

**2.2.1 Bacteriological Data: Water Treatment Plants
2020**

	Coliforms, total						E. coli					cATP (pg/mL)			
	Count	# +ve	% +ve	Mean	Min	Max	# +ve	% +ve	Mean	Min	Max	Count	Mean	Min	Max
January															
Rossdale Raw (MPN/100mL)	32	0	0.0	568	1	816	0	0.0	153	1	345	9	34.93	18.83	42.56
E.L. Smith Raw (MPN/100mL)	4	0	0.0	1,209	866	1,730	0	0.0	315	156	517	7	35.69	23.70	53.77
Raw River Water Entering the Treatment Plants	36	0	0.0	639	1	1,730	0	0.0	171	1	517	16	35.26	18.83	53.77
Rossdale Reservoir (PA/100mL)	31	0	0.0				0	0.0				9	0.08	0.04	0.15
E.L. Smith Reservoir (PA/100mL)	31	0	0.0				0	0.0				9	0.06	0.01	0.12
Treated Water Entering the Distribution System	62	0	0.0				0	0.0				18	0.07	0.01	0.15
Rossdale Treated (PA/100mL)	31	0	0.0				0	0.0				9	0.08	0.05	0.13
E.L. Smith Treated (PA/100mL)	31	0	0.0				0	0.0				9	0.08	0.02	0.40
Water Entering the Plant Reservoir	62	0	0.0				0	0.0				18	0.08	0.02	0.40
February															
Rossdale Raw (MPN/100mL)	30	0	0.0	642	1	1,550	0	0.0	168	1	397	8	26.56	17.26	34.73
E.L. Smith Raw (MPN/100mL)	4	0	0.0	711	436	980	0	0.0	237	178	261	8	24.56	15.12	39.50
Raw River Water Entering the Treatment Plants	34	0	0.0	650	1	1,550	0	0.0	176	1	397	16	25.56	15.12	39.50
Rossdale Reservoir (PA/100mL)	29	0	0.0				0	0.0				8	0.08	0.02	0.14
E.L. Smith Reservoir (PA/100mL)	30	0	0.0				0	0.0				8	0.12	0.02	0.19
Treated Water Entering the Distribution System	59	0	0.0				0	0.0				16	0.10	0.02	0.19
Rossdale Treated (PA/100mL)	29	0	0.0				0	0.0				8	0.10	0.03	0.16
E.L. Smith Treated (PA/100mL)	29	0	0.0				0	0.0				8	0.10	0.03	0.15
Water Entering the Plant Reservoir	58	0	0.0				0	0.0				16	0.10	0.03	0.16

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	Coliforms, total						E. coli					cATP (pg/mL)			
	Count	# +ve	% +ve	Mean	Min	Max	# +ve	% +ve	Mean	Min	Max	Count	Mean	Min	Max
March															
Rossdale Raw (MPN/100mL)	32	0	0.0	784	1	1,730	0	0.0	230	1	461	7	36.93	16.94	50.92
E.L. Smith Raw (MPN/100mL)	5	0	0.0	657	1	1,050	0	0.0	287	1	461	7	33.18	21.72	42.00
Raw River Water Entering the Treatment Plants	37	0	0.0	767	1	1,730	0	0.0	238	1	461	14	35.05	16.94	50.92
Rossdale Reservoir (PA/100mL)	31	0	0.0				0	0.0				7	0.16	0.11	0.34
E.L. Smith Reservoir (PA/100mL)	31	0	0.0				0	0.0				7	0.22	0.12	0.34
Treated Water Entering the Distribution System	62	0	0.0				0	0.0				14	0.19	0.11	0.34
Rossdale Treated (PA/100mL)	31	0	0.0				0	0.0				7	0.15	0.03	0.34
E.L. Smith Treated (PA/100mL)	31	0	0.0				0	0.0				7	0.18	0.09	0.27
Water Entering the Plant Reservoir	62	0	0.0				0	0.0				14	0.16	0.03	0.34
April															
Rossdale Raw (MPN/100mL)	31	0	0.0	4,889	1	39,700	0	0.0	285	1	682	1	873.15	873.15	873.15
E.L. Smith Raw (MPN/100mL)	5	0	0.0	2,144	1,050	6,150	0	0.0	226	20	488	1	945.37	945.37	945.37
Raw River Water Entering the Treatment Plants	36	0	0.0	4,508	1	39,700	0	0.0	277	1	682	2	909.26	873.15	945.37
Rossdale Reservoir (PA/100mL)	30	0	0.0				0	0.0				1	0.00		0.00
E.L. Smith Reservoir (PA/100mL)	30	0	0.0				0	0.0				1	0.14	0.14	0.14
Treated Water Entering the Distribution System	60	0	0.0				0	0.0				2	0.07	0.14	0.14
Rossdale Treated (PA/100mL)	30	0	0.0				0	0.0				1	0.06	0.06	0.06
E.L. Smith Treated (PA/100mL)	30	0	0.0				0	0.0				1	0.00		0.00
Water Entering the Plant Reservoir	60	0	0.0				0	0.0				2	0.03	0.06	0.06

