosolids application for 5 years.

16. I/We acknowledge that if dewatered material is stockpiled on the land, it may remain on the land for up to 18 months after the completion of hauling before incorporation. OLSTAD will determine when the biosolids will be incorporated. OLSTAD is not responsible for any inconvenience or loss of revenue if stockpiles have to be farmed around.

17. I/We acknowledge that I/We have read, understand and agree with all of the provisions of this Acknowledgement and Authorization, and acknowledge that I/We have had the opportunity to obtain independent legal advice with respect to it.

Aug 13, 2024
Date

NE 34-55-26 W4
Legal Land Description

Ken & Jeannine Krywko
Name: Landowner

Ken Krywko Jeannine Krywko
Signature

780-818-6057
Phone Number

Krywkoj9@gmail.com
Email

Larry Olstad

City to Soil
Delivered by Olstad & Company
Box 1059 Lamont, AB T0B 2R0

Dear Landowner:

Re: Olstad & Company Ltd.- City to Soil Program Acknowledgement and Authorization

Thank you for your interest in the Olstad & Company Ltd. ("OLSTAD") City to Soil program.

Landowner Name: Paulette Krywko

This letter is to confirm that you have requested that the agricultural land described as:

NE 34 55 26 W4TH (the "Land Location") be considered a candidate site for the City to Soil program. As you know, the City to Soil program involves the application of biosolids to agricultural land in accordance with the Guidelines for the Application of Municipal Wastewater Sludges to Agricultural Lands (Updated August 2009).

If acceptable to you, please return a fully signed original of the enclosed Acknowledgment and Authorization to the attention of Larry Olstad, Director at the above-noted mailing address or email to olstadc8@gmail.com.

The Acknowledgment and Authorization must be signed by all owners and lessees of the Land. Once the fully signed Acknowledgment and Authorization has been received, OLSTAD will commence its assessment of the Land to determine if the Land is an appropriate candidate site for the City to Soil program.

For further information about the City to Soil program please call Larry Olstad [780-940-4803].

Additional Notes:

Enclosure (1): Acknowledgement and Authorization Form

ACKNOWLEDGEMENT AND AUTHORIZATION

Re: Potential application of biosolids to agricultural land described as:

NE 34 55 26 W4TH (the "Lands").

In consideration of Olstad & Company Ltd. ("OLSTAD") (I) evaluating the Lands as a potential candidate site for the City to Soil program; and (ii) potentially applying biosolids to the Lands (if the Lands are determined to be suitable and are selected for application of biosolids, all as decided by OLSTAD in its sole discretion), the undersigned hereby agree(s) as follows:

1. I/We: Paulette Krywko, hereby certify that we are the registered owner(s)/lessee(s) of the Lands and hereby request that the Lands be considered a candidate site for the City to Soil program.

2. I/We understand that the Guidelines for the Application of Municipal Wastewater Sludges to Agricultural Lands (Updated August 2009) (the "Guidelines") indicate as follows:

    a. biosolids application to agricultural land is intended for the production of forages, oil seeds, small grains (see the Guidelines for further recommendations), dried legumes (peas, beans, etc.), trees and commercial sod;

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3. I/We acknowledge and agree that any biosolids applied to or stockpiled on the Lands are provided on an as-is where-is basis and that OLSTAD disclaims all representations or warranties, express or implied, including without limitation any implied warranties of merchantability or fitness for any particular purpose.

4. I/We understand that there may be certain inherent risks associated with the application of biosolids to the Lands and I/we assume those risks. I/we hereby release and indemnify OLSTAD, its directors, officers, employees and affiliates from any losses, injuries, claims, demands, liabilities, damages or actions brought or made against OLSTAD, its directors, officers, employees or affiliates or which they may sustain or incur as a result of or in connection with the activities described herein, including without limitation performance of soil testing, the application of biosolids to the Lands and the stockpiling of biosolids on the Lands.

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14. This Acknowledgement and Authorization may be signed in any number of counterparts, each of which will be deemed to be an original and all of which taken together will be deemed to constitute one and the same document. *Counterparts may be delivered in original form or by email or text message and each will be deemed to be an original.*

15. I/We acknowledge that this agreement is exclusive and binding for 5 years and that no other biosolids may be applied or that similar agreements can be entered into without any written permission from OLSTAD. I/We understand that this exclusive agreement is with OLSTAD and all lands owned, rented or otherwise are subject to this agreement with regards to any biosolids application for 5 years.

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17. I/We acknowledge that I/We have read, understand and agree with all of the provisions of this Acknowledgement and Authorization, and acknowledge that I/We have had the opportunity to obtain independent legal advice with respect to it.

Aug 11/25
Date

L Olstad
Larry Olstad

NE 34 55 26 W4th
Legal Land Description

Paulette Krywko
Name: Landowner

Paulette Krywko
Signature

780-939-2166
Phone Number

N/A
Email

EPCOR PROVIDING MORE

EPCOR Water Services
Edmonton, Alberta

2025
Annual Wastewater Collection System Report

SUBMITTED TO:

The Province of Alberta

Alberta Environment and Protected Areas (AEPA)

As per requirements of:

APPROVAL NO. 639-04-00

February 2026

TABLE OF CONTENTS

2025 Overview

EPCOR Water Services (EWS) provides wastewater collection (WWC) and stormwater conveyance services to City of Edmonton residents through the planning, construction, operation, and maintenance of the pipes, tunnels, pump stations, and stormwater management facilities that make up the wastewater collection network. In 2025, EWS realigned accountabilities into a functional organizational structure. Construction, operation, and maintenance of wastewater collection linear assets—including pipes, pump stations, lift stations, and stormwater management facilities—are supported by four functional groups:

- Linear Asset Operations: responsible for the central management and operation of the wastewater collection systems.
- Linear Asset Maintenance: responsible for maintenance and inspection activities for wastewater collection linear assets, from lift stations to stormwater facilities.
- Linear Asset Construction: execute construction activities for linear assets, including sewer repairs.
- Linear Asset Services: provide developer services, public and private inspections.

Project Management and Engineering oversee projects, including in-house design, cost estimating, and drafting. Their work includes new sewer infrastructure—such as tunnels, pipes, manholes, and wetlands—as well as coordinating sewer rehabilitation. Operations are supported by other EPCOR groups, including Public Affairs and Community Engagement, Supply Chain Management, Fleet and Equipment, Facilities, and Finance.

Wastewater and stormwater collection is provided through EPCOR's sanitary and stormwater systems. The sanitary system includes more than 2,800 km of sanitary sewer and over 800 km of combined sewer, conveying flows to sanitary trunks and ultimately to the Gold Bar Wastewater Treatment Plant (WWTP).

Some wastewater conveyance is governed by a Wastewater Exchange Agreement with Arrow Utilities. The Arrow Utilities Plant treats flows from Clareview and the Clover Bar Industrial Area, while EPCOR conveys wastewater from the Leduc region (City and County of Leduc, and Town of Beaumont) to Gold Bar WWTP.

The stormwater system includes over 3,300 km of storm sewer, 62,000 catch basins, and 12,800 manholes. Storm trunks discharge to natural watercourses through 258 outfalls, supported by 310 stormwater management facilities that provide flood prevention, peak-flow control, and treatment. Across both systems, 95 pump stations ensure reliable service.

EWS is committed to environmental protection and employee, customer, and public health and safety. Its integrated HSE management system is certified to ISO 14001:2015 and ISO 45001:2014, with successful reregistration in 2025.

The **2025 Annual Wastewater Collection System Report** includes Environmental Monitoring results, Chemical Usage, and a summary of any operational issues encountered within the wastewater collection system, and the remedial actions taken to resolve the issues.

The supervising operator responsible for the operation of the wastewater collection system is **Peter McConnell**.

Storm and CSO Volumes and Loadings

This section is submitted in compliance with Schedule 1 and 7.2.2 (b) of the Approval No. 639-04-00 for the one year period ending December 31, 2025. The monthly volumes discharged to the North Saskatchewan River (NSR) are indicated in Figures 1 and 2 for the following locations:

- 30th Avenue Storm Outfall
- Groat Road Storm Outfall
- Quesnell Storm Outfall
- Kennedale Storm Outfall
- Rat Creek CSO
- Highlands CSO
- Capilano CSO
- Cromdale CSO
- Strathearn CSO

Estimated and measured storms volumes are indicated on Figure 3. Monitored CSO volumes are indicated on Figure 4. A tabular summary of the flow volumes and estimations of total monthly volumes discharged is also included (Table 2). Of the sites reported, the storm and combined system contributed 99.8% and 0.2% of the volume, respectively.

The total (measured and estimated) flow volume discharged from the storm sewer system to the NSR and tributaries in 2025 was 107.1 million m^3, a 14.8% decrease compared to the 2024 volume of 125.8 million m^3. This decrease is due to 2025 being a drier year compared to 2024. The 2025 flow volumes from the 30th Avenue, Groat Road, Quesnell, and Kennedale storm outfalls were 5.6, 3.2, 13.9, and 8.5 million m^3, respectively. The volume of flows from Mill Creek was 11.8 million m^3.

For the combined sewer system, the total CSO flow volume discharged to the NSR in 2025 was 249,115 m^3, a 11.3 % increase compared to the 2024 volume of 223,833 m^3. This increase was due to a large rainfall event on June 13-14 and malfunction of the RTC3 gate. The 2025 flow volumes from the Rat Creek, Highlands, Capilano, Cromdale, and Strathearn CSOs, were 217,071; 6,058; 0; 0; and 1,084 m^3, respectively.

Water quality samples were obtained for the majority of the significant discharge events during the year. As well, a total of 69 dry-weather (baseflow) water quality samples were obtained from the storm sewer system. Table 3 provides a tabular summary of calculated flow-weighted mean monthly and annual concentrations for different constituents and the number of events sampled for water quality analysis.

In accordance with the Approval requirements, total monthly loadings to the North Saskatchewan River have been calculated for the above sites. Summaries of measured loads and estimated total loads for EPCOR's storm and combined sewer system are included in Table 4. The reported loads were calculated using daily constituent concentrations, including storm sewer baseflow data, and the measured or estimated flow volumes. The sum of storm and CSO loading to the NSR consists of about 14,511 tonnes of total suspended solids (TSS), 46 tonnes of total phosphorous (TP), 82 tonnes of nitrite and nitrate (NO_2 + NO_3), 63 tonnes of ammonia (NH_3), 20,190 tonnes of chloride and 23,577 x 10^{12} MPN of *E. coli*. Summaries of the Rat Creek CSO concentration statistics are shown in Table 5.

