

2.2.1 Bacteriological Data: Water Treatment Plants

2023

	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)	31			84	24	308			4	1	26	1	27.2	27.2	27.2
E.L. Smith Raw (MPN/100mL)	4			72	40	120			1	1	1	0			
Raw River Water Entering the Treatment Plants	35			83	24	308			4	1	26	1	27.2	27.2	27.2
Rossdale Treated (PA/100mL)	31	0	0.0				0	0.0				31	0.69	0.10	1.99
E.L. Smith Treated (PA/100mL)	31	0	0.0				0	0.0				31	0.65	0.11	1.00
Water Entering the Plant Reservoir	62	0	0.0				0	0.0				62	0.67	0.10	1.99
Rossdale Reservoir (PA/100mL)	31	0	0.0				0	0.0				31	0.71	0.12	1.07
E.L. Smith Reservoir (PA/100mL)	31	0	0.0				0	0.0				31	0.60	0.13	1.81
Treated Water Entering the Distribution System	62	0	0.0				0	0.0				62	0.66	0.12	1.81
February															
Rossdale Raw (MPN/100mL)	28			65	21	166			9	1	24	1	32.2	32.2	32.2
E.L. Smith Raw (MPN/100mL)	4			36	25	51			1	1	1	1	27.0	27.0	27.0
Raw River Water Entering the Treatment Plants	32			61	21	166			8	1	24	2	29.6	27.0	32.2
Rossdale Treated (PA/100mL)	28	0	0.0				0	0.0				28	0.85	0.11	2.10
E.L. Smith Treated (PA/100mL)	28	0	0.0				0	0.0				28	0.82	0.10	2.51
Water Entering the Plant Reservoir	56	0	0.0				0	0.0				56	0.84	0.10	2.51
Rossdale Reservoir (PA/100mL)	28	0	0.0				0	0.0				28	0.76	0.10	1.71
E.L. Smith Reservoir (PA/100mL)	28	0	0.0				0	0.0				28	0.77	0.11	2.25
Treated Water Entering the Distribution System	56	0	0.0				0	0.0				56	0.77	0.10	2.25

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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)	31			264	16	980			31	1	115	1	68.3	68.3	68.3
E.L. Smith Raw (MPN/100mL)	5			19	13	29			1	1	2	1	21.7	21.7	21.7
Raw River Water Entering the Treatment Plants	36			230	13	980			27	1	115	2	45.0	21.7	68.3
Rossdale Treated (PA/100mL)	31	0	0.0				0	0.0				31	0.71	0.11	1.47
E.L. Smith Treated (PA/100mL)	31	0	0.0				0	0.0				31	0.69	0.10	1.59
Water Entering the Plant Reservoir	62	0	0.0				0	0.0				62	0.70	0.10	1.59
Rossdale Reservoir (PA/100mL)	31	0	0.0				0	0.0				31	0.85	0.12	1.00
E.L. Smith Reservoir (PA/100mL)	31	0	0.0				0	0.0				31	0.70	0.11	1.00
Treated Water Entering the Distribution System	62	0	0.0				0	0.0				62	0.78	0.11	1.00
April															
Rossdale Raw (MPN/100mL)	30			224	42	1,200			15	2	50	1	207	207	207
E.L. Smith Raw (MPN/100mL)	4			52	15	88			1	1	2	1	186	186	186
Raw River Water Entering the Treatment Plants	34			203	15	1,200			13	1	50	2	197	186	207
Rossdale Treated (PA/100mL)	30	0	0.0				0	0.0				30	0.69	0.12	2.46
E.L. Smith Treated (PA/100mL)	30	0	0.0				0	0.0				30	0.64	0.10	2.28
Water Entering the Plant Reservoir	60	0	0.0				0	0.0				60	0.67	0.10	2.46
Rossdale Reservoir (PA/100mL)	30	0	0.0				0	0.0				30	0.73	0.10	2.42
E.L. Smith Reservoir (PA/100mL)	30	0	0.0				0	0.0				30	0.62	0.10	3.35
Treated Water Entering the Distribution System	60	0	0.0				0	0.0				60	0.68	0.10	3.35