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	Coliforms, total						E. coli					cATP (pg/mL)			
	Count	# +ve	% +ve	Mean	Min	Max	# +ve	% +ve	Mean	Min	Max	Count	Mean	Min	Max
May															
Rossdale Raw (MPN/100mL)	32	0	0.0	1,205	1	13,700	0	0.0	172	1	1,810	1	161.11	161.11	161.11
E.L. Smith Raw (MPN/100mL)	4	0	0.0	1,039	131	3,440	0	0.0	187	3	710	1	155.59	155.59	155.59
Raw River Water Entering the Treatment Plants	36	0	0.0	1,186	1	13,700	0	0.0	174	1	1,810	2	158.35	155.59	161.11
Rossdale Reservoir (PA/100mL)	31	0	0.0				0	0.0				1	0.00		0.00
E.L. Smith Reservoir (PA/100mL)	31	0	0.0				0	0.0				1	0.00		0.00
Treated Water Entering the Distribution System	62	0	0.0				0	0.0				2	0.00		0.00
Rossdale Treated (PA/100mL)	31	0	0.0				0	0.0				1	0.00		0.00
E.L. Smith Treated (PA/100mL)	31	0	0.0				0	0.0				1	0.00		0.00
Water Entering the Plant Reservoir	62	0	0.0				0	0.0				2	0.00		0.00
June															
Rossdale Raw (MPN/100mL)	32	0	0.0	3,180	1	39,700	0	0.0	224	1	2,250	1	581.34	581.34	581.34
E.L. Smith Raw (MPN/100mL)	4	0	0.0	2,405	980	4,130	0	0.0	215	57	365	1	135.04	135.04	135.04
Raw River Water Entering the Treatment Plants	36	0	0.0	3,094	1	39,700	0	0.0	223	1	2,250	2	358.19	135.04	581.34
Rossdale Reservoir (PA/100mL)	30	0	0.0				0	0.0				1	0.00		0.00
E.L. Smith Reservoir (PA/100mL)	30	0	0.0				0	0.0				1	0.00		0.00
Treated Water Entering the Distribution System	60	0	0.0				0	0.0				2	0.00		0.00
Rossdale Treated (PA/100mL)	30	0	0.0				0	0.0				1	0.00		0.00
E.L. Smith Treated (PA/100mL)	30	0	0.0				0	0.0				1	0.00		0.00
Water Entering the Plant Reservoir	60	0	0.0				0	0.0				2	0.00		0.00