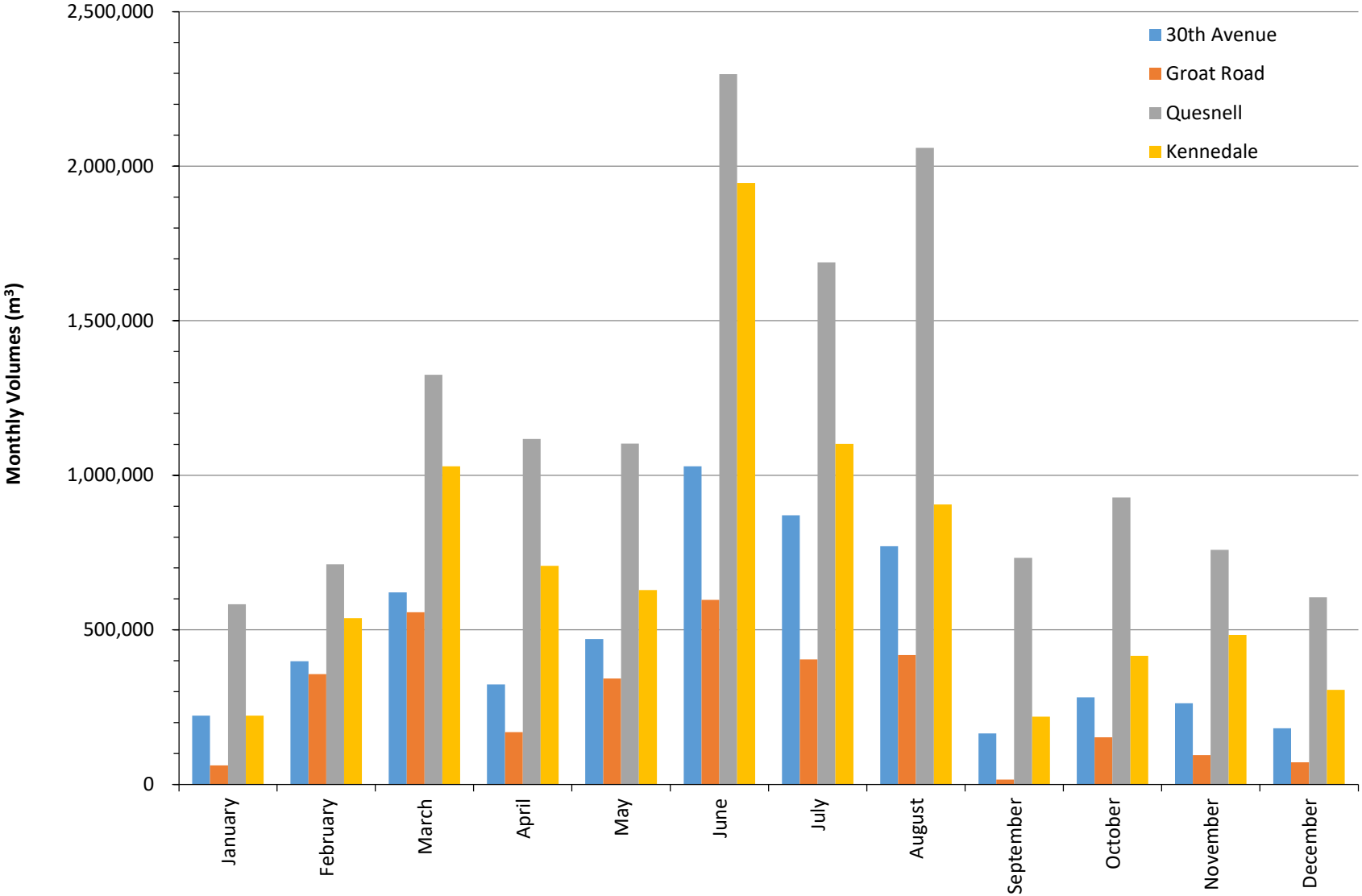


Figure 1: Total (Measured + Estimated) Storm Volume in 2025

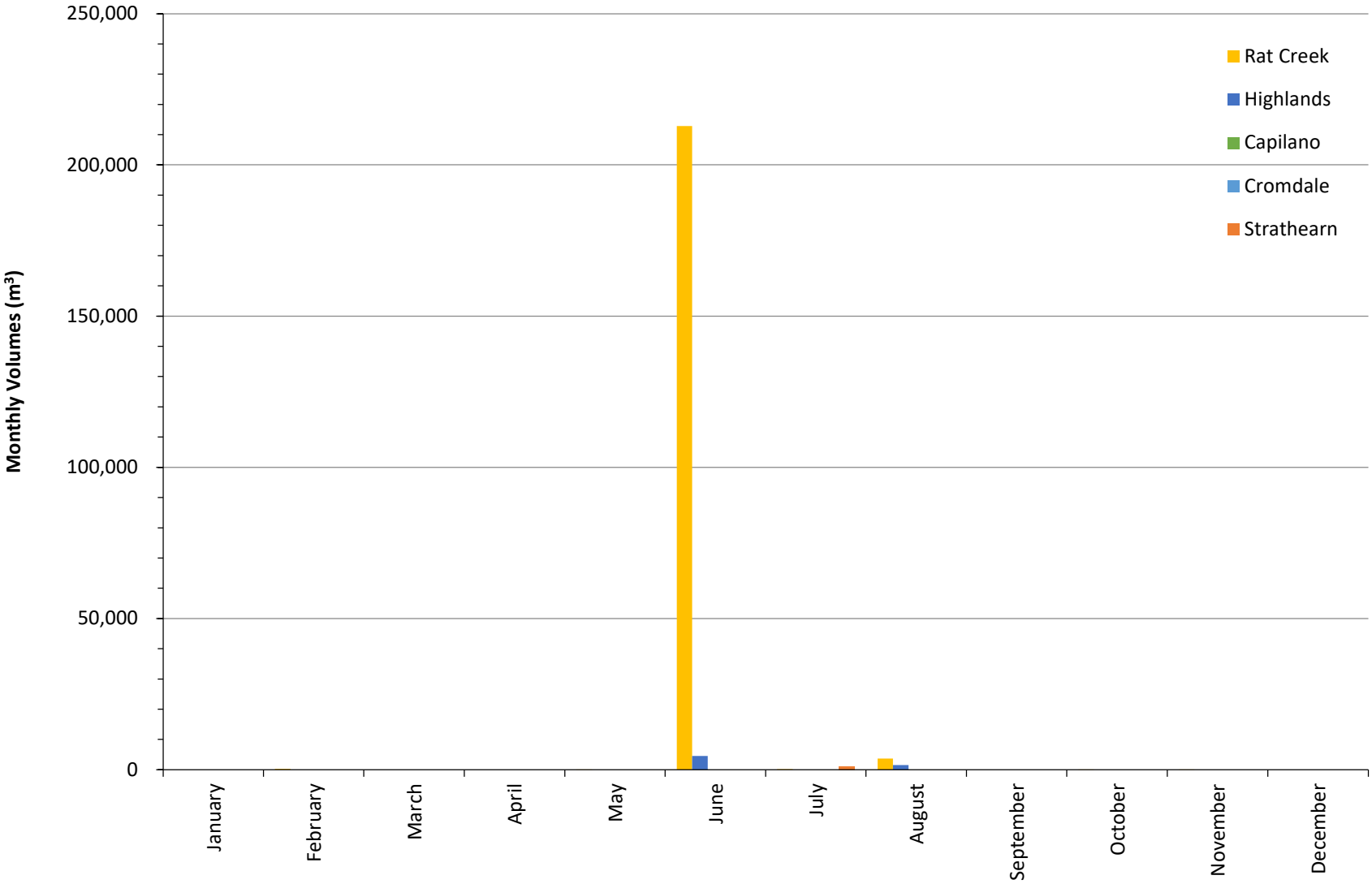


Figure 2: Measured CSO Volumes in 2025

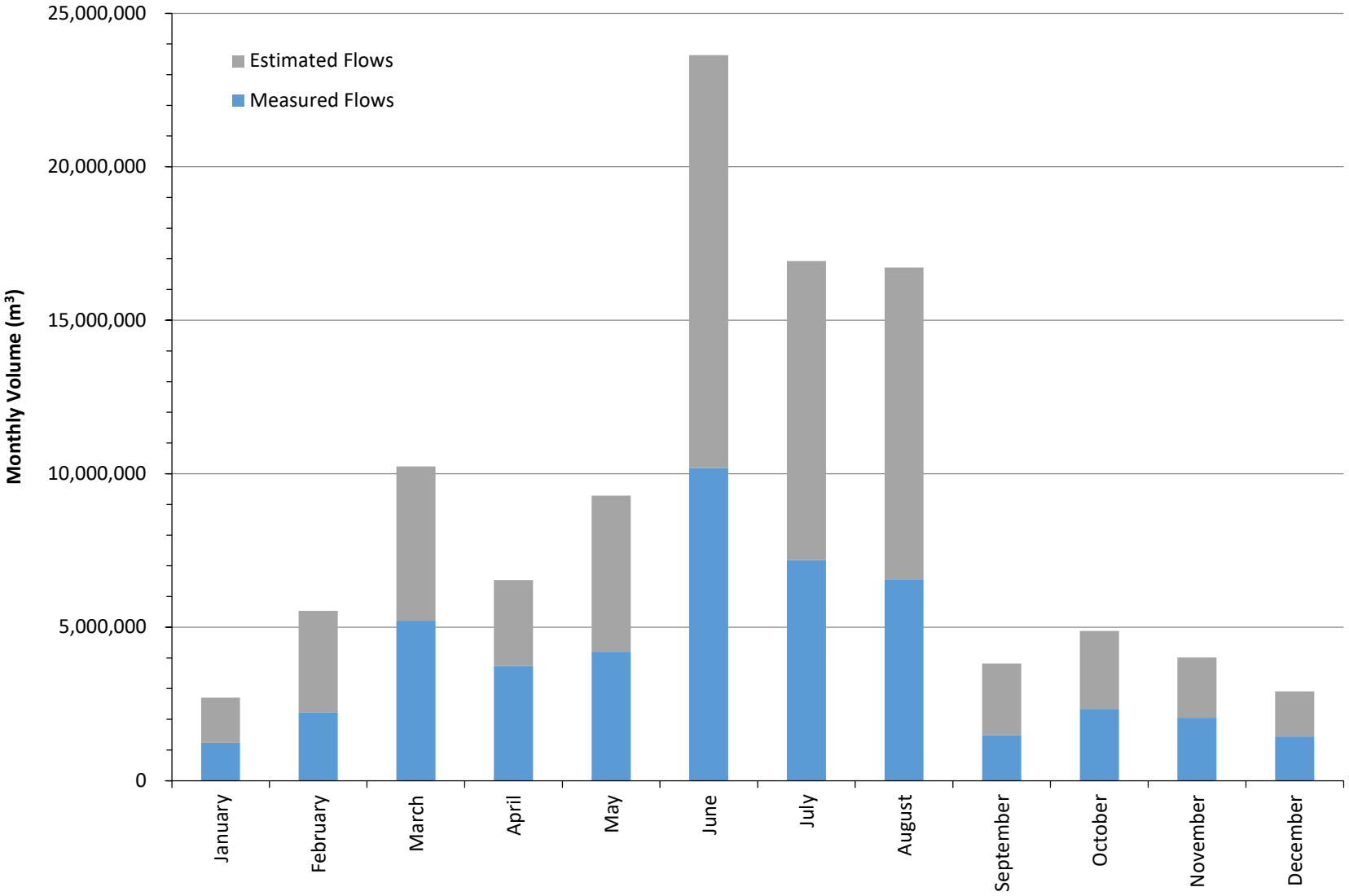


Figure 3: Total Storm (Measured + Unmonitored) Volumes in 2025 (All Storm Outfalls and Creeks)

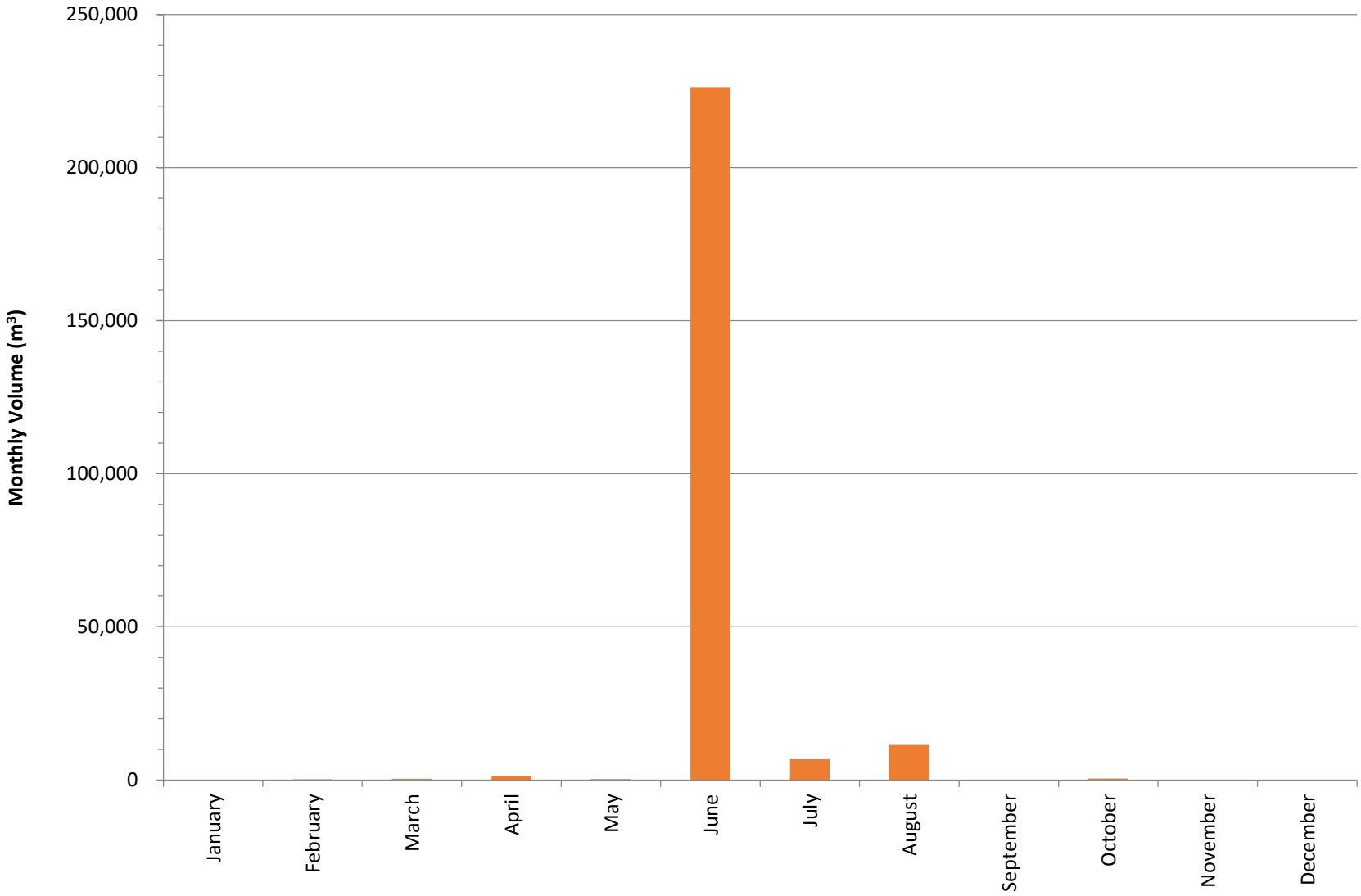


Figure 4: Monitored CSO Volume in 2025

Table 2: 2025 Annual Discharge Volumes (in Cubic Meters)

	Storm Outfalls				CSO Outfalls				
Month	**30th Avenue**	**Groat Road**	**Quesnell**	**Kennedale**	**Rat Creek**	**Highlands**	**Capilano**	**Cromdale**	**Strathearn**
January	222,878	61,521	582,813	222,115	0	0	0	0	0
February	398,758	356,425	711,988	537,716	213	0	0	0	0
March	621,042	556,551	1,325,328	1,028,654	0	0	0	0	0
April	323,621	169,209	1,117,373	706,838	0	0	0	0	0
May	469,860	342,994	1,102,246	628,904	76	0	0	0	0
June	1,028,806	597,129	2,297,472	1,945,416	212,865	4,560	0	0	0
July	870,318	404,459	1,688,316	1,101,940	130	0	0	0	1,084
August	770,210	418,781	2,059,374	905,326	3,714	1,498	0	0	0
September	164,902	15,247	732,880	219,214	0	0	0	0	0
October	281,996	152,688	928,262	415,950	72	0	0	0	0
November	262,634	95,172	758,457	483,860	2	0	0	0	0
December	181,892	71,671	605,575	306,180	0	0	0	0	0
Total	**5,596,916**	**3,241,848**	**13,910,083**	**8,502,113**	**217,071**	**6,058**	**0**	**0**	**1,084**

	Measured Flows		[3]Unmonitored Flows		Total Flow	
Month	**[1]Storm Outfalls**	**[2]CSO Outfalls**	**Storm Outfalls**	**CSO Outfalls**	**Storm Outfalls**	**CSO Outfalls**
January	1,234,997	0	1,468,827	0	2,703,824	0
February	2,234,465	239	3,295,310	129	5,529,775	368
March	5,209,604	378	5,026,023	0	10,235,628	378
April	3,741,674	1,281	2,789,928	0	6,531,602	1,281
May	4,204,078	306	5,085,873	120	9,289,951	426
June	10,182,833	226,290	13,452,368	884	23,635,202	227,174
July	7,186,185	6,804	9,742,224	62	16,928,409	6,866
August	6,562,256	11,430	10,149,337	672	16,711,593	12,102
September	1,481,685	19	2,333,546	0	3,815,230	19
October	2,338,813	429	2,537,169	14	4,875,982	443
November	2,056,594	57	1,959,175	2	4,015,769	59
December	1,443,229	0	1,467,882	0	2,911,111	0
Total	**47,876,413**	**247,233**	**59,307,664**	**1,882**	**107,184,077**	**249,115**

Note: [1]Measured Storm flows are actual flow volumes measured from all monitored storm outfalls.