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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			408	1	5,820			26	1	320	3	52.1	32.8	75.4
E.L. Smith Raw (MPN/100mL)	5			159	140	179			12	2	31	1	62.9	62.9	62.9
Raw River Water Entering the Treatment Plants	37			374	1	5,820			24	1	320	4	54.8	32.8	75.4
Rossdale Treated (PA/100mL)	31	0	0.0				0	0.0				31	0.67	0.11	1.46
E.L. Smith Treated (PA/100mL)	31	0	0.0				0	0.0				31	0.75	0.11	1.62
Water Entering the Plant Reservoir	62	0	0.0				0	0.0				62	0.71	0.11	1.62
Rossdale Reservoir (PA/100mL)	31	0	0.0				0	0.0				31	0.66	0.11	1.18
E.L. Smith Reservoir (PA/100mL)	31	0	0.0				0	0.0				31	0.70	0.11	1.01
Treated Water Entering the Distribution System	62	0	0.0				0	0.0				62	0.68	0.11	1.18
June															
Rossdale Raw (MPN/100mL)	30			3,552	66	31,100			171	1	1,720	1	54.5	54.5	54.5
E.L. Smith Raw (MPN/100mL)	4			6,767	219	24,100			247	22	828	1	125	125	125
Raw River Water Entering the Treatment Plants	34			3,931	66	31,100			180	1	1,720	2	89.5	54.5	125
Rossdale Treated (PA/100mL)	30	0	0.0				0	0.0				30	0.89	0.11	1.00
E.L. Smith Treated (PA/100mL)	30	0	0.0				0	0.0				30	0.78	0.11	1.15
Water Entering the Plant Reservoir	60	0	0.0				0	0.0				60	0.84	0.11	1.15
Rossdale Reservoir (PA/100mL)	30	0	0.0				0	0.0				30	0.81	0.12	1.00
E.L. Smith Reservoir (PA/100mL)	30	0	0.0				0	0.0				30	0.87	0.14	1.00
Treated Water Entering the Distribution System	60	0	0.0				0	0.0				60	0.84	0.12	1.00

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)	32			3,797	1	48,400			237	1	1,980	1	148	148	148
E.L. Smith Raw (MPN/100mL)	4			926	613	1,550			31	11	45	1	47.7	47.7	47.7
Raw River Water Entering the Treatment Plants	36			3,478	1	48,400			214	1	1,980	2	97.7	47.7	148
Rossdale Treated (PA/100mL)	31	0	0.0				0	0.0				31	0.84	0.13	1.00
E.L. Smith Treated (PA/100mL)	31	0	0.0				0	0.0				31	0.82	0.12	1.00
Water Entering the Plant Reservoir	62	0	0.0				0	0.0				62	0.83	0.12	1.00
Rossdale Reservoir (PA/100mL)	31	0	0.0				0	0.0				31	0.79	0.10	1.00
E.L. Smith Reservoir (PA/100mL)	31	0	0.0				0	0.0				31	0.85	0.11	1.00
Treated Water Entering the Distribution System	62	0	0.0				0	0.0				62	0.82	0.10	1.00
August															
Rossdale Raw (MPN/100mL)	32			5,558	1	34,700			647	1	2,900	1	283	283	283
E.L. Smith Raw (MPN/100mL)	5			550	365	980			14	5	20	1	128	128	128
Raw River Water Entering the Treatment Plants	37			4,881	1	34,700			561	1	2,900	2	205	128	283
Rossdale Treated (PA/100mL)	31	0	0.0				0	0.0				31	0.70	0.14	1.00
E.L. Smith Treated (PA/100mL)	31	0	0.0				0	0.0				31	0.58	0.14	1.00
Water Entering the Plant Reservoir	62	0	0.0				0	0.0				62	0.64	0.14	1.00
Rossdale Reservoir (PA/100mL)	31	0	0.0				0	0.0				31	0.63	0.11	1.00
E.L. Smith Reservoir (PA/100mL)	31	0	0.0				0	0.0				31	0.66	0.12	1.00
Treated Water Entering the Distribution System	62	0	0.0				0	0.0				62	0.64	0.11	1.00