**2.2.1 Bacteriological Data: Water Treatment Plants
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	Coliforms, total						E. coli					cATP (pg/mL)			
	Count	# +ve	% +ve	Mean	Min	Max	# +ve	% +ve	Mean	Min	Max	Count	Mean	Min	Max
July															
Rossdale Raw (MPN/100mL)	31	0	0.0	5,511	398	28,300	0	0.0	305	4	1,810	2	158.10	111.89	204.31
E.L. Smith Raw (MPN/100mL)	6	0	0.0	1,818	1,120	4,230	0	0.0	51	16	172	1	115.29	115.29	115.29
Raw River Water Entering the Treatment Plants	37	0	0.0	4,912	398	28,300	0	0.0	264	4	1,810	3	143.83	111.89	204.31
Rossdale Reservoir (PA/100mL)	31	0	0.0				0	0.0				13	0.03	0.01	0.15
E.L. Smith Reservoir (PA/100mL)	31	0	0.0				0	0.0				13	0.04	0.03	0.12
Treated Water Entering the Distribution System	62	0	0.0				0	0.0				26	0.03	0.01	0.15
Rossdale Treated (PA/100mL)	31	0	0.0				0	0.0				13	0.04	0.01	0.16
E.L. Smith Treated (PA/100mL)	31	0	0.0				0	0.0				13	0.08	0.03	0.28
Water Entering the Plant Reservoir	62	0	0.0				0	0.0				26	0.06	0.01	0.28
August															
Rossdale Raw (MPN/100mL)	32	0	0.0	2,860	1	39,700	0	0.0	76	1	786	1	102.54	102.54	102.54
E.L. Smith Raw (MPN/100mL)	4	0	0.0	553	411	816	0	0.0	18	7	41	1	110.04	110.04	110.04
Raw River Water Entering the Treatment Plants	36	0	0.0	2,604	1	39,700	0	0.0	69	1	786	2	106.29	102.54	110.04
Rossdale Reservoir (PA/100mL)	31	0	0.0				0	0.0				31	0.02	0.03	0.25
E.L. Smith Reservoir (PA/100mL)	31	0	0.0				0	0.0				31	0.04	0.03	0.41
Treated Water Entering the Distribution System	62	0	0.0				0	0.0				62	0.03	0.03	0.41
Rossdale Treated (PA/100mL)	31	0	0.0				0	0.0				31	0.03	0.04	0.28
E.L. Smith Treated (PA/100mL)	31	0	0.0				0	0.0				31	0.03	0.03	0.18
Water Entering the Plant Reservoir	62	0	0.0				0	0.0				62	0.03	0.03	0.28

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	Coliforms, total						E. coli					cATP (pg/mL)			
	Count	# +ve	% +ve	Mean	Min	Max	# +ve	% +ve	Mean	Min	Max	Count	Mean	Min	Max
September															
Rossdale Raw (MPN/100mL)	31	0	0.0	140	1	1,410	0	0.0	34	1	517	1	120.40	120.40	120.40
E.L. Smith Raw (MPN/100mL)	5	0	0.0	192	78	517	0	0.0	34	11	101	1	73.80	73.80	73.80
Raw River Water Entering the Treatment Plants	36	0	0.0	147	1	1,410	0	0.0	34	1	517	2	97.10	73.80	120.40
Rossdale Reservoir (PA/100mL)	30	0	0.0				0	0.0				30	0.07	0.04	0.23
E.L. Smith Reservoir (PA/100mL)	30	0	0.0				0	0.0				30	0.18	0.06	0.53
Treated Water Entering the Distribution System	60	0	0.0				0	0.0				60	0.12	0.04	0.53
Rossdale Treated (PA/100mL)	30	0	0.0				0	0.0				30	0.07	0.03	0.32
E.L. Smith Treated (PA/100mL)	30	0	0.0				0	0.0				30	0.26	0.03	2.29
Water Entering the Plant Reservoir	60	0	0.0				0	0.0				60	0.16	0.03	2.29
October															
Rossdale Raw (MPN/100mL)	30	0	0.0	778	36	19,600	0	0.0	29	1	456	1	46.72	46.72	46.72
E.L. Smith Raw (MPN/100mL)	4	0	0.0	129	88	172	0	0.0	10	4	15	0			
Raw River Water Entering the Treatment Plants	34	0	0.0	702	36	19,600	0	0.0	26	1	456	1	46.72	46.72	46.72
Rossdale Reservoir (PA/100mL)	30	0	0.0				0	0.0				30	0.12	0.03	0.40
E.L. Smith Reservoir (PA/100mL)	31	0	0.0				0	0.0				31	0.32	0.11	1.20
Treated Water Entering the Distribution System	61	0	0.0				0	0.0				61	0.22	0.03	1.20
Rossdale Treated (PA/100mL)	30	0	0.0				0	0.0				30	0.16	0.05	0.49
E.L. Smith Treated (PA/100mL)	31	0	0.0				0	0.0				31	0.41	0.06	3.50
Water Entering the Plant Reservoir	61	0	0.0				0	0.0				61	0.29	0.05	3.50