[2]Measured CSO flows are actual flow volumes measured from all monitored CSOs.

[3]Unmonitored flow volumes include estimates from monitored sites when measurements not available in addition to unmonitored areas.

Table 3: Calculated Flow-Weighted Mean Monthly and Annual Constituent Concentrations for 2025

Total Suspended Solids (mg/L)

	Storm Outfalls				CSO Outfalls			No. of Samples	
Month	**30th Avenue**	**Groat Road**	**Quesnell**	**Kennedale**	**Rat Creek**	**Highlands**	**Capilano**	**Storm**	**CSO**
January	45	181	28	11	-	-	-	10	0
February	179	229	146	89	668	-	-	27	0
March	131	143	129	45	-	-	-	50	0
April	146	269	72	45	-	-	-	23	0
May	108	523	243	164	668	-	-	39	0
June	123	302	137	111	413	684	-	42	5
July	47	208	55	26	687	-	-	33	2
August	93	359	159	23	706	710	-	41	1
September	5	12	46	5	-	-	-	8	0
October	96	256	67	38	668	-	-	22	0
November	65	63	54	18	668	-	-	14	0
December	82	251	29	11	-	-	-	8	0
Mean Annual FWC =	**100**	**270**	**110**	**62**	**419**	**690**	**-**	**317**	**8**

Mean Annual FWC for all Storm = **112**

Mean Annual FWC for all CSO = **426**

Total Phosphorus (mg/L)

	Storm Outfalls				CSO Outfalls			No. of Samples	
Month	**30th Avenue**	**Groat Road**	**Quesnell**	**Kennedale**	**Rat Creek**	**Highlands**	**Capilano**	**Storm**	**CSO**
January	0.5	1.3	0.4	0.3	-	-	-	11	0
February	0.6	0.8	0.5	0.6	11.9	-	-	27	1
March	0.5	0.6	0.5	0.4	-	-	-	52	0
April	0.6	0.8	0.5	0.3	-	-	-	23	0
May	0.5	0.0	0.0	0.0	9.2	-	-	40	1
June	0.4	0.5	0.4	0.3	3.4	3.8	-	48	5
July	0.3	0.4	0.3	0.2	7.1	-	-	34	3
August	0.3	0.5	0.4	0.2	2.4	2.1	-	41	4
September	0.5	0.6	0.3	0.4	-	-	-	8	0
October	0.8	1.0	0.3	0.5	11.3	-	-	22	1
November	0.5	0.5	0.3	0.3	4.6	-	-	15	0
December	0.8	0.6	0.2	0.2	-	-	-	8	0
Mean Annual FWC =	**0.5**	**0.6**	**0.4**	**0.3**	**3.4**	**3.3**	**-**	**329**	**15**

Mean Annual FWC for all Storm = **0.4**

Mean Annual FWC for all CSO = **3.4**

Table 3: Calculated Flow-Weighted Mean Monthly and Annual Constituent Concentrations for 2025 (Cont.)

Nitrite + Nitrate (mg/L)

	Storm Outfalls				CSO Outfalls			No. of Samples	
Month	**30th Ave**	**Groat Road**	**Quesnell**	**Kennedale**	**Rat Creek**	**Highlands**	**Capilano**	**Storm**	**CSO**
January	2.3	0.8	0.6	1.7	-	-	-	11	0
February	1.1	0.6	0.5	0.7	0.1	-	-	27	1
March	0.8	0.8	0.5	0.6	-	-	-	55	0
April	1.1	0.8	0.5	1.0	-	-	-	23	0
May	0.7	1.0	0.9	1.1	0.02	-	-	40	1
June	0.7	0.7	0.5	0.6	0.4	0.5	-	48	5
July	1.3	0.5	0.7	0.8	0.03	-	-	34	3
August	1.2	0.5	0.6	0.6	0.4	0.4	-	41	3
September	4.7	0.6	1.6	0.9	-	-	-	8	0
October	3.0	0.6	1.0	0.8	0.6	-	-	22	1
November	1.0	0.7	0.7	0.8	0.05	-	-	15	0
December	0.7	0.7	1.0	1.2	-	-	-	8	0
Mean Annual FWC =	**1.2**	**0.7**	**0.7**	**0.8**	**0.4**	**0.4**	-	**332**	**14**

Mean Annual FWC for all Storm = **0.8**

Mean Annual FWC for all CSO = **0.4**

Ammonia Nitrogen (mg/L)

	Storm Outfalls				CSO Outfalls			No. of Samples	
Month	**30th Ave**	**Groat Road**	**Quesnell**	**Kennedale**	**Rat Creek**	**Highlands**	**Capilano**	**Storm**	**CSO**
January	0.8	1.2	0.8	1.0	-	-	-	11	0
February	1.2	0.9	0.8	1.4	26.9	-	-	27	1
March	0.5	0.9	0.5	1.1	-	-	-	55	0
April	0.6	0.7	0.7	0.5	-	-	-	23	0
May	0.9	0.9	0.6	0.4	27.3	-	-	40	1
June	0.7	0.3	0.6	0.3	12.0	10.2	-	48	5
July	0.3	0.3	0.3	0.3	16.8	-	-	34	3
August	0.2	0.2	0.2	0.3	11.4	11.0	-	41	4
September	1.8	0.3	0.4	0.8	-	-	-	8	0
October	0.9	0.7	0.5	1.7	18.9	-	-	22	1
November	1.3	0.8	0.7	0.9	17.2	-	-	15	0
December	2.3	1.0	0.8	0.9	-	-	-	8	0
Mean Annual FWC =	**0.7**	**0.6**	**0.5**	**0.6**	**12.0**	**10.4**	-	**332**	**15**

Mean Annual FWC for all Storm = **0.6**

Mean Annual FWC for all CSO = **12.0**

Table 3: Calculated Flow-Weighted Mean Monthly and Annual Constituent Concentrations for 2025 (Cont.)

Chloride (mg/L)

	Storm Outfalls				CSO Outfalls			No. of Samples	
Month	**30th Ave**	**Groat Road**	**Quesnell**	**Kennedale**	**Rat Creek**	**Highlands**	**Capilano**	**Storm**	**CSO**
January	483	1,537	301	654	-	-	-	11	0
February	610	722	506	633	357	-	-	27	1
March	376	500	423	413	-	-	-	54	0
April	228	407	241	354	-	-	-	23	0
May	133	99	124	215	94	-	-	40	1
June	67	53	92	106	44	36	-	48	5
July	82	61	106	125	57	-	-	34	2
August	67	63	63	107	22	20	-	41	3
September	272	80	124	202	-	-	-	8	0
October	183	72	84	154	42	-	-	22	1
November	144	115	108	161	54	-	-	15	0
December	533	1,692	421	475	-	-	-	8	0
Mean Annual FWC =	**204**	**296**	**182**	**243**	**44**	**32**	-	**331**	**13**

Mean Annual FWC for all Storm = **214**

Mean Annual FWC for all CSO = **44**

E. coli (MPN/100 mL)

	Storm Outfalls				CSO Outfalls			No. of Samples	
Month	**30th Ave**	**Groat Road**	**Quesnell**	**Kennedale**	**Rat Creek**	**Highlands**	**Capilano**	**Storm**	**CSO**
January	17,382	35,793	9,982	803	-	-	-	11	0
February	14,500	11,687	8,840	5,520	6,130,000	-	-	28	1
March	18,730	16,009	11,422	3,088	-	-	-	55	0
April	20,834	6,909	18,163	1,744	-	-	-	23	0
May	28,007	23,532	14,230	4,862	10,500,000	-	-	40	1
June	45,234	11,332	25,944	4,542	2,724,429	2,465,586	-	53	5
July	37,950	14,003	12,982	6,506	6,120,370	-	-	35	3
August	35,062	18,360	12,791	7,581	4,543,675	4,525,000	-	41	4
September	4,930	854	7,627	1,676	-	-	-	8	0
October	42,119	36,449	17,311	2,034	6,130,000	-	-	21	1
November	17,311	20,856	11,124	1,817	4,615,000	-	-	15	0
December	21,315	19,375	42,076	1,612	-	-	-	8	0
Mean Annual FWC =	**30,173**	**16,530**	**16,295**	**4,242**	**2,764,792**	**2,974,790**	-	**338**	**15**

Mean Annual FWC for all Storm = **15,526**

Mean Annual FWC for all CSO = **2,770,494**

Table 4: Constituent Loads for 2025

Total Suspended Solids (kg)

	Storm Outfalls					Creeks							CSO Outfalls				
Month	30th Ave Storm	Groat Rd. Storm	Quesnell Storm	Kennedale Storm	Unmonitored Storm	Blackmud Creek	Gold Bar Creek	Horsehills Creek	Mill Creek	Wedgewood Creek	Whitemud Creek	**Total Storm**	Rat Creek CSO	Highlands CSO	Capilano CSO	Remaining CSO	**Total CSO**
January	9,980	11,136	16,515	2,435	34,149	13,432	2,302	5,688	4,573	1,756	11,183	**113,148**	0	0	0	0	**0**
February	71,420	81,507	103,788	47,751	278,298	112,517	21,234	47,300	49,064	14,599	92,970	**920,449**	142	0	0	103	**246**
March	81,181	79,465	170,877	46,292	354,227	145,506	24,340	59,146	129,212	18,255	134,600	**1,243,101**	0	0	0	253	**253**
April	47,321	45,539	80,658	31,835	184,451	72,907	12,323	29,680	83,289	9,160	61,997	**659,162**	0	0	0	856	**856**
May	50,883	179,279	268,186	103,031	851,471	305,570	52,015	130,339	334,367	48,874	265,402	**2,589,418**	51	0	0	234	**285**
June	126,586	180,231	313,692	216,573	1,192,162	474,621	89,555	242,452	520,724	55,977	443,362	**3,855,935**	87,934	3,118	0	5,516	**96,569**
July	41,082	84,328	92,647	28,513	386,637	211,442	25,431	64,084	175,206	22,764	180,736	**1,312,870**	89	0	0	5,028	**5,118**
August	71,314	150,260	328,161	20,874	843,859	525,151	40,054	104,498	254,466	56,995	362,697	**2,758,329**	2,623	1,063	0	4,825	**8,511**
September	871	179	33,585	1,055	46,163	17,124	2,527	6,807	9,681	2,168	11,190	**131,349**	0	0	0	13	**13**
October	27,165	39,163	62,041	15,702	119,324	51,408	7,999	18,636	40,232	7,150	39,363	**428,184**	48	0	0	248	**296**
November	17,156	6,016	41,281	8,943	63,490	24,458	4,353	10,275	20,809	3,171	18,601	**218,554**	1	0	0	38	**39**
December	14,828	17,979	17,700	3,487	52,733	20,500	4,000	8,530	9,953	2,633	16,180	**168,525**	0	0	0	0	**0**
Total	**559,788**	**875,082**	**1,529,133**	**526,492**	**4,406,963**	**1,974,637**	**286,133**	**727,436**	**1,631,577**	**243,502**	**1,638,283**	**14,399,025**	**90,888**	**4,182**	**0**	**17,113**	**112,183**

Total Load From Storm and CSO = 14,511,208

Total Phophorus (kg)

	Storm Outfalls					Creeks							CSO Outfalls				
Month	30th Ave Storm	Groat Rd. Storm	Quesnell Storm	Kennedale Storm	Unmonitored Storm	Blackmud Creek	Gold Bar Creek	Horsehills Creek	Mill Creek	Wedgewood Creek	Whitemud Creek	**Total Storm**	Rat Creek CSO	Highlands CSO	Capilano CSO	Remaining CSO	**Total CSO**
January	109	83	234	59	362	142	24	60	71	19	115	**1,278**	0	0	0	0	**0**
February	254	277	381	346	1,011	407	75	171	169	53	338	**3,483**	3	0	0	2	**4**
March	325	342	599	447	1,389	566	94	230	475	71	532	**5,071**	0	0	0	2	**2**
April	178	129	534	233	827	327	55	134	507	41	280	**3,245**	0	0	0	6	**6**
May	214	344	614	276	1,989	721	124	315	820	106	602	**6,126**	1	0	0	3	**4**
June	431	270	824	527	2,811	1,068	185	533	1,090	128	920	**8,785**	715	17	0	38	**770**
July	219	151	527	172	1,513	739	102	260	773	90	648	**5,194**	1	0	0	50	**51**
August	201	213	745	193	1,845	1,052	89	231	576	123	749	**6,017**	9	3	0	22	**34**
September	78	10	242	85	470	171	26	69	103	22	112	**1,385**	0	0	0	0	**0**
October	213	149	317	201	654	274	43	105	211	37	208	**2,413**	1	0	0	4	**5**
November	144	44	221	125	383	148	26	62	106	19	114	**1,394**	0	0	0	0	**0**
December	151	45	143	62	317	121	24	51	60	16	101	**1,089**	0	0	0	0	**0**
Total	**2,519**	**2,056**	**5,380**	**2,728**	**13,570**	**5,737**	**866**	**2,221**	**4,960**	**725**	**4,719**	**45,481**	**729**	**20**	**0**	**126**	**876**