2.2.1 Bacteriological Data: Water Treatment Plants

2023

	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			230	1	1,300			21	1	124	1	78.8	78.8	78.8
E.L. Smith Raw (MPN/100mL)	4			232	86	488			35	6	77	1	72.1	72.1	72.1
Raw River Water Entering the Treatment Plants	35			231	1	1,300			23	1	124	2	75.5	72.1	78.8
Rossdale Treated (PA/100mL)	30	0	0.0				0	0.0				30	0.60	0.12	1.00
E.L. Smith Treated (PA/100mL)	30	0	0.0				0	0.0				30	0.66	0.12	1.06
Water Entering the Plant Reservoir	60	0	0.0				0	0.0				60	0.63	0.12	1.06
Rossdale Reservoir (PA/100mL)	30	0	0.0				0	0.0				30	0.48	0.12	1.00
E.L. Smith Reservoir (PA/100mL)	32	1	3.1				0	0.0				30	0.58	0.10	1.00
Treated Water Entering the Distribution System	62	1	1.6				0	0.0				60	0.53	0.10	1.00
October															
Rossdale Raw (MPN/100mL)	31			125	23	1,200			7	1	35	1	94.3	94.3	94.3
E.L. Smith Raw (MPN/100mL)	4			134	72	192			9	3	12	1	49.4	49.4	49.4
Raw River Water Entering the Treatment Plants	35			126	23	1,200			7	1	35	2	71.9	49.4	94.3
Rossdale Treated (PA/100mL)	31	0	0.0				0	0.0				31	0.63	0.11	1.00
E.L. Smith Treated (PA/100mL)	31	0	0.0				0	0.0				31	0.46	0.15	1.00
Water Entering the Plant Reservoir	62	0	0.0				0	0.0				62	0.54	0.11	1.00
Rossdale Reservoir (PA/100mL)	31	0	0.0				0	0.0				31	0.51	0.11	1.00
E.L. Smith Reservoir (PA/100mL)	31	0	0.0				0	0.0				31	0.49	0.13	1.00
Treated Water Entering the Distribution System	62	0	0.0				0	0.0				62	0.50	0.11	1.00

2.2.1 Bacteriological Data: Water Treatment Plants

2023

	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)	29			79	40	155			6	1	36	1	42.2	42.2	42.2
E.L. Smith Raw (MPN/100mL)	5			115	83	142			6	1	11	0			
Raw River Water Entering the Treatment Plants	34			85	40	155			6	1	36	1	42.2	42.2	42.2
Rossdale Treated (PA/100mL)	29	0	0.0				0	0.0				29	0.52	0.11	1.72
E.L. Smith Treated (PA/100mL)	30	0	0.0				0	0.0				30	0.46	0.14	1.44
Water Entering the Plant Reservoir	59	0	0.0				0	0.0				59	0.49	0.11	1.72
Rossdale Reservoir (PA/100mL)	29	0	0.0				0	0.0				29	0.57	0.12	1.54
E.L. Smith Reservoir (PA/100mL)	31	0	0.0				0	0.0				31	0.35	0.10	1.23
Treated Water Entering the Distribution System	60	0	0.0				0	0.0				60	0.46	0.10	1.54
December															
Rossdale Raw (MPN/100mL)	32			98	1	517			9	1	72	1	30.4	30.4	30.4
E.L. Smith Raw (MPN/100mL)	4			56	35	81			3	1	6	1	31.7	31.7	31.7
Raw River Water Entering the Treatment Plants	36			93	1	517			8	1	72	2	31.0	30.4	31.7
Rossdale Treated (PA/100mL)	31	0	0.0				0	0.0				31	0.49	0.11	3.39
E.L. Smith Treated (PA/100mL)	31	0	0.0				0	0.0				31	0.35	0.12	1.15
Water Entering the Plant Reservoir	62	0	0.0				0	0.0				62	0.42	0.11	3.39
Rossdale Reservoir (PA/100mL)	31	0	0.0				0	0.0				31	0.33	0.13	1.00
E.L. Smith Reservoir (PA/100mL)	31	0	0.0				0	0.0				31	0.41	0.12	1.33
Treated Water Entering the Distribution System	62	0	0.0				0	0.0				62	0.37	0.12	1.33

PA = present or absent, MPN = most probable number, cATP = cellular adenosine triphosphate