**2.2.1 Bacteriological Data: Water Treatment Plants
2020**

	Coliforms, total						E. coli					cATP (pg/mL)			
	Count	# +ve	% +ve	Mean	Min	Max	# +ve	% +ve	Mean	Min	Max	Count	Mean	Min	Max
November															
Rossdale Raw (MPN/100mL)	30	0	0.0	266	63	1,990	0	0.0	11	2	29	1	21.65	21.65	21.65
E.L. Smith Raw (MPN/100mL)	5	0	0.0	149	24	308	0	0.0	4	1	9	1	26.89	26.89	26.89
Raw River Water Entering the Treatment Plants	35	0	0.0	249	24	1,990	0	0.0	10	1	29	2	24.27	21.65	26.89
Rossdale Reservoir (PA/100mL)	30	0	0.0				0	0.0				30	0.25	0.03	1.00
E.L. Smith Reservoir (PA/100mL)	30	0	0.0				0	0.0				30	0.20	0.06	0.52
Treated Water Entering the Distribution System	60	0	0.0				0	0.0				60	0.23	0.03	1.00
Rossdale Treated (PA/100mL)	30	0	0.0				0	0.0				30	0.19	0.03	1.00
E.L. Smith Treated (PA/100mL)	30	0	0.0				0	0.0				30	0.21	0.05	1.00
Water Entering the Plant Reservoir	60	0	0.0				0	0.0				60	0.20	0.03	1.00

Year to Date	Coliforms, total						E. coli					cATP (pg/mL)				GCDWQ or Approval	Required Frequency - Each Plant*
Raw River Water Entering the Treatment Plants	393	0	0.0	1,789	1	39,700	0	0.0	152	1	2,250	62	84.66	15.12	945.37	N/A	Weekly
Treated Water Entering the Distribution System	670	0	0.0				0	0.0				323	0.13	0.01	1.20	0/100 mL	Daily
Water Entering the Plant Reservoir	669	0	0.0				0	0.0				323	0.15	0.01	3.50	N/A	Daily