Total Load From Storm and CSO = 46,357

Nitrite + Nitrate (kg)

	Storm Outfalls					Creeks							CSO Outfalls				
Month	30th Ave Storm	Groat Rd. Storm	Quesnell Storm	Kennedale Storm	Unmonitored Storm	Blackmud Creek	Gold Bar Creek	Horsehills Creek	Mill Creek	Wedgewood Creek	Whitemud Creek	**Total Storm**	Rat Creek CSO	Highlands CSO	Capilano CSO	Remaining CSO	**Total CSO**
January	512	47	350	385	761	300	49	127	178	39	237	**2,985**	0	0	0	0	**0**
February	445	196	392	365	1,063	429	76	180	209	56	342	**3,752**	0	0	0	0	**0**
March	491	428	680	649	1,742	709	116	289	673	89	669	**6,535**	0	0	0	0	**0**
April	370	139	567	739	1,089	429	71	175	675	54	386	**4,693**	0	0	0	0	**0**
May	333	338	1,033	690	2,819	1,005	173	443	1,182	143	848	**9,005**	0	0	0	0	**0**
June	699	401	1,039	1,252	3,645	1,556	267	717	1,566	176	1,314	**12,632**	76	2	0	3	**81**
July	1,144	187	1,107	921	3,013	1,449	201	527	1,576	175	1,263	**11,564**	0	0	0	0	**0**
August	926	216	1,243	580	3,350	1,745	162	416	1,069	215	1,249	**11,171**	1	1	0	3	**5**
September	775	10	1,177	188	2,636	954	143	389	571	120	624	**7,587**	0	0	0	0	**0**
October	858	96	928	315	1,637	656	103	266	509	89	483	**5,941**	0	0	0	0	**0**
November	261	66	501	372	786	304	54	128	217	39	236	**2,965**	0	0	0	0	**0**
December	128	49	633	380	753	285	56	120	143	37	243	**2,827**	0	0	0	0	**0**
Total	**6,942**	**2,173**	**9,648**	**6,835**	**23,293**	**9,822**	**1,472**	**3,775**	**8,569**	**1,232**	**7,894**	**81,656**	**77**	**3**	**0**	**6**	**86**

Total Load From Storm and CSO = 81,742

Table 4: Constituent Loads for 2025 (Cont.)

Ammonia Nitrogen (kg)

	Storm Outfalls					Creeks							CSO Outfalls				
Month	30th Ave Storm	Groat Rd. Storm	Quesnell Storm	Kennedale Storm	Unmonitored Storm	Blackmud Creek	Gold Bar Creek	Horsehills Creek	Mill Creek	Wedgewood Creek	Whitemud Creek	**Total Storm**	Rat Creek CSO	Highlands CSO	Capilano CSO	Remaining CSO	**Total CSO**
January	173	75	462	225	601	236	39	100	127	31	190	**2,258**	0	0	0	0	**0**
February	492	338	548	733	1,626	655	120	275	273	85	544	**5,687**	6	0	0	4	**10**
March	309	474	615	1,133	1,655	670	110	273	580	84	637	**6,540**	0	0	0	6	**6**
April	183	113	792	352	1,013	401	67	164	752	51	343	**4,231**	0	0	0	22	**22**
May	424	302	715	265	2,203	804	141	363	969	110	650	**6,945**	2	0	0	9	**11**
June	748	161	1,275	606	3,758	1,314	227	619	1,451	174	1,096	**11,430**	2,559	46	0	124	**2,730**
July	301	110	576	294	1,576	737	107	276	828	91	647	**5,543**	2	0	0	112	**114**
August	156	93	500	272	1,264	702	59	159	400	81	489	**4,178**	43	16	0	82	**141**
September	301	5	309	173	885	318	48	131	185	40	207	**2,603**	0	0	0	0	**0**
October	267	104	490	717	898	366	57	147	282	49	269	**3,646**	1	0	0	7	**8**
November	347	75	506	433	855	331	59	140	206	43	256	**3,253**	0	0	0	1	**1**
December	421	75	510	285	921	349	69	147	174	45	296	**3,291**	0	0	0	0	**0**
Total	**4,122**	**1,925**	**7,297**	**5,487**	**17,253**	**6,884**	**1,103**	**2,794**	**6,227**	**886**	**5,624**	**59,605**	**2,613**	**63**	**0**	**368**	3,044

Total Load From Storm and CSO = 62,648

Chloride (kg)

	Storm Outfalls					Creeks							CSO Outfalls				
Month	30th Ave Storm	Groat Rd. Storm	Quesnell Storm	Kennedale Storm	Unmonitored Storm	Blackmud Creek	Gold Bar Creek	Horsehills Creek	Mill Creek	Wedgewood Creek	Whitemud Creek	**Total Storm**	Rat Creek CSO	Highlands CSO	Capilano CSO	Remaining CSO	**Total CSO**
January	107,671	94,564	175,306	145,343	343,861	135,681	23,157	57,465	49,803	17,736	112,602	**1,263,189**	0	0	0	0	**0**
February	243,418	257,480	360,268	340,174	971,164	392,734	73,015	165,187	180,900	50,984	321,741	**3,357,065**	76	0	0	55	**131**
March	233,346	278,379	560,365	425,024	1,166,633	477,072	78,831	193,699	445,559	59,784	448,976	**4,367,669**	0	0	0	20	**20**
April	73,912	68,878	268,747	250,331	411,275	162,410	26,780	66,295	260,448	20,462	143,368	**1,752,905**	0	0	0	69	**69**
May	62,349	34,067	136,870	135,372	381,223	132,572	22,858	60,249	168,313	18,156	109,298	**1,261,326**	7	0	0	30	**37**
June	68,895	31,716	211,586	207,005	604,454	247,675	43,828	108,308	270,161	29,779	205,839	**2,029,246**	9,343	163	0	429	**9,934**
July	71,760	24,642	179,781	137,309	462,461	218,819	30,575	80,611	256,956	26,399	190,096	**1,679,410**	7	0	0	394	**401**
August	51,524	26,297	128,849	96,750	347,504	182,959	16,713	43,255	111,389	22,524	132,232	**1,159,995**	83	30	0	172	**285**
September	44,802	1,227	91,126	44,287	200,371	72,698	10,895	29,477	44,342	9,178	47,599	**595,999**	0	0	0	1	**1**
October	51,515	11,012	78,221	64,039	129,990	52,206	8,147	21,111	40,712	7,079	38,058	**502,090**	3	0	0	16	**19**
November	37,780	10,903	81,656	77,784	128,647	49,486	8,863	20,847	37,497	6,434	37,624	**497,521**	0	0	0	3	**3**
December	96,986	121,277	255,184	145,294	501,369	194,676	37,955	80,873	97,398	24,961	156,699	**1,712,669**	0	0	0	0	**0**
Total	**1,143,957**	**960,440**	**2,527,959**	**2,068,712**	**5,648,950**	**2,318,988**	**381,617**	**927,378**	**1,963,477**	**293,475**	**1,944,132**	20,179,085	**9,520**	**192**	**0**	**1,189**	10,901

Total Load From Storm and CSO = 20,189,986

E. coli (MPN x 10^{12})

	Storm Outfalls					Creeks							CSO Outfalls				
Month	30th Ave Storm	Groat Rd. Storm	Quesnell Storm	Kennedale Storm	Unmonitored Storm	Blackmud Creek	Gold Bar Creek	Horsehills Creek	Mill Creek	Wedgewood Creek	Whitemud Creek	**Total Storm**	Rat Creek CSO	Highlands CSO	Capilano CSO	Remaining CSO	**Total CSO**
January	39	22	58	2	104	41	7	18	16	5	34	**347**	0	0	0	0	**0**
February	58	42	63	30	173	70	13	29	32	9	57	**576**	13	0	0	9	**23**
March	116	89	151	32	377	153	25	62	157	19	147	**1,329**	0	0	0	17	**17**
April	67	12	203	12	259	102	17	42	189	13	88	**1,005**	0	0	0	59	**59**
May	132	81	157	31	457	175	28	73	177	25	148	**1,483**	8	0	0	33	**41**
June	465	68	596	88	1,044	428	88	204	498	52	388	**3,919**	5,799	112	0	318	**6,230**
July	330	57	219	72	622	329	43	103	330	39	299	**2,443**	8	0	0	406	**414**
August	270	77	263	69	690	386	32	86	228	46	285	**2,432**	169	68	0	317	**554**
September	8	0	56	4	86	31	5	13	15	4	20	**242**	0	0	0	1	**1**
October	119	56	161	8	299	124	20	49	90	17	97	**1,039**	4	0	0	23	**27**
November	45	20	84	9	143	55	10	23	39	7	43	**479**	0	0	0	3	**3**
December	39	14	255	5	277	106	21	44	54	14	89	**916**	0	0	0	0	**0**
Total	**1,689**	**536**	**2,267**	**361**	**4,531**	**2,000**	**309**	**747**	**1,824**	**251**	**1,695**	16,209	**6,002**	**180**	**0**	**1,187**	7,368

Total Load From Storm and CSO = 23,577

Table 5: 2025 Rat Creek CSO Concentration Statistics

Month	Days with CSO Flows	TSS Mean (mg/L)	TSS Maximum (mg/L)	TSS Minimum (mg/L)	TP Mean (mg/L)	TP Maximum (mg/L)	TP Minimum (mg/L)	NO_3+NO_2 Mean (mg/L)	NO_3+NO_2 Maximum (mg/L)	NO_3+NO_2 Minimum (mg/L)	NH_3 Mean (MPN/100 mL)	NH_3 Maximum (MPN/100 mL)	NH_3 Minimum (MPN/100 mL)
January	0	-	-	-	-	-	-	-	-	-	-	-	-
February	1	-	-	-	11.9	11.9	11.9	0.058	0.058	0.058	26.9	26.9	26.9
March	0	-	-	-	-	-	-	-	-	-	-	-	-
April	0	-	-	-	-	-	-	-	-	-	-	-	-
May	1	-	-	-	9.2	9.2	9.2	0.024	0.024	0.024	27.3	27.3	27.3
June	4	451	788	248	3.6	4.8	2.6	0.280	0.487	0.016	13.2	18.8	8.8
July	3	1118	1560	676	10.1	17.6	4.3	0.028	0.043	0.017	18.2	23.0	12.3
August	3	710	710	710	4.7	7.4	1.0	0.223	0.418	0.018	14.0	18.9	3.6
September	0	-	-	-	-	-	-	-	-	-	-	-	-
October	1	-	-	-	11.3	11.3	11.3	0.601	0.601	0.601	18.9	18.9	18.9
November	1	-	-	-	-	-	-	-	-	-	-	-	-
December	0	-	-	-	-	-	-	-	-	-	-	-	-

Month	Days with CSO Flows	Chloride Mean (mg/L)	Chloride Maximum (mg/L)	Chloride Minimum (mg/L)	BOD Mean (mg/L)	BOD Maximum (mg/L)	BOD Minimum (mg/L)	*E. coli* Geo Mean (mg/L)	*E. coli* Maximum (mg/L)	*E. coli* Minimum (mg/L)
January	0	-	-	-	-	-	-	-	-	-
February	1	357	357	357	-	-	-	6,130,000	6,130,000	6,130,000
March	0	-	-	-	-	-	-	-	-	-
April	0	-	-	-	-	-	-	-	-	-
May	1	94	94	94	-	-	-	10,500,000	10,500,000	10,500,000
June	4	49	64	36	-	-	-	3,032,235	4,350,000	2,370,000
July	3	72	86	58	134	134	134	6,551,018	11,200,000	3,260,000
August	3	46	75	20	-	-	-	4,882,200	11,200,000	1,350,000
September	0	-	-	-	-	-	-	-	-	-
October	1	42	42	42	-	-	-	6,130,000	6,130,000	6,130,000
November	1	-	-	-	-	-	-	-	-	-
December	0	-	-	-	-	-	-	-	-	-

Note: Number of samples might not equal to number of CSO events due to sampler malfunction and extended sampling event.
Limited sample volumes ocassionally results in insufficient volume to analyze all parameters

TABLE 6: 2025 Annual Product Usage at Pump Stations			
The Biomaxx Canada OXYN8 solution is used for odor control at sanitary pump stations.			
Pump Station	**Month**	**Product**	**Total Addition (L)**
PS 213 Trumpeter	October	Biomaxx Canada OXYN8	1915
PS 227 Chapelle Garden	October	Biomaxx Canada OXYN8	2401
PS 233 Edgemont II	October	Biomaxx Canada OXYN8	1440
PS 213 Trumpeter	November	Biomaxx Canada OXYN8	792
PS 227 Chapelle Garden	November	Biomaxx Canada OXYN8	696
PS 233 Edgemont II	November	Biomaxx Canada OXYN8	346
PS 213 Trumpeter	December	Biomaxx Canada OXYN8	2042
PS 227 Chapelle Garden	December	Biomaxx Canada OXYN8	2326
PS 233 Edgemont II	December	Biomaxx Canada OXYN8	758

Total Usage - 2025 (L): 12,716
Total Usage – December (L): 5,126

Note: No dosing occurred in 2025 until October due to systems being down/out of operation.