2.2.2 Bacteriological Data: Distribution System

December 2023

	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	88	1	1.1	0	0.0	8	0.58	0.14	1.30
FIELD DISTRIBUTION - PLPH	56	0	0.0	0	0.0				
FIELD RESERVOIR	65	0	0.0	0	0.0	65	0.49	0.12	1.08
FIELD RESERVOIR - PLPH (duplicate-not counted)	65	0	0.0	0	0.0				
Monthly	209	1	0.5	0	0.0	73	0.50	0.12	1.30
February									
FIELD DISTRIBUTION	102	1	1.0	0	0.0	8	0.81	0.10	1.93
FIELD DISTRIBUTION - PLPH	56	0	0.0	0	0.0				
FIELD RESERVOIR	50	0	0.0	0	0.0	50	0.73	0.10	4.28
FIELD RESERVOIR - PLPH (duplicate-not counted)	50	0	0.0	0	0.0				
Monthly	208	1	0.5	0	0.0	58	0.74	0.10	4.28
March									
FIELD DISTRIBUTION	100	1	1.0	0	0.0	12	0.52	0.15	1.29
FIELD DISTRIBUTION - PLPH	56	0	0.0	0	0.0				
FIELD RESERVOIR	52	0	0.0	0	0.0	52	0.31	0.11	1.45
FIELD RESERVOIR - PLPH (duplicate-not counted)	51	0	0.0	0	0.0				
Monthly	208	1	0.5	0	0.0	64	0.36	0.11	1.45
April									
FIELD DISTRIBUTION	105	0	0.0	0	0.0	18	0.39	0.11	0.91
FIELD DISTRIBUTION - PLPH	55	0	0.0	0	0.0				
FIELD RESERVOIR	52	0	0.0	0	0.0	52	0.50	0.11	2.29
FIELD RESERVOIR - PLPH (duplicate-not counted)	52	0	0.0	0	0.0				
Monthly	212	0	0.0	0	0.0	70	0.46	0.11	2.29

2.2.2 Bacteriological Data: Distribution System

December 2023

	Coliforms, total (PA/100 mL)			E. coli (PA/100 mL)		cATP (pg/mL)			
	Count	# +ve	% +ve	# +ve	% +ve	Count	Mean	Min	Max
May									
FIELD DISTRIBUTION	114	0	0.0	0	0.0	11	0.65	0.16	1.45
FIELD DISTRIBUTION - PLPH	56	0	0.0	0	0.0				
FIELD RESERVOIR	66	0	0.0	0	0.0	66	0.43	0.10	1.34
FIELD RESERVOIR - PLPH (duplicate-not counted)	64	0	0.0	0	0.0				
Monthly	236	0	0.0	0	0.0	77	0.45	0.10	1.45
June									
FIELD DISTRIBUTION	104	1	1.0	0	0.0	12	0.17	0.10	0.29
FIELD DISTRIBUTION - PLPH	56	0	0.0	0	0.0				
FIELD RESERVOIR	52	0	0.0	0	0.0	52	0.25	0.11	0.71
FIELD RESERVOIR - PLPH (duplicate-not counted)	52	0	0.0	0	0.0				
Monthly	212	1	0.5	0	0.0	64	0.24	0.10	0.71
July									
FIELD DISTRIBUTION	95	0	0.0	0	0.0	6	0.21	0.12	0.29
FIELD DISTRIBUTION - PLPH	56	0	0.0	0	0.0				
FIELD RESERVOIR	52	0	0.0	0	0.0	52	0.80	0.12	2.40
FIELD RESERVOIR - PLPH (duplicate-not counted)	51	0	0.0	0	0.0				
Monthly	203	0	0.0	0	0.0	58	0.77	0.12	2.40
August									
FIELD DISTRIBUTION	96	0	0.0	0	0.0	10	0.48	0.28	0.73
FIELD DISTRIBUTION - PLPH	56	0	0.0	0	0.0				
FIELD RESERVOIR	65	0	0.0	0	0.0	65	0.72	0.11	7.28
FIELD RESERVOIR - PLPH (duplicate-not counted)	64	0	0.0	0	0.0				
Monthly	217	0	0.0	0	0.0	75	0.69	0.11	7.28