* Indicates EPCOR Operations Program

PA = present or absent, MPN = most probable number

2.2.2 Bacteriological Data: Distribution System

2020

	Coliforms, total (PA/100 mL)			E. coli (PA/100 mL)		cATP (pg/mL)			
	Count	# +ve	% +ve	# +ve	% +ve	Count	Mean	Min	Max
January									
FIELD DISTRIBUTION	119	0	0.0	0	0.0	39	0.16	0.03	0.70
FIELD DISTRIBUTION - PLPH	60	0	0.0	0	0.0	0			
FIELD RESERVOIR	61	0	0.0	0	0.0	12	0.07	0.03	0.14
FIELD RESERVOIR - PLPH (duplicate-not counted) *	60	0	0.0	0	0.0	0			
Monthly	300	0	0.0	0	0.0	51	0.14	0.03	0.03
February									
FIELD DISTRIBUTION	125	0	0.0	0	0.0	41	0.08	0.01	0.26
FIELD DISTRIBUTION - PLPH	60	0	0.0	0	0.0	0			
FIELD RESERVOIR	47	0	0.0	0	0.0	12	0.09	0.06	0.13
FIELD RESERVOIR - PLPH (duplicate-not counted) *	47	0	0.0	0	0.0	0			
Monthly	279	0	0.0	0	0.0	53	0.08	0.01	0.01
March									
FIELD DISTRIBUTION	113	0	0.0	0	0.0	44	0.22	0.03	0.90
FIELD DISTRIBUTION - PLPH	60	0	0.0	0	0.0	0			
FIELD RESERVOIR	48	0	0.0	0	0.0	12	0.17	0.10	0.40
FIELD RESERVOIR - PLPH (duplicate-not counted) *	48	0	0.0	0	0.0	0			
Monthly	269	0	0.0	0	0.0	56	0.20	0.03	0.03
April									
FIELD DISTRIBUTION	56	0	0.0	0	0.0	0			
FIELD DISTRIBUTION - PLPH	60	0	0.0	0	0.0	0			
FIELD RESERVOIR	61	0	0.0	0	0.0	0			
FIELD RESERVOIR - PLPH (duplicate-not counted) *	60	0	0.0	0	0.0	0			
Monthly	237	0	0.0	0	0.0	0			
May									
FIELD DISTRIBUTION	104	0	0.0	0	0.0	0			
FIELD DISTRIBUTION - PLPH	61	0	0.0	0	0.0	0			
FIELD RESERVOIR	48	0	0.0	0	0.0	0			
FIELD RESERVOIR - PLPH (duplicate-not counted) *	47	0	0.0	0	0.0	0			
Monthly	260	0	0.0	0	0.0	0			

2.2.2 Bacteriological Data: Distribution System

2020

	Coliforms, total (PA/100 mL)			E. coli (PA/100 mL)		cATP (pg/mL)			
	Count	# +ve	% +ve	# +ve	% +ve	Count	Mean	Min	Max
June									
FIELD DISTRIBUTION	134	0	0.0	0	0.0	0			
FIELD DISTRIBUTION - PLPH	61	0	0.0	0	0.0	0			
FIELD RESERVOIR	55	0	0.0	0	0.0	0			
FIELD RESERVOIR - PLPH (duplicate-not counted) *	55	0	0.0	0	0.0	0			
Monthly	305	0	0.0	0	0.0	0			
July									
FIELD DISTRIBUTION	121	0	0.0	0	0.0	0			
FIELD DISTRIBUTION - PLPH	60	0	0.0	0	0.0	0			
FIELD RESERVOIR	55	0	0.0	0	0.0	30	1.64	0.03	7.08
FIELD RESERVOIR - PLPH (duplicate-not counted) *	48	0	0.0	0	0.0	0			
Monthly	284	0	0.0	0	0.0	30	1.64	0.03	0.03
August									
FIELD DISTRIBUTION	118	0	0.0	0	0.0	60	0.49	0.04	3.81
FIELD DISTRIBUTION - PLPH	60	0	0.0	0	0.0	0			
FIELD RESERVOIR	52	0	0.0	0	0.0	52	1.26	0.04	4.06
FIELD RESERVOIR - PLPH (duplicate-not counted) *	48	0	0.0	0	0.0	0			
Monthly	278	0	0.0	0	0.0	112	0.85	0.04	0.04
September									
FIELD DISTRIBUTION	122	0	0.0	0	0.0	61	0.31	0.05	1.16
FIELD DISTRIBUTION - PLPH	60	0	0.0	0	0.0	0			
FIELD RESERVOIR	59	0	0.0	0	0.0	59	0.42	0.06	1.25
FIELD RESERVOIR - PLPH (duplicate-not counted) *	52	0	0.0	0	0.0	0			
Monthly	293	0	0.0	0	0.0	120	0.36	0.05	0.05
October									
FIELD DISTRIBUTION	108	0	0.0	0	0.0	64	1.13	0.03	33.37
FIELD DISTRIBUTION - PLPH	60	0	0.0	0	0.0	0			
FIELD RESERVOIR	58	0	0.0	0	0.0	58	0.29	0.04	2.67
FIELD RESERVOIR - PLPH (duplicate-not counted) *	54	0	0.0	0	0.0	0			
Monthly	280	0	0.0	0	0.0	122	0.73	0.03	0.03