TABLE 7: 2025 Operational Issues – Wastewater Collection

Date of Occurrence	Location	Incident Description	Type	AEPA Reference Number
02-Jan-2025	PS902 in Strathcona County, Twp Rd 540	Release of up to 43.46 ML of untreated wastewater to North Saskatchewan River and surrounding areas from pumpstation PS902. EPCOR was notified by ARROW WWTP of a flow reduction at the ARROW WWTP the morning of January 2, 2025. EPCOR crew was dispatched to investigate the issue, and a communications failure flagged at the pumpstation. At approximately 08:45 the dispatched crew identified untreated wastewater running from the doorway of Station 902 flowing to ground and running from the top of the bank to the North Saskatchewan River. EPCOR immediately thereafter reported the release to AEPA on January 2, 2025, and initiated a multi-day effort to stop the release of untreated wastewater to the North Saskatchewan River. This release was reported to AEPA (Ref# 436499) by EPCOR. A 7-day Letter was issued to AEPA on January 9, 2025.	Reportable-Internal	436499
08-Jan-2025	14011 Valleyview Dr NW	Release of unknown amount of untreated wastewater. A possible cross-connection was identified in MH241441. Samples were collected from MH241441 located at NE of 14011 Valleyview DR and MH240191 located at NE OF 9118 Valleyview DR, the manhole upstream of OF103 (OF3899908). Both samples confirmed E.coli concentrations above Appendix C Guidelines. Based on inspections it was determined there is a previously unidentified interconnection between the storm and sanitary collection system at this location. This release was reported to AEPA (Ref# 436768) by EPCOR. A 7-day Letter was issued to AEPA on January 20, 2025.	Reportable-Internal	436768
08-Jan-2025	8203 - 138 Street NW	Release of unknown amount of untreated wastewater. EPCOR visually confirmed presence of untreated wastewater in storm manhole MH240979 located at 8108 138 Street NW. MH was sampled for 6 AEPA parameters. Line discharges approximately 1.2km downstream to OF21 (OF223526). OF and first upstream MH were frozen which restricted sampling. Downstream sample collected from MH223524 (South OF Buena Vista Road) for 6 AEPA parameters. Upstream MH240978 (84 AVE 138 Street) was dry, therefore cross connection is suspected along PIP71485. Letters to be sent out to homeowners to coordinate dye testing for confirmation of cross connection. This release was reported to AEPA (Ref# 436649) by EPCOR. A 7-day Letter was issued to AEPA on January 15, 2025.	Reportable-3rd Party Release	436649
09-Jan-2025	8059 Coronet Road NW	Release of unknown amount of untreated wastewater. A sample was taken from storm MH231644 (close to 8059 – Coronet Road NW). A result of 51000 CFU/100 mL for E.coli was received on January 13, 2025. On January 15, 2025, a second sample was taken from MH231644. A result of 150000 CFU/100 ml for E. coli. was received on January 20, 2025, indicating a potential cross connection. Dye tests were completed to confirm cross connection, and property owner was instructed to rectify the issue by June 16, 2025. This release was reported to AEPA (Ref# 436954). A 7-day Letter was issued to AEPA on January 27, 2025.	Reportable-3rd Party Release	436954
20-Jan-2025	4682 126 Avenue NW	Release of unknown amount of untreated wastewater. During routine storm line sampling in the Homesteader neighborhood, EPCOR observed signs of untreated wastewater from MH283187 located at 4682 126 AVE NW. As a result, six AEPA parameter grab samples were taken. On January 20, 2025, results were received at 2,000,000 CFU/100mL. This storm MH travels approximately 1,400 meters downstream before being discharged via Outfall 87 into Kennedale Ravine, which travels an additional 1,950 meters before being released into the North Saskatchewan River at Outfall 74. At the time of sampling, the first upstream manhole of Outfall 87 was inspected, but a sample was not obtained due to low flow conditions. No odors or signs of untreated wastewater were observed. EPCOR will continue exploratory sampling and investigation to delineate a possible infrastructure issues or cross-connection(s) in the area. This release was reported to AEPA (Ref# 436953) by EPCOR. A 7-day Letter was issued to AEPA on January 27, 2025.	Reportable-3rd Party Release	436953
25-Jan-2025	4007 - 108 Street NW	Release of unknown amount of untreated wastewater. EPCOR was notified of a backed up sanitary sewer that was surcharging from MH north of the covered parking into a private catch basin located at 4007 108 St NW. Third party caller mentioned that the release potentially started at approximately noon on January 24, but they noticed it this morning and notified EPCOR. Investigators inspected MH214207 adjacent to the building to confirm release into the collection system. Line was traced to OF2 (OF211035) that discharges at Whitemud creek. A sample was taken from OF211035 at 15:55 for 6 AEPA parameters. After unsuccessfully attempting to contact the 3rd party building supervisor, EPCOR assisted in releasing the plug and cleaning of the CB on the private side to stop impacts to the collection system. This release was reported to AEPA (Ref# 437139) by EPCOR. A 7-day Letter was issued to AEPA on January 31, 2025.	Reportable-3rd Party Release	437139

12-Feb-2025	16415 - 3 Street NE	Release of unknown volume of untreated wastewater. Suspected overflowing MH in tree line. Investigators confirmed the release with the observation yellowish/tan colored ice in the spruce trees located north of the parking lot. Investigators followed the path of the ice up the hill, past the tee boxes on the northwest side of the property to the treed area southeast of MH555675 (located at 16415 3 ST NE). Distance between MH that surcharged and the furthest distance it flowed away was approximately 110m. The release was not ongoing at the time of inspection, and the ice had a layer of snow on it, indicating that the release occurred several days ago. Debris was observed on the south side of the manhole that appeared to be coming from the collar. Investigators were not able to open upstream MH385609 and downstream MH555677 due to the size but did not see any evidence of surcharging or blockages around the collars. The circumstances related to the surcharging MH are indicative of a temporary condition in the sanitary line, potentially due to accumulated solids which may have caused a blockage. This release was reported to AEPA (Ref# 437645) by EPCOR. A 7-day Letter was issued to AEPA on February 19, 2025.	Reportable-Internal	437645
12-Feb-2025	4505 - 137 Avenue NW	Release of unknown amount of untreated wastewater. During a dye test, sewage coming from upstream in the storm line was evident. EPCOR traced up stream and found a surcharging private sanitary manhole in the parking lot of Capital Park Estates. The manhole was found to be overflowing and running into the storm manhole beside it. Apartment management contacted HQLC Torpedo to clear the blockage. HQLC arrived onsite and attempted to clear the blockage, however found they had insufficient equipment. HQLC subsequently returned to site to clear the blockage, however, were still unable to clear the blockage. EPCOR Vactor crew was dispatched to clean the downstream lines and was able to release the blockage. This release was reported to AEPA by CM (Ref #437636). A 7-day Letter was issued to AEPA by CM on February 14, 2025.	Reportable-3rd Party Release	437636
16-Feb-2025	9544 - 118 Avenue NW	Release of chlorinated water. EFRS responded to a structural fire at 9544 118 Avenue early Sunday morning. The fire was a level 2 alarm which indicates extra assistance from other stations was needed and that there may be multiple people inside the building. M&C looked up the address and found it to be a pawn shop so unsure what type of material would be inside. Impacted CB also goes to combined, no environmental impacts. This release was reported to AEPA (Ref# 437727). by EFRS. A 7-day Letter was not requested.	Reportable-3rd Party Release	437727
18-Feb-2025	11610 - 116 Ave NW	Release of liquid sucrose. Monitoring and Compliance called GBWWTP to inform of a release of liquid sucrose as original call request stated release occurred indoors. Called Saputo to obtain additional information regarding release and was informed the release had occurred outside. On February 19, 2025, M&C returned to inspect MH to confirm that substance has entered EPCOR assets. This release was reported to AEPA (Ref# 437792) by Saputo. A 7-day Letter was issued to AEPA on February 21, 2025.	Reportable-3rd Party Release	437792
26-Feb-2025	12135 - 149 Street NW	Release of 283L of 50/50 glycol/water to sanitary system. A contractor was hired to fix a leak on a chiller in the boiler room on a property. They transferred the Ethylene Glycol that was in the tank, half into a bladder tank and half into an older tank. The older tank blew, causing the tank to release 283 L of 50/50 glycol and water. The glycol was washed into the sanitary drain of the boiler room under the direction of the contractor. This release was reported to AEPA (Ref# 438203) by JLL. A 7-day letter was not requested by AEPA.	3rd Party Release	438203
03-Mar-2025		Release of unknown amount of untreated wastewater. EPCOR trouble responded to a home backing up with sewage. When EPCOR arrived, resident was dumping buckets of untreated wastewater into the catch basin outside of their home. EPCOR asked homeowner to stop dumping the sewage in the catch basin. Resident left 2 full buckets on sidewalk by the catch basin that EPCOR vac crew sucked up when cleaning the catch basin. EPCOR vac crew had released blockage from the pipe preventing any more from backing up inside the home. This release was reported to AEPA (Ref# 438289). A 7-day Letter was issued to AEPA on March 10, 2025.	Reportable-3rd Party Release	438289
04-Mar-2025	3 Ebbers Close NW	Release of unknown amount of untreated wastewater. EPCOR crews discovered sanitary effluent while maintaining a storm line near 3 Ebbers Close NW, Edmonton. Compliance initiated an investigation for potential cross-connection. results confirmed elevated E.coli levels at 600,000 CFU/100 mL. Upstream manholes were inspected on March 5, but there was no flow at the time of inspection. Residential property owners connected to the sewer mainline will be contacted to schedule dye testing to determine the source of the untreated wastewater. EPCOR will work with the impacted properties to identify and correct any identified sanitary cross connections to the storm sewer collection system. This release was reported to AEPA (Ref# 438499). A 7-day Letter was issued to AEPA on March 17, 2025.	Reportable-3rd Party Release	438499
10-Mar-2025	4510 - 68 Avenue NW	Release of restricted waste (metals). Due to moderate melt from warmer weather conditions, on February 24, 2025, EPCORs compliance crew collected surface water runoff samples at SCB2 and SCB3. The SCB2 sample was taken from the runoff stream before entering the catch basin, while the SCB3 sample was collected near the catch basin, where runoff bypassed the drain and entered a nearby watercourse. The samples were submitted to Goldbar laboratory for analysis of chemical oxygen demand and total metals. On March 10, the laboratory provided the results for the two surface water grab samples collected on February 24, 2025, exceedances shown below: SCB2 Sample (GB-25-02072) Lead: 0.119 mg/L Zinc: 0.631 mg/L SCB3 Sample (GB-25-02073) Cadmium: 0.00871 mg/L Chromium:	Reportable-3rd Party Release	438505

		0.234 mg/L Copper: 0.81 mg/L Lead: 0.899 mg/L Nickel: 0.24 mg/L Zinc: 5.32 mg/L. This release was reported to AEPA (Ref #438505). A 7-day Letter was required from Maple Leaf Metals.		
14-Mar-2025	5404 - 59 Avenue NW	Release of unknown amount of hydraulic oil. City of Edmonton staff noticed blue hydraulic oil leaking from a sanding truck, draining into CB233534 about 15m away. It is unknown how long the truck had been sitting at this location with a hydraulic leak. Staff immediately put down sand to contain oil spill and place a boom around the manhole. CoE was waiting for EPCOR to assess release before calling a vac truck. CoE staff member was advised to call for a vac truck once EPCOR arrived. Downstream manhole MH232786 was under a steel plate upon arrival, asked staff to move plate. Sheen visible in MH232786. A sample was collected and a large boom placed in manhole. Investigators moved downstream to locate MH232748 but were unable to find it. Moved downstream to MH232781, sheen visible. Collected sample from this manhole and placed another boom. Investigators went downstream to Outfall 196. GFL was called to site by the CoE to clean the catch basins and flush the pipes. City of Edmonton Enviso team reported the release to AEPA (Ref #438626). A 7-day Letter was issued to AEPA by CoE on March 17, 2025.	Reportable-3rd Party Release	438626
15-Mar-2025	17010 - 90 Avenue NW	Release of unknown amount of untreated wastewater. EPCOR received a complaint about a surcharging manhole behind a commercial complex. Trouble team arrived to find private manhole surcharging. Vactor crew was attempting to locate EPCOR manholes. Wastewater from private manhole was running across the pavement in the private catch basin. Sample collected from private storm catch basin for 6 AEPA parameters. EPCOR manhole was located and grease blockage was visible in the service coming from the commercial complex. Vactor crew found an obstruction 12m into the line. They were able to release the blockage in the line and service was flowing again. Release was stopped. Sample collected from OF18 (223752) for 6 AEPA parameters. This release was reported to AEPA (Ref# 438661). A 7-day Letter was issued to AEPA on March 20, 2025.	Reportable-3rd Party Release	438661
21-Mar-2025	1615 - 47 Street NW	Release of unknown amount of untreated wastewater. EPCOR was called for a blocked line. During televising possible evidence of a cross connection was found. Collected samples from MH203178 and MH205788 for the 6 AEPA parameters. Dye testing of 1615 47 Street and 1611 47 Street are being completed to confirm cross connection. Dye tests confirmed 1615 47 Street is cross connected. EPCOR made repairs to stop sewage from entering storm line. This release was reported to AEPA (Ref# 438825). A 7-day Letter was issued to AEPA on March 27, 2025.	Reportable-3rd Party Release	438825
30-Mar-2025	NE of 1203 - 111 Street	Release of unknown amount of chlorinated water. While CoE was cleaning sidewalks there was a hose connected to a hydrant that had no signage or anything to notify it was there and was covered in snow. When the snow clearing machine ran over the hose it was punctured. They directed the hose towards the dry pond, and it ran for 4 min. Prior to moving the hose to direct to the dry pond some water went to CB201974 which ends up at the dry pond as well. De-chlorination pucks were also put down. EPCOR water got to site at 7:50 and turned hydrant off. The total volume was 4 minutes of release from a 2 inch hose. The release was reported to AEPA (Ref# 439092) by CoE. A 7-day Letter was requested from CoE by AEPA.	Reportable-3rd Party Release	439092
02-Apr-2025	Fairway Drive NW, Near 132 Ironwood Place NW	Release of unknown amount of untreated wastewater. A contractor relining sewer lines in the Westbrook Estates neighbourhood notified EPCOR of a blocked sanitary sewer line that was potentially surcharging into the storm via deterioration in the lines below ground. On April 2, 2025, an EPCOR crew was dispatched to release the blockage in the sanitary sewer which stopped the surcharge of untreated wastewater into the storm sewer. EPCOR also responded to the site and collected samples from the source of the untreated wastewater surcharge (MH313769) and at Outfall 2 located approximately 5 km downstream. No visual evidence of untreated wastewater was observed at the outfall. The release was reported to AEPA by EPCOR (Ref# 439185). A 7-day Letter was issued to AEPA on April 9, 2025.	Reportable-Internal	439185
06-Apr-2025	7649 Creighton Place SW	Release of chlorinated water. A truck caught fire in front of 7649 Creighton Place SW. Edmonton Fire Rescue Services (EFRS) responded and contacted EPCOR dispatch as some oil and gasoline may have entered CB540194. Investigators arrived onsite at 15:50 and observed water from firefighting activities in the gutter on the north gutter leading to CB552632 as well as a small noodle boom at the CB. Slight hydrocarbon odour was noted as well as foam in the CB and hydrocarbons in the sand/gravel around the CB. Some foam and a trace amount of sheen was seen in the CB. A sample was collected from CB552632 for AEPA parameters, Oil, Grease & Hydrocarbons and BTEX at 17:10. A small noodle boom was placed in the CB as a precaution and the sand/gravel, and the used boom was collected in a garbage bag for disposal. Investigators checked the downstream SWMF Chappelle #3. No hydrocarbon odour or sheen was observed. MH496018 downstream of CB552632 (upstream of SWMF) was checked. Some foam, slight hydrocarbon odour was observed, and no sheen was seen. MH496472 downstream of SWMF 496173 was checked. No odour or sheen was observed. This release was reported to AEPA by EFRS (Ref# 439292). A 7-day Letter was not requested.	Reportable-3rd Party Release	439292
11-Apr-2025	10747 - 147 Street NW	Release of coolant to the sanitary system. Garbage truck was doing collections when they blew the coolant house on their truck. The release occurred over top of a sanitary manhole MH257607, located behind 10747 - 147 Street. Approximately 10L of coolant spilled onto	3rd Party Release	439533