2.2.2 Bacteriological Data: Distribution System

December 2023

	Coliforms, total (PA/100 mL)			E. coli (PA/100 mL)		cATP (pg/mL)			
	Count	# +ve	% +ve	# +ve	% +ve	Count	Mean	Min	Max
September									
FIELD DISTRIBUTION	116	4	3.4	0	0.0	10	0.42	0.14	1.49
FIELD DISTRIBUTION - PLPH	55	0	0.0	0	0.0				
FIELD RESERVOIR	51	0	0.0	0	0.0	51	1.21	0.13	8.20
FIELD RESERVOIR - PLPH (duplicate-not counted)	50	0	0.0	0	0.0				
Monthly	222	4	1.8	0	0.0	61	1.08	0.13	8.20
October									
FIELD DISTRIBUTION	105	1	1.0	0	0.0	11	0.73	0.18	3.30
FIELD DISTRIBUTION - PLPH	55	0	0.0	0	0.0				
FIELD RESERVOIR	62	0	0.0	0	0.0	62	0.36	0.10	1.32
FIELD RESERVOIR - PLPH (duplicate-not counted)	61	0	0.0	0	0.0				
Monthly	222	1	0.5	0	0.0	73	0.42	0.10	3.30
November									
FIELD DISTRIBUTION	112	0	0.0	0	0.0	15	0.27	0.11	0.65
FIELD DISTRIBUTION - PLPH	56	0	0.0	0	0.0				
FIELD RESERVOIR	49	0	0.0	0	0.0	49	0.37	0.13	1.07
FIELD RESERVOIR - PLPH (duplicate-not counted)	48	0	0.0	0	0.0				
Monthly	217	0	0.0	0	0.0	64	0.35	0.11	1.07
December									
FIELD DISTRIBUTION	114	0	0.0	0	0.0	8	0.47	0.18	1.01
FIELD DISTRIBUTION - PLPH	54	0	0.0	0	0.0				
FIELD RESERVOIR	50	0	0.0	0	0.0	50	0.34	0.14	0.80
FIELD RESERVOIR - PLPH (duplicate-not counted)	50	0	0.0	0	0.0				
Monthly	218	0	0.0	0	0.0	58	0.36	0.14	1.01
Year to Date	2,584	9	0.3	0	0.0	795	0.55	0.10	8.20

2.2.2 Bacteriological Data: Distribution System

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Guidelines for Canadian Drinking Water Quality recommend 195 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 195 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.

**2.2.2 Bacteriological Data: Distribution System
December 2023**

	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	12	1	8.3	0	0.0	8	0.58	0.14	1.30			
February	8	0	0.0	0	0.0	8	0.81	0.10	1.93			
March	16	1	6.3	0	0.0	12	0.52	0.15	1.29			
April	18	0	0.0	0	0.0	18	0.39	0.11	0.91			
May	11	0	0.0	0	0.0	11	0.65	0.16	1.45			
June	12	0	0.0	0	0.0	12	0.17	0.10	0.29			
July	6	0	0.0	0	0.0	6	0.21	0.12	0.29			
August	10	0	0.0	0	0.0	10	0.48	0.28	0.73			
September	17	1	5.9	0	0.0	10	0.42	0.14	1.49			
October	13	0	0.0	0	0.0	11	0.73	0.18	3.30			
November	15	0	0.0	0	0.0	15	0.27	0.11	0.65			
December	8	0	0.0	0	0.0	8	0.47	0.18	1.01			
	Year to Date			146	3	2.1	0	0.0	129	0.48	0.10	3.30
Samples from Depressurizations												
January	54	0	0.0	0	0.0							
February	49	1	2.0	0	0.0							
March	60	0	0.0	0	0.0							
April	49	0	0.0	0	0.0							
May	68	0	0.0	0	0.0							
June	75	0	0.0	0	0.0							
July	72	1	1.4	0	0.0							
August	61	0	0.0	0	0.0							
September	74	7	9.5	0	0.0							
October	79	0	0.0	0	0.0							
November	58	0	0.0	0	0.0							
December	40	0	0.0	0	0.0							
	Year to Date			739	9	1.2	0	0.0				