**2.2.2 Bacteriological Data: Distribution System
2020**

	Coliforms, total (PA/100 mL)			E. coli (PA/100 mL)		cATP (pg/mL)			
	Count	# +ve	% +ve	# +ve	% +ve	Count	Mean	Min	Max
November									
FIELD DISTRIBUTION	102	0	0.0	0	0.0	60	0.51	0.04	11.72
FIELD DISTRIBUTION - PLPH	60	0	0.0	0	0.0	0			
FIELD RESERVOIR	54	0	0.0	0	0.0	54	0.25	0.03	2.07
FIELD RESERVOIR - PLPH (duplicate-not counted) *	48	0	0.0	0	0.0	0			
Monthly	264	0	0.0	0	0.0	114	0.39	0.03	0.03
Year to Date	3,049	0	0.0	0	0.0	658	0.52	0.01	33.37

Guidelines for Canadian Drinking Water Quality recommend 190 bacteriological samples for a city the size of Edmonton. Total Coliform and E.coli testing is required in the AEP Approval. At least 95 of the 190 samples must be tested at ProvLab each month according to our Operations Program.

* Testing conducted by Laboratory for Provincial Laboratory for Public Health (ProvLAB) are labelled with PLPH.

EPCOR's operations program specifies a minimum of 190 samples to be collected and analyzed in each month for random bacteriological monitoring purposes. Due to the closure of many public places, buildings and facilities because of COVID-19, and to protect the health of our employees, we were able to collect only 177 samples as part of the random program in April. An additional 58 samples were collected as part of system depressurizations and complaint monitoring. AEP was notified of the variance from the operations program (EDGE # 366491).

2.2.2 Bacteriological Data: Distribution System

2020

	Coliforms, total (PA/100 mL)			E. coli (PA/100 mL)		cATP (pg/mL)						
	Count	# +ve	% +ve	# +ve	% +ve	Count	Mean	Min	Max			
Samples from Complaints												
January	8	0	0.0	0	0.0	0						
February	4	0	0.0	0	0.0	0						
March	5	0	0.0	0	0.0	0						
April	6	0	0.0	0	0.0	0						
May	11	0	0.0	0	0.0	0						
June	9	0	0.0	0	0.0	0						
July	8	0	0.0	0	0.0	0						
August	14	0	0.0	0	0.0	14	0.42	0.06	0.06			
September	12	0	0.0	0	0.0	12	0.36	0.07	0.07			
October	4	0	0.0	0	0.0	5	0.25	0.20	0.20			
November	5	0	0.0	0	0.0	5	0.42	0.13	0.13			
	Year to Date			86	0	0.0	0	0.0	36	0.38	0.06	1.15
Samples from Depressurizations												
January	69	0	0.0	0	0.0	0						
February	51	0	0.0	0	0.0	0						
March	52	0	0.0	0	0.0	0						
April	52	0	0.0	0	0.0	0						
May	61	0	0.0	0	0.0	0						
June	82	0	0.0	0	0.0	0						
July	105	0	0.0	0	0.0	0						
August	102	0	0.0	0	0.0	0						
September	99	0	0.0	0	0.0	0						
October	116	0	0.0	0	0.0	4	0.04	0.14	0.14			
November	87	0	0.0	0	0.0	0						
	Year to Date			876	0	0.0	0	0.0	4	0.04	0.14	0.14