		the roadway and was cleaned up with absorbent by the operator. Approximately 500 mL entered the sanitary manhole so the operator called in a Vac truck to clean MH257607. This release was reported to AEPA (Ref #439533) by GFL. A 7-day letter was requested. GFL		
19-Apr-2025	3738 - Weidle Crescent SW	Release of under 20L of fats, oil and grease. A resident from Weidle Crescent SW reported they had observed a video recording from their door camera of a citizen releasing some fluid from a 20 liter pail into a storm sewer catch basin (CB521273) located in front of their residence. EPCOR personnel arrived on site to assess the release and observed that some cooking wastewater impacted with FOGs had been released into CB521273. An EPCOR Preventative Maintenance crew was mobilized to site to clean out CB521273 along with downstream storm sewer collection system infrastructure. EPCOR personnel collected samples for the six AEPA approval parameters plus oil and grease at the release location and downstream at Stormwater Management Facility 476951 located approximately 433 meters downstream of CB521273. There was no evidence of any impact to SWM476951. The release was reported to AEPA by EPCOR (Ref# 439787). A 7-day Letter was issued to AEPA on April 25, 2025.	Reportable-3rd Party Release	439787
25-Apr-2025	5228 - 23 Avenue NW	Release of unknown amount of untreated wastewater. A blocked sanitary line at the sampling manhole (private) resulted in a surcharge from the upstream private sanitary manhole to a private catch basin in the parking lot of 5228 23 Ave NW. A heavy grease and toilet paper build up was observed. The Vactor crew indicated a regular flow was observed in the mainline. The release had been called in to EPCOR by the manager of Boston Pizza. Boston Pizza indicated that the overland flow was identified to them with a plumber arriving onsite shortly after the surcharge had been observed. Minimal overland flow from the private sanitary to a nearby private catch basin was observed by investigators. A build up of sanitary wastewater with greasy sheen was observed in the nearby private storm catch basin from which sample was collected for AEPA parameters. The vactor crew cleaned the private catch basin. A greasy sheen was observed at the last private storm manhole before stormwater leaves the property. EPCOR Vactors flushed the private storm line. This release was reported to AEPA by Cameron Developments (Ref# 440018). A 7-day Letter was requested by AEPA from Cameron Developments.	Reportable-3rd Party Release	440018
07-May-2025	13145 - 24 Street NE	Release of unknown amount of restricted waste. EPCOR personnel conducted an inspection of E360S. During the inspection, it was observed that site activities, including waste management, had the potential to impact the storm system, especially during precipitation events. Based on these observations, a follow up inspection was completed on May 12, 2012, and an offsite grab sample was obtained from EPCOR's storm sewer manhole 492495 where the company's stormwater discharges. Samples confirmed Bylaw 20865 Appendix C violations for Total Cadmium at 0.00055 mg/L (limit 0.0005 mg/L) and Chemical Oxygen Demand at 454 mg/L (limit 100 mg/L). EPCOR asked E360S to notify AEPA of the release. The release was reported to AEPA by EPCOR (Ref# 440965) as E360S had failed to notify AEPA as directed. A 7-day Letter was issued on May 30, 2025.	Reportable-3rd Party Release	440965
18-May-2025	2901 - 102 Avenue NW	Release of 1,500 L of untreated wastewater. A contractor completing a maintenance project at EPCOR Pumpstation 116 (PS116) located in Rundle Park notified EPCOR of an untreated wastewater release from PS116. The hose of the bypass installed for maintenance work experienced a mechanical failure resulting in approximately 1,500 Litres of untreated wastewater being released outside the pumpstation entrance. An estimated 200 L of the untreated wastewater was released into a City of Edmonton SWMF in Rundle Park, 25 metres to the south. Hydrovac trucks were used to wash down the impacted area around the pumpstation, and the rinsate collected before entering the SWMF and hauled offsite for disposal. The release was reported to AEPA (Ref# 440789). A 7-Day Letter was issued to AEPA on May 23, 2025.	Reportable-Internal	440789
22-May-2025	16110 - 116 Avenue NW	Release of 500 L of milk to the collection system. Saputo notified EPCOR that an estimated 500 litres of milk entered their private catch basin at 16110 - 116 Avenue NW, Edmonton, Alberta. Saputo reported that the release was due to a crack in the dairy tank. EPCOR personnel responded to site and collected samples from the private collection system and downstream outfall 18 at the North Saskatchewan River. Saputo stated that they would have their private lines flushed and capture any effluent. The release was reported to AEPA by Saputo (Ref# 440878). A written report was requested from Saputo.	Reportable-3rd Party Release	440878
22-May-2025	6410 - 18 Street NW	Release of unknown amount of restricted waste. EPCOR was notified that Clean City Waste Management Ltd. Facility was potentially releasing hazardous waste to the soil and leaching into the nearby pond. Nearby pond is not an EPCOR asset, but the swale leading from the ditches/culverts near the property are. Garbage was in the swale originating from the garbage pile on the property. A sample was taken from the swale for BOD, TSS, TP, N-NH3, E.coli, pH, total metals, COD, OGHC, and BTEX. Sample showed violations for COD, Cadmium, Lead, and Zinc. This release was reported to AEPA (Ref #441224) by EPCOR. A 7-day letter was requested.	Reportable-3rd Party Release	441224
23-May-2025	1070 Knottwood Road East NW & 6928 - 15 Avenue NW	Release of 80-100 L of fuel. Edmonton Fire Rescue Services (EFRS) notified EPCOR that they had responded to a release of gasoline from two fuel thefts – in a private parking lot of the York Mills residential complex located at 1070 Knottwood Road East NW, and at the nearby private driveway of 6928 - 15 Avenue NW. The fuel thefts were estimated to have occurred at approximately 01:00AM that	Reportable-3rd Party Release	440962

		morning. It was determined that approximately 80-100L of gasoline entered EPCOR's stormwater collection system. The fuel released from 6928 – 15 Avenue NW was localized to the garage pad and alleyway behind the complex with none entering EPCOR's stormwater system. The fuel released from the theft at 1070 Knottwood Road East NW entered a nearby EPCOR storm catch basin within the alleyway. The release was reported to AEPA by EPCOR (Ref# 440962). A 7-day Letter was issued on May 29, 2025.		
26-May-2025	2338 - 23 Avenue NW	Release of fats, oils and grease. EPCOR responded to a release of used cooking oil located in the parking lot of 2338 - 23 Avenue NW. EPCOR personnel observed spillage and tracking of from the Redux grease bin beside Mary Brown's entering the private catch basin. Initial surface cleanup had been initiated by the property manager. EPCOR personnel installed booms into the private catch basin and downstream public maintenance hole. EPCOR advised the property manager to call in a private contractor to clean up the release and the impacted lines, which they did. Samples were taken from the private catch basin and downstream public maintenance hole prior to entering a storm water management facility. There were no visual or odour indicators of grease at the storm water management facility. The release was reported to AEPA by the property manager (Ref# 441041). A 7-day Letter was requested.	Reportable-3rd Party Release	441041
26-May-2025	OF71 near 2909 - 113 Avenue NW	Release of unknown amount of untreated wastewater. EPCOR personnel were conducting an inspection of the storm sewer collection system along 102 Avenue and 34 Street NW. During the inspection, higher than usual seasonal flow was observed in storm sewer manhole (MH) 270977. Due to this observation, a downstream sample was collected from Outfall 71 and at the source MH270977. The validated sample results indicated the release of untreated wastewater through Outfall 71. More samples will be obtained upstream to delineate potential residential cross connections or infrastructure issues. This release was reported to AEPA (Ref #441327) by EPCOR. A 7-day Letter was issued to AEPA on June 9, 2025.	Reportable-3rd Party Release	441327
29-May-2026	11305 University Avenue	Release of unknown amount of untreated wastewater. EPCOR received an automated alarm signal from a remotely monitored interconnection (ID # IC220) at manhole (MH) 242107 located at 11305 University Avenue, Edmonton, AB. EPCOR staff arrived onsite at around 9:00AM, identifying that there was an obstructed sanitary sewer mainline downstream of the location causing the sensor to alarm, and a surcharge at the MH242107. EPCOR equipment was dispatched to site and cleared the downstream obstruction (a grease blockage about 350m downstream of MH242107) restoring flow at this location and stopping any potential release of untreated wastewater to the storm collection system. The release was reported to AEPA by EPCOR (Ref# 441172). A 7-day Letter was issued on June 5, 2025.	Reportable-Internal	441172
02-Jun-2026	9603 - 98 Avenue NW	Release of unknown amount of untreated wastewater. During inspection of a storm sewer manhole on private property, EPCOR personnel identified unusual flow patterns in the storm sewer, consistent with possible untreated wastewater entering the system. A sample was collected from the manhole for E. coli testing only as there was not enough flow to collect samples for all 6 AEPA approval parameters. The validated E. coli sample result indicated untreated wastewater was entering the storm sewer collection system. EPCOR attempted to collect a sample from the downstream outfall at the time of inspection; however, there was no flow out of the outfall at the time. EPCOR personnel returned on June 4, 2025, to collect a sample for the 6 AEPA approval parameters just upstream of outfall 50 at storm manhole 244493. This release was reported to AEPA (Ref #441326) by EPCOR. A 7-Day Letter was issued to AEPA on June 6, 2025.	Reportable-3rd Party Release	441326
02-Jun-2026	14402 - 114 Avenue NW	A sample of the stormwater discharge from the NW district yard was collected by City of Edmonton Environment & Climate Resilience. The results of the sample exceeded Bylaw 20865 Appendix C and Bylaw 18093 Schedule B Restricted Wastes Applicable to Storm Sewers and Watercourses for Chemical Oxygen Demand at 2960 mg/L, E.coli at 5600 CFU/100 mL, Oil & Grease at 48 mg/L, Total Cadmium at 0.0048 mg/L, Total Chromium at 0.297 mg/L, Total Arsenic at 0.0594 mg/L, Total Copper at 0.40 mg/L, Total Lead at 0.202 mg/L, Total Nickel at 0.220 mg/L, Total Zinc at 2.62 mg/L and Total Phosphorous at 6.87 mg/L. The results were received and reviewed by the CoE Environmental Coordinator on June 2, 2025. The release was reported to AEPA by CoE (Ref #441374). A copy of the 7-day Letter was received by EPCOR on June 3, 2025.	Reportable-3rd Party Release	441374
02-Jun-2026	5404 - 59 Avenue NW	A sample of the stormwater discharge from the SE district yard was collected by CoE Environment and Climate Resilience. The results of the sample exceeded Bylaw 20865 Appendix C and Bylaw 18093 Schedule B Restricted Wastes Applicable to Storm Sewers and Watercourses for Chemical Oxygen Demand at 593 mg/L, E. coli at 2700 CFU/100 mL, Total Cadmium at 0.0015 mg/L and Total Phosphorous at 3.36 mg/L. The results were received and reviewed by the CoE Environmental Coordinator on June 2, 2025. The release was reported to AEPA by CoE (Ref #441371). A copy of the 7-day Letter was received by EPCOR on June 3, 2025.	Reportable-3rd Party Release	441371
03-Jun-2026	13003 - 56 Street NW	A sample of the stormwater discharge from the NE district yard was collected by City of Edmonton Environment and Climate Resilience. The results of the sample exceeded Bylaw 20865 Appendix C and Bylaw 18093 Schedule B Restricted Wastes Applicable to Storm Sewers and Watercourses for Chemical Oxygen Demand at 565 mg/L, E.coli at 13,800 CFU/100 mL, Oil & Grease at 34 mg/L, Total Cadmium at	Reportable-3rd Party Release	441372

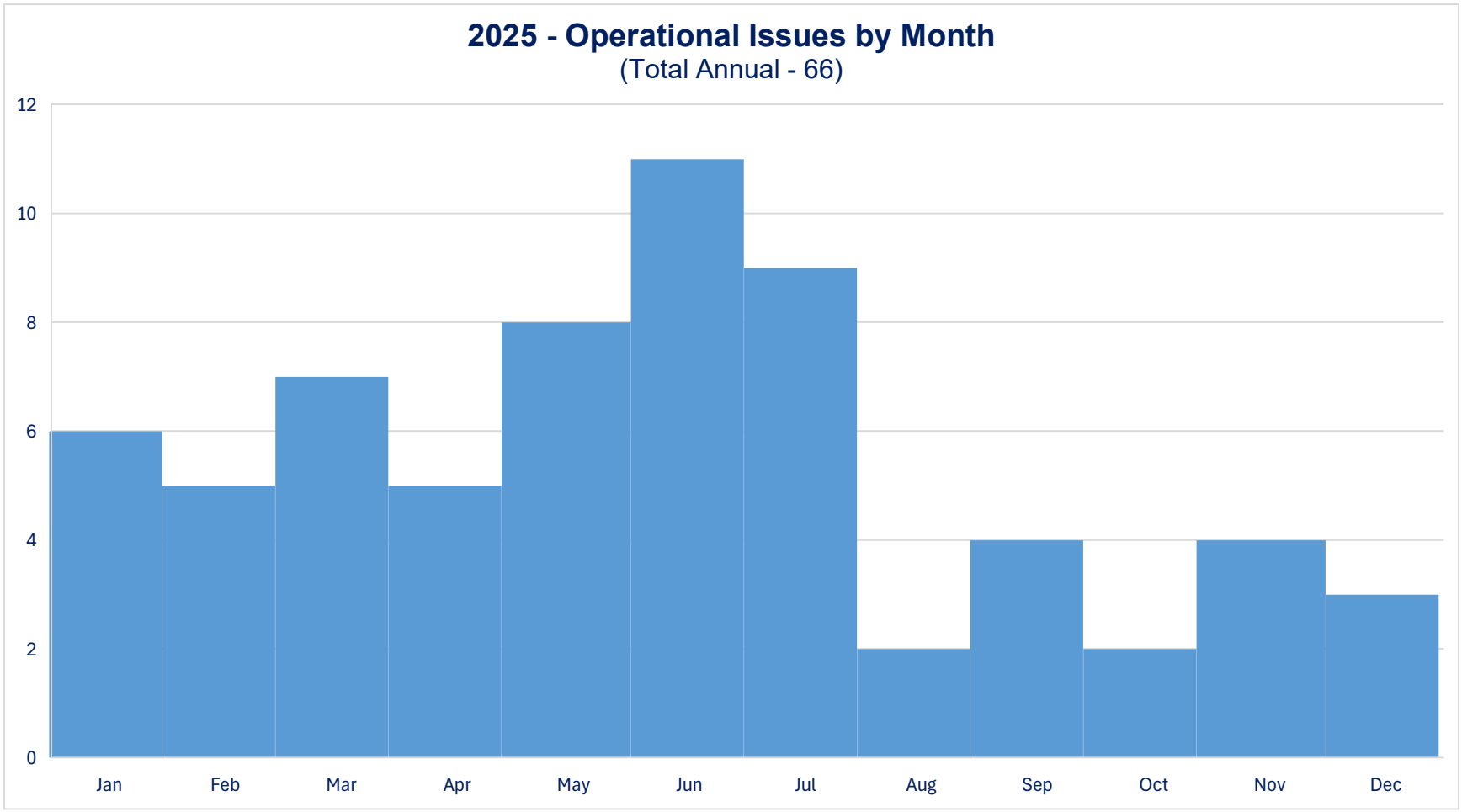
		0.0012 mg/L, Total Lead at 0.0714 mg/L, Total Zinc at 0.910 mg/L and Total Phosphorous at 1.58 mg/L. The results were received and reviewed by the CoE Environmental Coordinator on June 2, 2025. The release was reported to AEPA by CoE (Ref #441372). A copy of the 7-day Letter was received by EPCOR on June 3, 2025.		
12-Jun-2025	14315 - 128 Avenue NW	Release of unknown amount of untreated wastewater. During routine inspection activities, investigators were informed of a surcharging manhole at the inspection property. Untreated wastewater was pooling around a private manhole and flowing into the gutter of 128 Avenue, entering CB273529 approximately 20m away. The owner was contacted and informed that the manhole needed to be cleaned out, the blockage released, and the incident reported to AEPA immediately. A representative for the property owner contracted a hydrovac to perform the cleaning and reported to AEPA. The release was reported to AEPA by the property owner (Ref #441783). It is currently unknown whether a 7-Day Letter was requested.	Reportable-3rd Party Release	441783
12-Jun-2026	17130 - 111 Avenue NW	Release of unknown amount of restricted waste. Investigators went to the property to verify the installation of an orifice plate in the private storm manhole. While inspecting the manhole the investigators noticed a build-up of solids and suspected that a wash bay may be connected to the storm sewer. A sample was collected at 18:30 for the AEPA parameters and taken to the Rossdale lab. A sample was also collected from MH419674 for E. coli only, due to low flow. Sample results indicated phosphorus levels of 400 mg/L, and pH at 10.64. On June 17, a dye test was completed confirming the cross connection was on private property. A Notice to Comply will be issued to repair. This release was reported to AEPA (Ref #441929) by the property owner and a 7-day Letter was requested.	Reportable-3rd Party Release	441929
13-Jun-2025 & 19-Jun-2025	Rat Creek Outfall	Release of 148 ML (June 13) and 65 ML (June 19) of untreated wastewater. The City of Edmonton experienced significant precipitation on the morning of June 19, 2025. At around 10:00AM, System Operations responded to an alarm that the gates at RTC #3 had opened fully and did not close in accordance with programming for the control structure gates. A portion of the CSO travelled to Gold Bar Wastewater Treatment Plant but due to the failure of the gate to close there would have been an additional volume of combined wastewater to the NSR from the precipitation event. A further review of the station's flow data revealed that the same issue had occurred during a prior precipitation event on June 13, 2025. In this instance, the alarms at the control gate had been temporarily put on hold due to ongoing maintenance activities at that time. The gates were closed manually and the operating mode switched to automatic gate control which stopped the combined sewer overflow to the river. This release was reported to AEPA (Ref #442092) by EPCOR. A 7-Day Letter was issued to AEPA on June 26, 2025.	Reportable-Internal	442092
23-Jun-2026	Storm maintenance hole located at 28 Avenue NW, east of 91 Street NW	Release of unknown amount of untreated wastewater. The 30th Avenue storm basin is sampled under a requirement of EPCOR AEPA Approval to Operate 639-03-08. This release was reported to the regulator on June 23, 2025, upon receiving sample results with elevated levels of E. coli indicating the potential release of untreated wastewater to the storm collection system. On June 23, sample results from upstream MH211764 showed significantly higher levels of E. coli to the 30th Avenue location. Further delineation was inconclusive based on sample results and subsequent sewer line televising has been scheduled to support the on-going investigation. This release was reported to AEPA (Ref# 442167) by EPCOR. A 7-Day Letter was issued to AEPA on June 30, 2025.	Reportable-3rd Party Release	442167
26-Jun-2025	7308 - 155 Street NW and 15110 - Rio Terrace Drive NW	Release of unknown amount of untreated wastewater. EPCOR personnel were conducting dye tests on recently built in-fills in the Rio Terrace neighbourhood of Edmonton, AB. Two homes were determined to have sanitary services incorrectly connected to the storm sewer system. Due to these observations, samples were collected from the manholes immediately downstream of each home (MH222496 & MH222502) as well as the downstream Outfall 15 (MH222500) on June 27, 2025, for AEPA approval parameters. The owners of both homes were present for the dye tests and were informed of the results. This release was reported to AEPA (Ref# 442351) by EPCOR. A 7-Day Letter was issued to AEPA on July 3, 2025.	Reportable-3rd Party Release	442351
30-Jun-2025	Outfall 46	Release of unknown amount of untreated wastewater. EPCOR was performing a regular inspection of the sand trap facility and found the system was surcharged and overflowing combined sewage to the outfall. EPCOR vactors were able to pump down water levels and release the orifice plate obstruction and return system to regular operation. This release was reported to AEPA (Ref #442435) by EPCOR Contractor PME. A 7-Day letter was requested from PME.	Reportable-Internal	442435
31-Jun-2025	9706 - 135 Street SW	Release of 120L of water, diesel, and firefighting foam. A vehicle fire occurred at Voila Spoke Warehouse. Staff at the warehouse contacted Edmonton Fire Rescue Services (EFRS) to extinguish the fire. As a result of the fire and subsequent firefighting activities, water combined with firefighting foam and fuel released form the damaged fuel system of a vehicle, were released onto the parking lot where they then entered the EPCOR ditch system at the East edge of the property. This release was reported to AEPA (Ref #442439). A 7-Day letter was issued to AEPA by EPCOR on July 11, 2025.	Reportable-3rd Party Release	442439
02-Jul-2025	9620 - 56 Avenue NW	Release of sewage from Sofina Foods chicken production plant. Sofina Foods maintenance manager confirmed that a release of organics (acidic wash water with organics - cooked meat - sanitary waste) had been released to CB 231140 on June 17, 2025. He indicated that	Reportable-3rd Party	442474

		they did not know when the release began and that a surcharge from a private manhole upstream from their east interceptor was observed on June 17, 2025, at approximately 12 PM. The surcharge was cause by a blockage in their interceptor. After the surcharge was discovered the maintenance manger reached out to E360 to release the blockage, clean the interceptor and surface impacts of the release. This release was reported to AEPA (Ref #442474) by Sofina Foods. A 7-Day letter was requested.	Release	
04-Jul-2025	3398 Chickadee Drive NW	Release of 50ml of hydraulic oil. EPCOR call regarding a release of hydraulic oil from a solids waste truck entering a catch basin in the Starling neighborhood. GFL said that between 1-2L of hydraulic oil were released onto the roadway due to a hydraulic hose failure on a solids waste truck. The roadway had been cleaned by GFL prior to EPCOR's arrival on-site and the area of cleaning would indicate a maximum of 2L release. Based on staining, a minimal amount of hydraulic oil is thought to have entered the storm sewer (50mL). GFL reported the release to AEPA (Ref# 442586), and a 7-Day letter was not requested.	Reportable-3rd Party Release	442586
05-Jul-2025	269 Heagle Crescent NW	Release of 100-200L of potable water. EPCOR responded to a complaint of a large volume discharge. EPCOR investigators observed wet gravel leading to MH207360. Investigators were unable to open the catch basin, therefore went to the next downstream MH207347. A sample was collected for AEPA parameters and total chlorine. Field testing showed a total chlorine result of 0.15 mg/L. Investigator spoke with the homeowner who stated that they released pool water during a filter backwash lasting for 1 minute. The homeowner was informed to report the release to AEPA (Ref# 442622), and it is currently unknown whether a 7-day letter was requested.	Reportable-Internal	442622
06-Jul-2025	783 Fraser Vista NW	Release of approximately 50-100 Litres of concrete slurry. EPCOR noted trail of dried concrete slurry observed from the driveway of 738 - Fraser Vista NW entering catch basin. Homeowner called contractor at 10:25 and mentioned EPCOR was on site and the CB's would have to be cleaned out. Contractor came to site. GFL arrived on site and proceeded to clean out impacted CBs as well as pipes between CB458060 and MH458074. Level Up Concrete and Landscaping reported the release to AEPA (Ref# 442689). A 7-Day Letter was issued to AEPA on July 14, 2025.	Reportable-3rd Party Release	442689
07-Jul-2025	5404 - 59 Avenue NW	A sample of the stormwater discharge from the SE district yard was collected by CoE Environment and Climate Resilience. The results of the sample exceeded Bylaw 20865 Appendix C and Bylaw 18093 Schedule B Restricted Wastes Applicable to Storm Sewers and Watercourses for Chemical Oxygen Demand at 203 mg/L, E.coli at 1800 CFU/100 mL, Total Cadmium at 0.0046 mg/L, Total Phosphorous at 1.3 mg/L, Oil & Grease at 36 mg/L, Total Lead at 0.026 mg/L and Total Zinc at 0.636 mg/L The results were received and reviewed by the CoE Environmental Coordinator on July 7, 2025. The release was reported to AEPA by CoE (Ref #442684). A copy of the v7-day Letter was received by EPCOR on July 7, 2025.	Reportable-3rd Party Release	442684
07-Jul-2025	14402 - 114 Avenue NW	A sample of the stormwater discharge from the NW district yard was collected by CoE Environment & Climate Resilience. The results of the sample exceeded Bylaw 20865 Appendix C and Bylaw 18093 Schedule B Restricted Wastes Applicable to Storm Sewers and Watercourses for E.coli at 10,000 CFU/100 mL, Total Cadmium at 0.00056 mg/L and Total Phosphorous at 2.83 mg/L. The results were received and reviewed by the CoE Environmental Coordinator on July 7, 2025. The release was reported to AEPA by CoE (Ref #442686). A copy of the 7-day Letter was received by EPCOR on July 7, 2025.	Reportable-3rd Party Release	442686
07-Jul-2025	13003 - 56 Street NW	A sample of the stormwater discharge from the NE district yard (13003 - 56 Street NW) was collected by CoE Environment and Climate Resilience. The results of the sample exceeded Bylaw 20865 Appendix C and Bylaw 18093 Schedule B Restricted Wastes Applicable to Storm Sewers and Watercourses for E.coli at 89,000 CFU/100 ml. The results were received and reviewed by the CoE Environmental Coordinator on July 7, 2025. The release was reported to AEPA by CoE (Ref #442685). A copy of the 7-day Letter was received by EPCOR on July 7, 2025.	Reportable-3rd Party Release	442685
17-Jul-2025	5370 - 130 Avenue NW	A sample of the stormwater discharge from the Kennedale Snow Storage Facility was collected by CoE Environment & Climate Resilience. The results of the sample exceeded Bylaw 20865 Appendix C and Bylaw 18093 Schedule B Restricted Wastes Applicable to Storm Sewers and Watercourses for Chemical Oxygen Demand at 206 mg/L. The results were received and reviewed by the CoE Environmental Coordinator on July 29, 2025. No reporting of the release was required to AEPA due to the 7-day letter was required due to history of this parameters' exceedance from this site.	Reportable-3rd Party Release	N/A
19-Jul-2025	3139 Schultz Crescent NW	Release of unknown volume of concrete slurry. Resident reported concrete slurry on the road to City of Edmonton; 311 reported the release to EPCOR on July 19, 2025. Concrete slurry on driveway at 3139 Schultz Crescent NW. EPCOR observed that the slurry had already washed away due to heavy rain. A pH sample was taken from the water entering the catch basin and the field reading was about 9. The catch basin goes immediately into Griesbach Facility #5 and a sample was collected from the SWMF. Investigator called the home builder Noble Homes. Advised that they would need to report the release to AEPA. The release was reported to AEPA by Noble Homes (Ref#443211), and it is currently unknown whether a 7-day letter was requested.	Reportable-3rd Party Release	443211

20-Aug-2025	32 Street NW and 18 Avenue NW	Release of approximately 80 L of fuel. EFRS reported a fuel spill at the intersection of 32 Street NW and 18 Avenue NW. The fuel, believed to have come from a drilled-out tank in a GMC cube truck, entered a manhole in the northwest corner of the intersection and has reached the storm drain. The affected catch basin showed signs of fuel contamination, with a visible two-layer sheen on the water surface. The water level was observed at the outlet pipe. Downstream manhole contained a light amount of hydrocarbons within the channel, confirming that the release had entered the EPCOR collection system. GFL was contracted and flushed the affected lines from CB462006 to MH462026. This release was reported to AEPA by the EFRS (Ref #444348). A 7-day letter was not requested.	Reportable-3rd Party Release	444348
13-Aug-2025	143 Street & Stony Plain Road	Release of <1L of fuel. Marigold representative indicated that the area showing signs of sheen is currently being used by construction crews working on the Valley Line West LRT project as a fueling station for small equipment. During inspection, a very light sheen (<1L) was observed on the roadway. However, it was not entering the catch basin due to the absorbent material that had been applied. Due to the moderate precipitation event, the sheen had spread and was earlier observed entering catch basin CB345458 by Marigold. This release was reported to AEPA by Marigold (Ref #444110). A 7-Day Letter was requested.	Reportable-3rd Party Release	444110
03-Sep-2025	7915 Coronet Road NW	Release of unknown amount of untreated wastewater. A private surcharging manhole from a laundry facility released wastewater to the EPCOR storm drainage system. An EPCOR Vactor truck working on the private sanitary manhole freed the blockage in the service to 7915 Coronet Road NW (Executive Mat Service). Additionally, heavy sedimentation in excess of the bylaw limit was observed throughout the sump system by EPCOR. Executive Mat Service reported the release to the AEPA (Ref# 444920) and it is unknown if a 7-day letter was requested.	Reportable-3rd Party Release	444920
04-Sep-2025	5689 Riverbend Road NW	Release of unknown amount of untreated wastewater. EPCOR responded to the release of water from a carwash (slated to be demolished). When arriving on site, water was observed to be flowing from the bay doors into a nearby catch basin. Water was above the lead and actively flowing out at an estimated rate of 2 L/min. Investigators field tested for chlorine, results were 0ppm indicating that it was not potable water/main break. This release was reported to AEPA by EPCOR (AEPA Ref. #444998). A 7-day letter was requested.	Reportable-3rd Party Release	444998
05-Sep-2025	5689 Riverbend Road NW	Release of unknown amount of untreated wastewater. A release was called in regarding untreated wastewater from a vacant carwash into private CB that also went into EPCOR storm system. Avenue Properties called in hydrovac contractor to help clear the blockage on the private property after EPCOR checked upstream and downstream manholes and observed no issues on EPCOR side. EPCOR had been called to this location the night prior. Avenue Properties reported the release to AEPA (Ref# 445030), and it is unknown if a 7-day letter was requested.	Reportable-3rd Party Release	445030
25-Sep-2025	79 Street NW & 34A Avenue NW	Release of unknown amount of untreated wastewater. EPCOR received a report of odour in the vicinity of 79 Street NW and 34A Avenue NW. An EPCOR Vactor unit was dispatched to the location and observed active flow within the stormwater drainage system, accompanied by an odour consistent with untreated wastewater. A source sample was collected at manhole MH216127 for E. coli analysis. Due to insufficient water volume, sampling for the full AEPA parameter suite was not possible. No sanitary flow or odour was observed in the manhole at the time of sampling. EPCOR is investigation the possible cross-connection. This event was reported to AEPA (Ref # 445928) on September 29, 2025, upon receiving verified lab results which indicated the potential release of untreated wastewater to the storm collection system. A 7-Day letter was issued to AEPA on October 3, 2025.	Reportable-3rd Party Release	445928
02-Oct-2025	4420 Calgary Trail NW	Release of unknown amount of untreated wastewater. EPCOR Trouble conducted an inspection of the storm sewer collection system located near 4420 Calgary Trail NW, Edmonton, AB following an odour complaint. During the inspection, personnel identified unusual flow in the storm sewer system indicating the potential presence of untreated wastewater. EPCOR completed a follow-up investigation and collected a sample from a private storm manhole for six AEPA approval parameters on October 2, 2025, and reported the release to the regulator on October 9, 2025, upon receipt of analytical results indicating the presence of untreated wastewater. This private storm sewer manhole connects to a major storm sewer tunnel a few blocks downstream, ultimately discharging approximately 7 km away into the North Saskatchewan River at Outfall 9. This release was reported to AEPA by EPCOR (Ref #446350). A 7-day letter was issued to AEPA on October 15, 2025.	Reportable-3rd Party Release	446350
03-Oct-2025	78 Avenue and 97 Street NW	Release of unknown amount of untreated wastewater. EPCOR was conducting an inspection of the storm sewer collection system in the area of 78 Avenue and 97 Street NW, Edmonton, AB following an odour complaint. During the inspection, personnel identified unusual flow patterns in the storm sewer indicating the potential presence of untreated wastewater. EPCOR collected samples MH246589 and downstream MH387080 for the six AEPA parameters on October 3, 2025, and reported the release to the regulator on October 9, 2025, upon receipt of analytical results indicating the presence of untreated wastewater. MH387080 discharges approximately 2800 m downstream into the North Saskatchewan River at Outfall 44. EPCOR is in the process of completing further investigation of the upstream	Reportable-3rd Party Release	446343

		storm sewer collection system to identify the source of the untreated wastewater release (residential cross-connection or infrastructure issues). This release was reported to AEPA by EPCOR (Ref #446343). A 7-day letter was issued to AEPA on October 15, 2025.		
03-Nov-2025	SE of 2904 -102 Avenue NW	Release of unknown amount of untreated wastewater. EPCOR responded to an automated alarm from a remotely monitored interconnection (ID #IC287) located at manhole 270908. Crews arrived at the manhole location and identified the cause of the alarm as an obstruction in the sanitary system downstream of MH270908. EPCOR equipment was dispatched to address the obstruction and initiated high pressure flushing activities. The obstruction was successfully cleared, restoring normal flow to the sanitary system. EPCOR continued flushing the storm collection system downstream of MH411779 to the extent reasonably accessible, reaching approximately 50 metres beyond the manhole. The impacted storm system discharges approximately 600 metres downstream of MH411779 into the North Saskatchewan River at Outfall 71. A sample was collected at OF71 on November 3, 2025. Investigation confirmed that the obstruction was caused by tree root infiltration in the sanitary pipe section with remediation efforts ongoing. This release was reported to AEPA (Ref# 447263). A 7-day letter was issued to AEPA on November 7, 2025.	Reportable-Internal	447263
09-Nov-2025	Unit 55, 750 Getty Gate NW	Release of <1L of paint. Paint was washed from a garage and down a private CB, trace impacts to the EPCOR system. EPCOR arrived on site and found that a light blue substance was visible surrounding the private CB with wet asphalt visible between the catch basin and the garage of Unit #55. EPCOR investigators determined that discolouration was visible inside all private CBs and slight discolouration visible at MH470400. Investigators collected a sample from the first catch basin for AEPA parameters and Chemical Oxygen Demand (COD). An additional sample was collected from Glastonbury Facility #5, SWM377903 for APEA parameters and COD, no unusual observations were made at the stormwater management pond. GFL was contacted to flush the line, with a flusher and vac truck request. The generator of the spill refused to contact AEPA, EPCOR reported the release to AEPA (Ref# 447471) who provided AEPA Reference #447471. A 7-day letter was not requested.	Reportable-3rd Party Release	447471
10-Nov-2025	11455 Saskatchewan Drive NW	Release of <200L of glycol to the sanitary system. A University of Alberta representative discovered a release of glycol inside one of the main campus buildings, with an unknown start time. The release was the result of a leaking seal in the heat exchanger. The U of A rep contacted EPCOR Dispatch and indicated that AEPA had been notified of the incident. EPCOR Compliance Team contacted the U of A rep who stated that glycol had pooled around a floor drain inside the building, that the drain was in poor condition and that an unknown amount of glycol may have entered the floor drain. U of A rep indicated the total volume released was likely less than 200 liters. Compliance contacted Gold Bar WWTP Control providing details of the release. Control indicated no anomalies observed. Compliance contacted AEPA and provided an update of the incident confirming that glycol had entered the sanitary system (not the storm system) via indoor floor drain and would receive treatment at the WWTP and that the release had been controlled as per the U of A statement. This incident was reported to AEPA (Ref #447523) by the University of Alberta. A 7-day letter was not requested.	Reportable-3rd Party Release	447523
24-Nov-2025	13103 - 156 Street NW	Release of unknown volume of fats, oils and grease. A private catch basin between commercial condos was full of grease and ice, with the outlet pipe being 90% blocked by grease. EPCOR spoke with Smokin Barrels who stated that they have been dumping the wash water from their mop bucket as well as griddle cleaning into the drain that does contain degreasers. A sample was taken for the 6 AEPA parameters, plus OGHC and COD. Investigators then checked down stream MH383280 for evidence of release and saw some grease along the bottom of the line confirming the release to the collection system. It is unclear how long this dumping has been occurring, and it is assumed to have been released to the North Saskatchewan River via Outfall 18. This release was reported to AEPA (Ref #447943) by the restaurant owner. A 7-day letter was not requested.	Reportable-3rd Party Release	447943
08-Dec-2025	3679 - 76 Avenue NW	Release of up to 400 L of untreated wastewater. A surcharging manhole was reported directly to and EPCOR. Up to 400 L of wastewater entered the EPCOR storm system via and was subsequently dispersed into the system by existing flow. EPCOR found that the private manhole just upstream of was no longer surcharging (and was full almost to the lid). The surcharged wastewater had flowed overland to a private catch basin which was full to the lead, and it is estimated that up to 400L may have flowed into the EPCOR stormwater system. Investigators inspected the downstream storm and sanitary manholes. Good flow was observed in the sanitary system confirming that the blockage is on the private property. Due to the flow existing in the storm system, no mitigation or cleanup would be feasible. This release was reported to AEPA (Ref #448391) by Precision Gradall. A 7-Day Letter was requested.	Reportable-3rd Party Release	448391
12-Dec-2025	16646 - 111 Avenue NW	Release of unknown amount of untreated wastewater. EPCOR received a report of odour within the West Sheffield Industrial neighborhood. On November 28, 2025, EPCOR conducted an inspection of the storm collection system in the area. During the inspection, indications of untreated wastewater were observed at manhole MH254584, and an E.coli sample was collected. On December 12, 2025, sampling results confirmed the presence of untreated wastewater in MH254584. Further sampling at the outfall could not be completed at that time due to safety concerns related to prevailing weather conditions. On December 15, 2025, EPCOR returned to the site and	Reportable-3rd Party Release	448503

		attempted to collect samples from Outfall 30 and the immediate upstream storm manhole MH240670. Both locations were frozen, preventing sampling. A sample for AEPA parameters was collected further upstream at MH252038. Results received from MH252038 did not indicate levels above background for untreated wastewater. Preliminary findings suggest that a commercial customer cross-connection. This release was reported to AEPA (Ref # 448503). A 7-day letter was issued on December 18, 2025.		
12-Dec-2025	822 Lee Ridge Road NW	Release of unknown amount of untreated wastewater. EPCOR Trouble team responded to a surcharging sanitary manhole 216794 located in the alley behind 822 - Lee Ridge Road NW. An unknown quantity of untreated wastewater was released into the nearby storm sewer manhole MH216866. The event was reported to AEPA upon visual confirmation of untreated wastewater entering the storm sewer collection system. EPCOR cleared the blockage in the sanitary sewer system, restoring normal flow and stopping the release of untreated wastewater to the storm sewer system. Preliminary investigation suggests root infiltration. This release was reported to AEPA (Ref # 448521). A 7-day Letter was issued on December 18, 2025.	Reportable-Internal	448521


2025 - Operational Issues by Month
(Total Annual - 66)
12
10
8
6
4
2
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec