Water Quality 2017

7.1 Water Quality Objectives for EPCOR

2017

Parameter	Approval Requirement	EPCOR Internal Limit	EPCOR Target
Turbidity (NTU)			
Individual Filters	<0.3	<0.1 (2)	<0.08
Distribution System	< 5 (3)	< 1 (1)	< 1
Distribution System (Maintenance)	< 5 (3)	< 3 (1)	< 1
Colour (TCU)	<15 (3)	<10 (1)	<3
pH (25°C)	6.5 - 8.5	7.3 - 8.3 (1)	7.4 - 8.0
Taste and Odour	Inoffensive (3)	Inoffensive (1)	Inoffensive
E.coli (PA/100 mL)	absent	absent (1)	absent
Total Coliforms (PA/100 mL)	absent	absent (1)	absent
Total Chlorine Residual (mg/L)			
Water Treatment Plant Effluent	>1.0	1.3 - 2.4 (2)	1.9 - 2.2
Reservoirs	>0.5	1.0 - 2.4 (1)	1.2 - 2.2
Distribution	>0.5 (4)	1.0 - 2.4 (1)	1.0 - 2.2
Fluoride: (mg/L)			
Reservoir Effluent	0.5 - 0.9	0.6 - 0.8 (1)	0.6 - 0.8
Trihalomethanes (mg/L)			
Reservoir Effluent	<0.100	<0.050 (1)	<0.040
Distribution System	<0.100	<0.050 (1)	<0.040
UV254 % Transmittance			
E.L. Smith		>89% (2)	>90%
Rossdale		>87% (2)	>88%
HAA (mg/L)			
Reservoir Effluent	< 0.080	< 0.040 (1)	<0.035
Distribution System	< 0.080	< 0.040 (1)	<0.035
NDMA (mg/L):			
Reservoir Effluent	< 0.000040	< 0.000010 (1)	<0.000005
Distribution System	< 0.000040	< 0.000010 (1)	
Microoganism Log Removal at			
Giardia	≥5.5	≥6.0 (2)	>6.5
Cryptosporidium	≥5.5	≥5.3 (2)	>6.0
Virus	≥4.0	≥4.5 (2)	>5.0

(1) Limit based on City of Edmonton Performance Based Rate (PBR) agreement
(2) Limit based on EPCOR Action Level
(3) Aesthetic Objective
(4) in 75% of samples collected in a day
All values are expressed in units of mg/L unless otherwise stated.
Based on Dec 13, 2013 Summary of Epcor Edmonton Water Quality Standards.

7.2 SUMMARY OF MAJOR CHEMICALS, MICROBIOLOGICAL, AND PHYSICAL PARAMETERS OF EDMONTON DRINKING WATER PRODUCED AT THE WATER TREATMENT PLANTS

2017

Parameter	Unit	MAC*	Average	Median	Min	Max	Count
Alkalinity, total	mg CaCO3/L		128	122	87	150	730
Aluminum	mg/L	(0.1/0.2)	0.093	0.065	0.020	0.181	24
Arsenic	mg/L	0.01	<0.0002	<0.0002	<0.0002	0.0004	24
Bromate, dissolved	mg/L	0.01	<0.005	<0.005	<0.005	<0.005	204
Bromodichloromethane	ug/L		<0.5	<0.5	<0.5	2.3	730
Cadmium	mg/L	0.005	<0.0002	<0.0002	<0.0002	<0.0002	24
Chlorate, dissolved	mg/L	1	0.11	0.11	0.02	0.34	204
Chloride, dissolved	mg/L		4.53	5.69	3.73	19.4	204
Chlorine, total	mg/L	3.0	1.95	2.07	1.80	2.33	732
Chlorite, dissolved	mg/L	1	<0.005	<0.005	<0.005	0.030	204
Chromium	mg/L	0.05	<0.0002	<0.0002	<0.0002	0.0007	24
Colour	TCU	(15)	<1	<1	<1	3	729
Conductivity	uS/cm		368	391	341	560	104
Copper	mg/L	(1)	<0.005	<0.005	<0.005	0.006	24
Cryptosporidium	oocysts/100L		<0.1	<0.1	<0.1	0.1	29
Fluoride, dissolved	mg/L	1.5	0.68	0.68	0.61	0.78	730
Giardia	cysts/100L		<0.1	<0.1	<0.1	0.1	29
Haloacetic Acids, total (HAA5)	ug/L		11.9	20.9	9.4	32.8	24
Hardness, Calcium	mg CaCO3/L		114	110	85	142	730
Hardness, total	mg CaCO3/L		173	167	127	206	730
Iron	mg/L	(0.3)	<0.005	<0.005	<0.005	0.006	24
Lead	mg/L	0.01	<0.0002	<0.0002	<0.0002	<0.0002	24
Manganese	mg/L	(0.05)	<0.002	<0.002	<0.002	0.018	24
Mercury	mg/L	0.001	<0.0002	<0.0002	<0.0002	0.0002	24
NDMA	ng/L	40	<1.2	<7.2	<7.2	14.0	24
Nitrate (as N), dissolved	mg/L	10	0.06	0.05	<0.01	0.30	204
Nitrite (as N), dissolved	mg/L	1	<0.01	<0.01	<0.01	0.02	204
pH	N/A	(6.5–10.5)	8.0	7.9	7.4	8.3	730
Potassium	mg/L		0.60	0.72	0.60	2.93	24
Sodium	mg/L	(200)	6.5	9.6	5.8	28.0	24
Sulphate, dissolved	mg/L		53	61.6	46.8	153	204
Total Dissolved Solids	mg/L		211	235	195	281	24
Total Organic Carbon	mg/L C		1.4	1.9	<0.6	3.4	100
Trihalomethanes	ug/L	<100	9.0	15.7	3.8	43.7	730
Turbidity	NTU		0.07	0.07	0.04	0.16	730
Uranium	mg/L	0.02	<0.0005	<0.0005	<0.0005	0.0006	24
Zinc	mg/L	(5)	<0.005	<0.005	<0.005	0.007	24
Bacteriological Data							
Coliforms, total	PA/100 mL	62	Absent	Absent	Absent		730
E. coli	PA/100 mL	62	Absent	Absent	Absent		730

* Health Canada Guidelines for Canadian Drinking Water Quality Maximum Acceptable Concentration and Alberta Environment and Sustainable Resource Development Approval Limit. Limits in brackets indicates an aesthetic objective or operational guideline.

7.3 SUMMARY OF LABORATORY ANALYSIS

Testing of the Edmonton Drinking Water

2017

Drinking Water Testing

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
Water Treatment Plant	# Tests	7,737	6,939	7,858	7,565	7,667	7,506	7,680	7,813	7,465	7,775	7,546	7,647	91,198
	# Samples	368	350	502	460	340	330	328	352	328	355	352	328	4,393
Field Reservoirs	# Tests	720	720	770	620	765	786	720	780	725	705	670	700	8,681
	# Samples	48	48	58	44	57	50	48	60	49	45	54	44	605
Routine Distribution System	# Tests	1,159	1,179	1,156	1,247	1,428	1,406	1,434	1,685	1,330	1,296	1,256	1,233	15,809
	# Samples	162	168	162	164	212	212	202	198	192	171	180	176	2,199
System Depressurization/Repair	# Tests	256	264	260	168	280	496	360	240	248	338	312	180	3,402
	# Samples	64	67	65	42	70	121	91	60	62	85	78	45	850
Customer Complaints	# Tests	404	409	336	670	566	330	499	300	202	167	101	132	4,116
	# Samples	9	9	6	12	11	5	9	5	4	4	2	2	78
Externally Contracted Analyses	# Tests	220	204	228	222	226	206	194	230	230	254	216	180	2,610
	# Samples	110	102	114	111	113	103	97	115	115	127	108	90	1,305
Total	**# Tests**	10,496	9,715	10,608	10,492	10,932	10,730	10,887	11,048	10,200	10,535	10,101	10,072	125,816
	# Samples	761	744	907	833	803	821	775	790	750	787	774	685	9,430

Additional Testing

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
New Watermain Testing	# Tests	15	25	15	0	5	35	37	76	120	70	425	220	1,043
	# Samples	3	5	3	0	1	7	7	14	24	14	85	44	207
Water Treatment Plant Waste Disc	# Tests	20	16	20	16	16	20	16	20	12	16	20	16	208
	# Samples	5	4	5	4	4	5	4	5	3	4	5	4	52
Quality Control	# Tests	8,484	6,928	8,732	6,754	8,353	8,527	8,428	8,667	7,934	8,505	7,876	8,138	97,326
	# Samples	136	132	151	138	135	140	136	144	135	141	132	137	1,657
Total	**# Tests**	8,519	6,969	8,767	6,770	8,374	8,582	8,481	8,763	8,066	8,591	8,321	8,374	98,577
	# Samples	144	141	159	142	140	152	147	163	162	159	222	185	1,916

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
Grand Total	**# Tests**	19,015	16,684	19,375	17,262	19,306	19,312	19,368	19,811	18,266	19,126	18,422	18,446	224,393
	# Samples	905	885	1,066	975	943	973	922	953	912	946	996	870	11,346

7.4 Bacteriological Data: Water Treatment Plants

2017

Treated Water Entering the Distribution System

	# of +ve Samples		# of Samples		Limit		
	Rossdale	E.L. Smith	Rossdale	E.L. Smith	GCDWQ or Approval	Required Frequency - Each Plant*	Unit
Coliforms, total	0	0	365	365	0/100 mL	[daily]	PA/100 mL
E. coli	0	0	365	365	0/100 mL	[daily]	PA/100 mL
Heterotrophic Plate Count	3	8	365	364	N/A	[daily]	CFU/mL

Water Entering the Plant Reservoir

	# of +ve Samples		# of Samples		Limit		
	Rossdale	E.L. Smith	Rossdale	E.L. Smith	GCDWQ or Approval	Required Frequency - Each Plant*	Unit
Coliforms, total	0	0	365	365	N/A	[daily]	PA/100 mL
E. coli	0	0	365	365	N/A	[daily]	PA/100 mL
Heterotrophic Plate Count	4	7	365	364	N/A	[daily]	CFU/mL

Raw River Water Entering the Treatment Plants

	Rossdale			E.L. Smith			Rossdale	E.L. Smith	Limit		
	Mean	Min	Max	Mean	Min	Max	# of Samples		GCDWQ or Approval	Required Frequency - Each Plant*	Unit
Coliforms, total	2,344	39	40,000	1,114	77	11,000	364	60	N/A	[weekly]	PA/100 mL
E. coli	316	<14	3,700	90	<3	870	364	60	N/A	[weekly]	PA/100 mL
Heterotrophic Plate Count	1,709	110	8,700	799	<72	6,400	12	13	N/A	[monthly]	CFU/mL

* Indicates EPCOR Operations Program.

7.5 Bacteriological Data: Distribution System

2017

	Coliforms, total			E. coli			HPC		
	Count	# +ve	% +ve	Count	# +ve	% +ve	Count	# +ve	% +ve
January									
FIELD DISTRIBUTION WATER	107	0	0.0	107	0	0.0	107	2	1.9
FIELD DISTRIBUTION WATER - PLPH	60	0	0.0	60	0	0.0	0		0.0
OUTSIDE LAB ANALYSIS	2	0	0.0	2	0	0.0	0		0.0
RESERVOIR WATER	48	0	0.0	48	0	0.0	48	0	0.0
RESERVOIR WATER - PLPH (duplicate-not counted)	48	0	0.0	48	0	0.0	0		0.0
Monthly	217	0	0.0	217	0	0.0	155	2	1.3
February									
FIELD DISTRIBUTION WATER	111	0	0.0	111	0	0.0	106	3	2.8
FIELD DISTRIBUTION WATER - PLPH	52	1	1.9	52	0	0.0	0		0.0
OUTSIDE LAB ANALYSIS	2	0	0.0	2	0	0.0	0		0.0
RESERVOIR WATER	48	0	0.0	48	0	0.0	48	2	4.2
RESERVOIR WATER - PLPH (duplicate-not counted)	48	0	0.0	48	0	0.0	0		0.0
Monthly	213	1	0.5	213	0	0.0	154	5	3.2
March									
FIELD DISTRIBUTION WATER	106	0	0.0	106	0	0.0	106	8	7.5
FIELD DISTRIBUTION WATER - PLPH	52	1	1.9	52	0	0.0	0		0.0
OUTSIDE LAB ANALYSIS	4	0	0.0	4	0	0.0	0		0.0
RESERVOIR WATER	58	0	0.0	58	0	0.0	58	0	0.0
RESERVOIR WATER - PLPH (duplicate-not counted)	58	0	0.0	58	0	0.0	0		0.0
Monthly	220	1	0.5	220	0	0.0	164	8	4.9
April									
FIELD DISTRIBUTION WATER	107	0	0.0	107	0	0.0	107	6	5.6
FIELD DISTRIBUTION WATER - PLPH	52	0	0.0	52	0	0.0	0		0.0
OUTSIDE LAB ANALYSIS	4	0	0.0	4	0	0.0	0		0.0
RESERVOIR WATER	44	0	0.0	44	0	0.0	44	0	0.0
RESERVOIR WATER - PLPH (duplicate-not counted)	55	0	0.0	55	0	0.0	0		0.0
Monthly	207	0	0.0	207	0	0.0	151	6	4.0
May									
COMPLAINT WATER	1	0	0.0	1	0	0.0	1	1	100
FIELD DISTRIBUTION WATER	157	0	0.0	157	0	0.0	157	6	3.8
FIELD DISTRIBUTION WATER - PLPH	52	0	0.0	52	0	0.0	0		0.0
OUTSIDE LAB ANALYSIS	4	0	0.0	4	0	0.0	0		0.0
RESERVOIR WATER	57	0	0.0	57	0	0.0	57	1	1.8
RESERVOIR WATER - PLPH (duplicate-not counted)	57	0	0.0	57	0	0.0	0		0.0
Monthly	271	0	0.0	271	0	0.0	215	8	3.7

Guidelines for Canadian Drinking Water Quality recommend 178 bacteriological samples for a city the size of Edmonton. HPC are not required.

Testing conducted by Provincial Laboratory for Public Health labelled with PLPH.

*Follow up on June positive E. coli as per Alberta Environment and Parks (AEP) all showed negative results which suggests that the positive result was due to recent plumbing work. New faucet/pipes that were not exposed to a disinfection agent after installation which could have been a factor in the positive result.

7.5 Bacteriological Data: Distribution System

2017

	Coliforms, total			E. coli			HPC		
	Count	# +ve	% +ve	Count	# +ve	% +ve	Count	# +ve	% +ve
June									
FIELD DISTRIBUTION WATER	156	1	0.6	156	0	0.0	156	8	5.1
FIELD DISTRIBUTION WATER - PLPH	51	1	2.0	51	1	2.0	0		0.0
OUTSIDE LAB ANALYSIS	4	0	0.0	4	0	0.0	0		0.0
RESERVOIR WATER	48	0	0.0	48	0	0.0	48	3	6.3
RESERVOIR WATER - PLPH (duplicate-not counted)	48	0	0.0	48	0	0.0	0		0.0
Monthly	259	2	0.8	259	1	0.4	204	11	5.4
July									
FIELD DISTRIBUTION WATER	148	0	0.0	148	0	0.0	148	12	8.1
FIELD DISTRIBUTION WATER - PLPH	50	1	2.0	50	0	0.0	0		0.0
OUTSIDE LAB ANALYSIS	5	0	0.0	5	0	0.0	0		0.0
RESERVOIR WATER	48	0	0.0	48	0	0.0	48	1	2.1
RESERVOIR WATER - PLPH (duplicate-not counted)	42	0	0.0	42	0	0.0	0		0.0
Monthly	251	1	0.4	251	0	0.0	196	13	6.6
August									
FIELD DISTRIBUTION WATER	128	0	0.0	128	0	0.0	128	5	3.9
FIELD DISTRIBUTION WATER - PLPH	51	0	0.0	51	0	0.0	0		0.0
OUTSIDE LAB ANALYSIS	4	0	0.0	4	0	0.0	0		0.0
RESERVOIR WATER	60	0	0.0	60	0	0.0	60	0	0.0
RESERVOIR WATER - PLPH (duplicate-not counted)	60	0	0.0	60	0	0.0	0		0.0
Monthly	243	0	0.0	243	0	0.0	188	5	2.7
September									
FIELD DISTRIBUTION WATER	139	0	0.0	139	0	0.0	138	8	5.8
FIELD DISTRIBUTION WATER - PLPH	51	0	0.0	51	0	0.0	0		0.0
OUTSIDE LAB ANALYSIS	4	0	0.0	4	0	0.0	0		0.0
RESERVOIR WATER	49	0	0.0	49	0	0.0	49	1	2.0
RESERVOIR WATER - PLPH (duplicate-not counted)	60	0	0.0	60	0	0.0	0		0.0
Monthly	243	0	0.0	243	0	0.0	187	9	4.8
October									
FIELD DISTRIBUTION WATER	113	0	0.0	113	0	0.0	112	9	8.0
FIELD DISTRIBUTION WATER - PLPH	76	0	0.0	76	0	0.0	0		0.0
OUTSIDE LAB ANALYSIS	6	0	0.0	6	0	0.0	0		0.0
RESERVOIR WATER	45	0	0.0	45	0	0.0	45	0	0.0
RESERVOIR WATER - PLPH (duplicate-not counted)	45	0	0.0	45	0	0.0	0		0.0
Monthly	240	0	0.0	240	0	0.0	157	9	5.7

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7.5 Bacteriological Data: Distribution System

2017

	Coliforms, total			E. coli			HPC		
	Count	# +ve	% +ve	Count	# +ve	% +ve	Count	# +ve	% +ve
November									
FIELD DISTRIBUTION WATER	124	0	0.0	124	0	0.0	122	9	7.4
FIELD DISTRIBUTION WATER - PLPH	50	0	0.0	50	0	0.0	0		0.0
OUTSIDE LAB ANALYSIS	4	0	0.0	4	0	0.0	0		0.0
RESERVOIR WATER	54	0	0.0	54	0	0.0	54	1	1.9
RESERVOIR WATER - PLPH (duplicate-not counted)	54	0	0.0	54	0	0.0	0		0.0
Monthly	232	0	0.0	232	0	0.0	176	10	5.7
December									
FIELD DISTRIBUTION WATER	120	1	0.8	120	0	0.0	117	8	6.8
FIELD DISTRIBUTION WATER - PLPH	50	0	0.0	50	0	0.0	0		0.0
OUTSIDE LAB ANALYSIS	4	0	0.0	4	0	0.0	0		0.0
RESERVOIR WATER	44	0	0.0	44	0	0.0	44	3	6.8
RESERVOIR WATER - PLPH (duplicate-not counted)	36	0	0.0	36	0	0.0	0		0.0
Monthly	218	1	0.5	218	0	0.0	161	11	6.8
Year to Date	2,814	6	0.2	2,814	1	0.0	2,108	97	4.6

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7.5 Bacteriological Data: Distribution System

2017

Samples from Depressurizations

	Coliforms, total			E. coli			Heterotrophic Plate Count		
	Count	# +ve	% +ve	Count	# +ve	% +ve	Count	# +ve	% +ve
January	64	0	0.0	64	0	0.0	0	0	0.0
February	65	0	0.0	65	0	0.0	0	0	0.0
March	65	0	0.0	65	0	0.0	0	0	0.0
April	42	0	0.0	42	0	0.0	0	0	0.0
May	70	0	0.0	70	0	0.0	0	0	0.0
June	121	3	2.5	121	0	0.0	12	2	16.7
July	89	1	1.1	89	0	0.0	0	0	0.0
August	60	1	1.7	60	0	0.0	0	0	0.0
September	62	0	0.0	62	0	0.0	0	0	0.0
October	84	0	0.0	84	0	0.0	0	0	0.0
November	78	0	0.0	78	0	0.0	0	0	0.0
December	45	0	0.0	45	0	0.0	0	0	0.0
YTD	845	5	0.6	845	0	0.0	12	2	16.7

Samples from Complaints

	Coliforms, total			E. coli			Heterotrophic Plate Count		
	Count	# +ve	% +ve	Count	# +ve	% +ve	Count	# +ve	% +ve
January	9	0	0.0	9	0	0.0	9	1	11.1
February	9	0	0.0	9	0	0.0	9	0	0.0
March	6	0	0.0	6	0	0.0	6	1	16.7
April	12	0	0.0	12	0	0.0	12	1	8.3
May	11	0	0.0	11	0	0.0	11	2	18.2
June	5	0	0.0	5	0	0.0	5	0	0.0
July	9	0	0.0	9	0	0.0	9	1	11.1
August	5	0	0.0	5	0	0.0	5	0	0.0
September	4	0	0.0	4	0	0.0	4	0	0.0
October	4	0	0.0	4	0	0.0	4	0	0.0
November	2	0	0.0	2	0	0.0	2	0	0.0
December	2	0	0.0	2	0	0.0	2	0	0.0
YTD	78	0	0.0	78	0	0.0	78	6	7.7

All Total Coliform and E.coli positive samples were followed up on according to the AEP bacteriological response protocol.

7.6 Giardia and Cryptosporidium

2017

Treated Water entering the distribution system

	Cryptosporidium oocysts/100L		*Giardia* cysts/100L	
	E.L. Smith	**Rossdale**	**E.L. Smith**	**Rossdale**
3 - Jan	<0.1	<0.1	0.1	0.1
9 - Jan	<0.1	<0.1	<0.1	<0.1
2 - Feb	<0.1	<0.1	<0.1	<0.1
9 - Mar	<0.1	<0.1	<0.1	<0.1
20 - Mar	<0.1	<0.1	<0.1	<0.1
4 - Apr	<0.1	<0.1	<0.1	<0.1
1 - May	<0.1	<0.1	<0.1	<0.1
5 - Jun	<0.1		<0.1	
6 - Jun		<0.1		<0.1
11 - Jul	<0.1	<0.1	<0.1	<0.1
14 - Aug		<0.1		<0.1
15 - Aug	<0.1		<0.1	
13 - Sep	<0.1	<0.1	<0.1	<0.1
2 - Oct	<0.1	<0.1	<0.1	<0.1
6 - Nov	<0.1	0.1	<0.1	0.1
9 - Nov		<0.1		<0.1
18 - Dec	<0.1		<0.1	
19 - Dec		<0.1		0.1

7.6 Giardia and Cryptosporidium

2017

Water entering plant reservoir

	Cryptosporidium oocysts/100L		*Giardia* cysts/100L	
	E.L. Smith	**Rossdale**	**E.L. Smith**	**Rossdale**
3 - Jan	<0.1	<0.1	<0.1	<0.1
9 - Jan	<0.1	<0.1	<0.1	<0.1
16 - Jan	<0.1	<0.1	<0.1	<0.1
23 - Jan	<0.1	<0.1	<0.1	<0.1
30 - Jan	<0.1	<0.1	<0.1	<0.1
2 - Feb	0.1	<0.1	0.1	<0.1
21 - Feb	<0.1	<0.1	<0.1	<0.1
3 - Mar	<0.1	<0.1	<0.1	<0.1
9 - Mar	<0.1	<0.1	0.1	<0.1
13 - Mar	<0.1	<0.1	<0.1	<0.1
20 - Mar	<0.1	<0.1	<0.1	<0.1
27 - Mar	<0.1	<0.1	<0.1	<0.1
4 - Apr	<0.1	<0.1	<0.1	<0.1
13 - Sep		<0.1		<0.1
18 - Sep		<0.1		<0.1
11 - Oct		<0.1		<0.1
16 - Oct		<0.1		<0.1
24 - Oct	<0.1	0.1	<0.1	<0.1
26 - Oct		0.2		<0.1
1 - Nov	<0.1	0.2	<0.1	<0.1
6 - Nov		<0.1		<0.1
7 - Nov	<0.1		<0.1	
9 - Nov		<0.1		<0.1
14 - Nov	<0.1	<0.1	<0.1	<0.1
20 - Nov	<0.1		<0.1	
21 - Nov		<0.1		<0.1
4 - Dec	<0.1	<0.1	<0.1	<0.1
19 - Dec	<0.1	<0.1	<0.1	<0.1

7.6 Giardia and Cryptosporidium

2017

Raw Water

	Cryptosporidium oocysts/100L		*Giardia* cysts/100L	
	E.L. Smith	**Rossdale**	**E.L. Smith**	**Rossdale**
3 - Jan	<1.0	<0.5	6.1	4.4
9 - Jan	<4.0	<0.8	8.0	5.1
16 - Jan	<0.9	<0.9	0.9	6.2
23 - Jan		<0.9		<0.9
30 - Jan		<0.5		2.7
2 - Feb	<1.8	<0.8	5.3	<0.8
21 - Feb	<2.1	<2.3	4.2	<2.3
3 - Mar	<0.7	<1.6	0.7	3.2
9 - Mar	<0.6	<1.2	3.8	4.7
13 - Mar	<1.0	<0.9	2.9	<0.9
20 - Mar	<1.0	<1.0	1.0	<1.0
27 - Mar	<4.3	<6.2	8.7	6.2
4 - Apr	<6.7	<27	6.7	<27
18 - Apr	<35	<56	<35	56
24 - Apr	<45		<45	
25 - Apr		<49		49
1 - May	<13	<14	76	<14
5 - Jun	<38		<38	
6 - Jun		<30		60
11 - Jul	<3.6	<2.8	<3.6	<2.8
14 - Aug		<3.9		31
15 - Aug	3.9		12	
28 - Aug	1.0	1.0	4.9	2.9
5 - Sep	1.0	<1.0	19	12
13 - Sep	<0.7	<1.0	12	20
18 - Sep	1.8	<1.0	40	35
25 - Sep	<1.6	<1.7	49	35
2 - Oct	<1.6	3.4	60	49
11 - Oct	<1.0	<1.3	71	28
16 - Oct	<1.0	<1.3	36	30
24 - Oct	<1.0	<0.9	91	82
26 - Oct		<1.8		60
1 - Nov	<1.9	<2.2	130	95
6 - Nov	<1.7	<2.2	37	31
14 - Nov	<1.1	<1.7	36	15
20 - Nov	<0.9		<0.9	
21 - Nov		<1.0		<1.0
4 - Dec	<0.8	<1.0	4.0	4.1
11 - Dec	<1.0	<1.0	1.0	16
18 - Dec	<1.0	<0.7	<1.0	<0.7

7.7 Treated Water Entering the Distribution System: Physical, Inorganic, and Organic

2017

	ROSSDALE				E.L. SMITH				Limits	
	Mean	Min	Max	Count	Mean	Min	Max	Count	Approval or GCDWQ MAC, (AO or OG)	EPCOR
Physical										
Colour (TCU)	<1	<1	3	365	<1	<1	2	364	(15)	10
Conductivity (uS/cm)	397	341	529	52	401	343	560	52		
FPA-Intensity (N/A)	0.74	0.31	1.50	73	0.66	0.25	1.38	74		
pH (N/A)	7.9	7.6	8.2	365	7.8	7.4	8.3	365	(6.5–8.5)	7.3-8.3
Total Dissolved Solids (mg/L)	231	195	281	12	243	206	280	12	(500)	
Turbidity (NTU)	0.08	0.06	0.16	365	0.07	0.04	0.16	365		1
UV 254 %T	94	89	97	365	94	90	97	365		
Primary Inorganics (mg/L) **										
Antimony	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12	0.006	
Arsenic	0.0002	<0.0002	0.0004	12	<0.0002	<0.0002	0.0003	12	0.01	
Barium	0.062	0.054	0.070	12	0.062	0.053	0.071	12	1	
Boron	0.010	0.008	0.014	12	0.010	0.007	0.013	12	5	
Bromate, dissolved	<0.005	<0.005	<0.005	102	<0.005	<0.005	<0.005	102	0.01	
Cadmium	<0.0002	<0.0001	<0.0002	12	<0.0002	<0.0001	<0.0002	12	0.005	
Chlorate, dissolved	0.125	0.050	0.338	102	0.099	0.020	0.200	102	1	
Chlorine, total	2.04	1.80	2.29	366	2.10	1.82	2.33	366	0.5 - 3.0	1.0 -2.4
Chlorite, dissolved	<0.005	<0.005	0.020	102	<0.006	<0.005	0.030	102	1	
Chromium	<0.0002	<0.0002	0.0007	12	<0.0002	<0.0002	<0.0002	12	0.05	
Cyanide, dissolved	<0.002	<0.002	<0.002	11	<0.002	<0.002	<0.002	11	0.2	
Fluoride, dissolved	0.69	0.61	0.76	365	0.68	0.62	0.78	365	0.5-0.9	0.6–0.8
Lead	<0.0002	<0.0001	<0.0002	12	<0.0002	<0.0001	<0.0002	12	0.01	
Mercury	<0.0002	<0.0001	<0.0002	12	<0.0002	<0.0001	<0.0002	12	0.001	
Nitrate (as N), dissolved	0.06	<0.01	0.30	102	0.06	<0.01	0.26	102	10	
Nitrite (as N), dissolved	<0.005	<0.005	0.020	102	<0.005	<0.005	0.008	102	1	
Selenium	<0.0002	<0.0002	0.0003	12	<0.0002	<0.0002	0.0003	12	0.01	
Uranium	<0.0005	<0.0005	0.0006	12	<0.0005	<0.0005	0.0006	12	0.02	

7.7 Treated Water Entering the Distribution System: Physical, Inorganic, and Organic

2017

	ROSSDALE				E.L. SMITH				Limits	
	Mean	Min	Max	Count	Mean	Min	Max	Count	Approval or GCDWQ MAC, (AO or OG)	EPCOR
Primary Organics (ug/L) **										
2,4-D	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	100	
Atrazine	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	5	
Benzene	<0.50	<0.05	<0.50	370	<0.50	<0.03	<0.50	370	5	
Benzo(a)pyrene	<0.05	<0.01	<0.10	8	<0.05	<0.01	<0.10	8	0.01	
Bromoxynil	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	5	
Carbon Tetrachloride	<0.99	<0.03	<1.00	395	<0.99	<0.07	<1.00	396	2	
Chlorobenzene	<0.49	<0.03	<0.50	370	<0.49	<0.03	<0.50	370	80 (30)	
Chlorpyrifos	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	90	
Diazinon	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	20	
Dicamba	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	120	
Dichlorobenzene (1,2)	<0.49	<0.03	<0.50	370	<0.50	<0.03	<0.50	370	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.1	<0.5	370	<0.5	<0.1	<0.5	370	5 (1)	
Dichloroethane (1,2)	<0.1	<0.1	<0.5	5	<0.1	<0.1	<0.5	5	5	
Dichloroethylene (1,1)	<3.0	<0.2	<3.0	370	<3.0	<0.1	<3.0	370	14	
Dichlorophenol (2,4)	<0.10	<0.10	<0.10	4	<0.10	<0.10	<0.10	4	900 (0.3)	
Diclofop-methyl	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4	9	
Dimethoate	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	20	
Diuron	<0.9	<0.2	<5.0	7	<0.9	<0.2	<5.0	7	150	
Ethyl benzene	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.03	4		
Ethylbenzene	<0.50	<0.50	<0.50	366	<0.50	<0.50	<0.50	366	(2.4)	
Glyphosate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4	280	
Haloacetic Acids, (HAA5)	21.4	12.4	32.8	12	19.9	9.4	32.3	12	80	40
Malathion	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4	190	
MCPA	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	100	
Methylene Chloride	<0.5	<0.1	<0.5	370	<0.5	<0.1	<0.5	370	50	
Metolachlor	<0.012	<0.012	<0.012	4	<0.012	<0.012	<0.012	4	50	
Metribuzin	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4	80	
NDMA (ng/L)	<3.46	<0.69	14.00	12	<1.98	<0.76	<5.30	12	40	10
NTA (mg/L)	<0.3	<0.2	<0.3	4	<0.3	<0.2	<0.3	4	0.4	
Pentachlorophenol	<0.6	<0.6	<0.6	4	<0.6	<0.6	<0.6	4	60 (30)	
Phorate	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	2	
Picloram	<0.022	<0.022	<0.022	4	<0.022	<0.022	<0.022	4	190	
Simazine	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4	10	
Terbufos	<0.03	<0.03	<0.03	4	<0.03	<0.03	<0.03	4	1	
Tetrachloroethylene	<0.5	<0.1	<0.5	395	<0.5	<0.1	<0.5	396	10	
Tetrachlorophenol (2,3,4,6)	<0.4	<0.4	<0.4	4	<0.4	<0.4	<0.4	4	100 (1)	
Toluene	<0.49	<0.03	<0.50	370	<0.49	<0.03	<0.50	370	(24)	
Trichloroethylene	<0.5	<0.2	<0.5	395	<0.5	<0.1	<0.5	396	5	
Trichlorophenol (2,4,6)	<0.7	<0.7	<0.7	4	<0.7	<0.7	<0.7	4	5 (2)	
Trifluralin	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	45	
Trihalomethanes	18.4	4.7	40.4	391	14.9	3.8	43.7	392	100	50
Vinyl Chloride	<0.2	<0.1	<1.0	5	<0.2	<0.1	<1.0	5	2	

7.7 Treated Water Entering the Distribution System: Physical, Inorganic, and Organic

2017

	ROSSDALE				E.L. SMITH				Limits	
	Mean	Min	Max	Count	Mean	Min	Max	Count	Approval or GCDWQ MAC, (AO or OG)	EPCOR
Radionuclides Bq/L)										
Cesium-137	<0.20	<0.20	<0.20	2	<0.20	<0.20	<0.20	2	10	
Gross Alpha	<0.12	<0.12	<0.12	2	<0.12	<0.12	<0.12	2	(0.5)	
Gross Beta	<0.10	<0.10	<0.10	2	<0.09	<0.08	<0.10	2	(1.0)	
Iodine-131	<0.30	<0.30	<0.30	2	<0.30	<0.30	<0.30	2	6	
Lead-210	0.03	<0.02	0.04	2	<0.02	<0.02	<0.02	2	0.2	
Radium-226	<0.01	<0.01	0.01	2	<0.01	<0.01	<0.01	2	0.5	
Strontium-90	<0.1	<0.1	<0.1	2	<0.1	<0.1	<0.1	2	5	
Tritium	20	<15	24	2	23	<15	31	2	7000	
Secondary Inorganics (mg/L) ***										
Alkalinity, total (mg CaCO3/L)	120	87	146	365	123	92	150	365		
Aluminum	0.081	0.020	0.181	12	0.064	0.025	0.127	12	(0.1/0.2)	0.1/0.2
Ammonia as N	0.16	0.10	0.21	76	0.15	0.07	0.28	83		
Beryllium	<0.0002	<0.0002	0.0004	12	<0.0002	<0.0002	0.0004	12		
Bromide, dissolved	<0.005	<0.005	<0.005	102	<0.005	<0.005	<0.005	102		
Calcium	46.5	39.9	52.2	12	46.4	40.0	53.2	12		
Chloride, dissolved	6.5	4.1	19.4	102	6.1	3.7	17.7	102	(250)	
Chlorine, free	<0.03	<0.03	<0.03	98	<0.03	<0.03	<0.03	93		
Cobalt	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12		
Copper	<0.005	<0.002	0.006	12	<0.005	<0.002	<0.005	12	(1)	
Hardness, Ca (mg CaCO3/L)	112	85	142	365	112	86	138	365		
Hardness, total (mg CaCO3/L)	171	127	203	365	170	131	206	365		
Iron	<0.005	<0.002	0.006	12	<0.005	<0.002	<0.005	12	(0.3)	0.3
Lithium	0.0034	0.0028	0.0038	12	0.0032	0.0025	0.0037	12		
Magnesium	13.5	11.2	15.7	12	13.5	10.9	15.6	12		
Manganese	0.003	<0.002	0.016	12	0.003	<0.002	0.018	12	(0.05)	
Molybdenum	0.0008	0.0007	0.0010	12	0.0007	0.0006	0.0009	12		
Nickel	<0.0006	<0.0004	0.0012	12	<0.0006	<0.0005	0.0010	12		
Phosphate,Ortho (as P)	<0.02	<0.02	0.02	13	<0.02	<0.02	<0.02	11		
Phosphorus	0.03	<0.02	0.05	12	0.03	<0.02	0.04	12		
Potassium	1.05	0.60	2.93	12	0.95	0.60	2.41	12		
Silicon	1.94	1.38	2.33	12	1.92	1.37	2.32	12		
Silver	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12		
Sodium	11.9	5.8	26.4	12	13.6	6.9	28.0	12	(200)	
Strontium	0.417	0.341	0.465	12	0.420	0.343	0.467	12		
Sulphate, dissolved	68.9	47	145.9	102	71	47	153	102	(500)	
Sulphide	<0.002	<0.002	<0.002	11	<0.002	<0.002	<0.002	11	(0.05)	
Thallium	<0.0005	<0.0001	<0.0005	12	<0.0004	<0.0001	<0.0005	12		
Tin	<0.0005	<0.0002	<0.0005	12	<0.0005	<0.0002	<0.0005	12		
Titanium	<0.0005	<0.0005	<0.0005	12	<0.0005	<0.0005	<0.0005	12		
Total Kjeldahl Nitrogen (TKN)	0.32	0.32	0.32	1	0.22	0.22	0.22	1		
Vanadium	<0.0005	<0.0003	0.0006	12	<0.0005	<0.0003	<0.0005	12		
Zinc	<0.005	<0.002	0.007	12	<0.005	<0.002	<0.005	12	(5)	
Zirconium	<0.0005	<0.0003	<0.0005	12	<0.0005	<0.0002	<0.0005	12		

7.7 Treated Water Entering the Distribution System: Physical, Inorganic, and Organic

2017

	ROSSDALE				E.L. SMITH				Limits	
	Mean	Min	Max	Count	Mean	Min	Max	Count	Approval or GCDWQ MAC, (AO or OG)	EPCOR
Secondary Organics (ug/L) * **										
2,4-DB	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
2,4-Dichlorophenol	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
2,4-DP	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Acenaphthene	<0.10	<0.01	<0.20	8	<0.10	<0.01	<0.20	8		
Acenaphthylene	<0.06	<0.01	<0.10	8	<0.06	<0.01	<0.10	8		
Acetaminophen	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Acetylsalicylic acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Acridine	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Aldicarb	<0.4	<0.1	<2.0	7	<0.4	<0.1	<2.0	7		
Aldicarb Sulfone	<1.38	<0.16	<5.00	4	<1.38	<0.16	<5.00	4		
Aldicarb Sulfoxide	<0.60	<0.10	<2.00	4	<0.60	<0.10	<2.00	4		
Aldrin	<0.009	<0.009	<0.009	4	<0.009	<0.009	<0.009	4		
alpha-Endosulfan	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Aminocarb	<0.264	<0.018	<1.000	4	<0.264	<0.018	<1.000	4		
Aminomethyl Phosphonic Acid	<0.3	<0.3	<0.3	4	<0.3	<0.3	<0.3	4		
Aminopyralid	<0.03	<0.03	<0.03	4	<0.03	<0.03	<0.03	4		
Anthracene	<0.10	<0.01	<0.20	8	<0.10	<0.01	<0.20	8		
Azinphos-methyl	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Benomyl	<1.260	<0.010	<5.000	4	<1.260	<0.010	<5.000	4		
Bentazon	<0.006	<0.006	<0.006	4	<0.006	<0.006	<0.006	4		
Benzidine	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Benzo(a)anthracene	<0.05	<0.01	<0.10	8	<0.05	<0.01	<0.10	8		
Benzo(b)fluoranthene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Benzo(b,j,k)fluoranthene	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Benzo(c)phenanthrene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Benzo(e)pyrene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Benzo(ghi)perylene	<0.05	<0.01	<0.10	8	<0.05	<0.01	<0.10	8		
Benzo(k)fluoranthene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Benzoylecgonine	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Bezafibrate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Bis(2-chloroethoxy)methane	<0.3	<0.3	<0.3	4	<0.3	<0.3	<0.3	4		
Bis(2-chloroethyl)ether	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Bis(2-chloroisopropyl)ether	<0.3	<0.3	<0.3	4	<0.3	<0.3	<0.3	4		
Bis(2-ethylhexyl)phthalate	<0.3	<0.3	0.3	4	0.5	<0.3	1.1	4		
Bromacil	<0.030	<0.030	<0.030	4	<0.030	<0.030	<0.030	4		
Bromobenzene	<0.03	<0.03	<0.03	4	<0.04	<0.03	<0.05	4		
Bromochloroacetic acid	<1	<1	<2	12	<1	<1	<2	12		
Bromodichloromethane	<0.6	<0.5	2.9	395	<0.5	<0.5	2.8	396		16
Bromoform	<0.99	<0.06	<1.00	395	<0.99	<0.04	<1.00	396		
Bromomethane	<0.2	<0.2	<0.2	4	<0.2	<0.1	<0.2	4		
Bromophenyl phenyl ether (4)	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Butylbenzylphthalate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Caffeine	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Carbamazepine	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Carbaryl	<6.254	<0.005	<25.000	4	<6.254	<0.005	<25.000	4		
Carbathiin	<0.200	<0.200	<0.200	4	<0.200	<0.200	<0.200	4		
Carbofuran	<6.254	<0.005	<25.000	4	<6.254	<0.005	<25.000	4		
Chloramphenicol	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Chloro-2-MethylPhenol (4)	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Chloro-3-methylphenol (4)	<0.8	<0.8	<0.8	4	<0.8	<0.8	<0.8	4		

7.7 Treated Water Entering the Distribution System: Physical, Inorganic, and Organic

2017

	ROSSDALE				E.L. SMITH				Limits	
	Mean	Min	Max	Count	Mean	Min	Max	Count	Approval or GCDWQ MAC, (AO or OG)	EPCOR
Secondary Organics (ug/L) * **										
Chloroethane	<0.2	<0.2	<0.2	4	<0.2	<0.1	<0.2	4		
Chloroethoxyethylene (2)	<0.05	<0.05	<0.05	4	<0.06	<0.05	<0.10	4		
Chloroform	18.2	4.7	37.9	395	14.8	3.8	43.7	396		
Chloromethane	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Chloronaphthalene (2)	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Chlorophenol (2)	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Chlorophenyl phenyl ether (4)	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Chlorothalonil	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Chlorotoluene (2)	<0.05	<0.05	<0.05	4	<0.05	<0.04	<0.05	4		
Chlorotoluene (4)	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Chrysene	<0.102	<0.004	<0.200	8	<0.102	<0.004	<0.200	8		
Ciprofloxacin	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Clindamycin	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Clodinafop acid metabolite	<0.070	<0.070	<0.070	4	<0.070	<0.070	<0.070	4		
Clodinafop-propargyl	<0.040	<0.040	<0.040	4	<0.040	<0.040	<0.040	4		
Clofibric Acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Clopyralid	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Cocaine	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Codeine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Cotinine	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Cyanazine	<0.060	<0.060	<0.060	4	<0.060	<0.060	<0.060	4		
Desethyl Atrazine	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Desisopropyl Atrazine	<0.080	<0.080	<0.080	4	<0.080	<0.080	<0.080	4		
Dibenzo(a,h)pyrene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Dibenzo(a,i)pyrene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Dibenzo(a,l)pyrene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Dibenzo(ah)anthracene	<0.05	<0.01	<0.10	8	<0.05	<0.01	<0.10	8		
Dibromo-3-chloropropane (1,2)	<0.8	<0.8	<0.8	4	<0.9	<0.8	<1.0	4		
Dibromoacetic acid	<1	<1	<2	12	<1	<1	<2	12		
Dibromochloromethane	<0.50	<0.04	<0.50	395	<0.50	<0.04	<0.50	396		
Dibromoethane (1,2)	<0.06	<0.03	<0.07	4	<0.07	<0.07	<0.07	4		
Dibromomethane	<0.03	<0.03	<0.03	4	<0.04	<0.03	<0.06	4		
Dichloroacetic acid	10	6	14	12	10	5	14	12		
Dichlorobenzene (1,3)	<0.49	<0.03	<0.50	370	<0.50	<0.03	<0.50	370		
Dichloroethane (1,1)	<0.07	<0.07	<0.07	4	<0.06	<0.04	<0.07	4		
Dichloroethylene, cis (1,2)	<0.50	<0.04	<0.50	370	<0.50	<0.04	<0.50	370		
Dichloroethylene, trans (1,2)	<0.50	<0.04	<0.50	370	<0.50	<0.04	<0.50	370		
Dichloropropane (1,2)	<0.50	<0.03	<0.50	370	<0.50	<0.07	<0.50	370		
Dichloropropane (1,3)	<0.04	<0.04	<0.04	4	<0.05	<0.04	<0.07	4		
Dichloropropane (2,2)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Dichloropropylene (1,1)	<0.06	<0.06	<0.06	4	<0.06	<0.04	<0.06	4		
Dichloropropylene cis (1,3)	<0.03	<0.03	<0.03	4	<0.04	<0.03	<0.06	4		
Dichloropropylene trans (1,3)	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Diclofenac	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Dieldrin	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Diethyl phthalate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Dimethyl phthalate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Dimethylbenz(a)anthracene (7,12)	<0.008	<0.008	<0.008	4	<0.008	<0.008	<0.008	4		
Dimethylphenol (2,4)	<0.3	<0.3	<0.3	4	<0.3	<0.3	<0.3	4		
Di-n-butylphthalate	<0.3	<0.3	<0.3	4	<0.3	<0.3	<0.3	4		

7.7 Treated Water Entering the Distribution System: Physical, Inorganic, and Organic

2017

	ROSSDALE				E.L. SMITH				Limits	
	Mean	Min	Max	Count	Mean	Min	Max	Count	Approval or GCDWQ MAC, (AO or OG)	EPCOR
Secondary Organics (ug/L) * **										
Dinitrophenol (2,4)	<0.7	<0.7	<0.7	4	<0.7	<0.7	<0.7	4		
Dinitrotoluene (2,4)	<0.3	<0.3	<0.3	4	<0.3	<0.3	<0.3	4		
Dinitrotoluene (2,6)	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Di-n-octyl phthalate	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Diphenylhydrazine (1,2)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Disulfoton	<0.200	<0.200	<0.200	4	<0.200	<0.200	<0.200	4		
Enrofloxacin	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
EPTC	<6.255	<0.006	<25.000	4	<6.255	<0.006	<25.000	4		
Erythromycin	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Ethalfluralin	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Ethion	<0.10	<0.10	<0.10	4	<0.10	<0.10	<0.10	4		
Ethofumesate	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Fenoprofen	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Fenoxaprop-p-ethyl	<0.040	<0.040	<0.040	4	<0.040	<0.040	<0.040	4		
Fluazifop	<0.040	<0.040	<0.040	4	<0.040	<0.040	<0.040	4		
Fluoranthene	<0.05	<0.01	<0.10	8	<0.05	<0.01	<0.10	8		
Fluorene	<0.05	<0.01	<0.10	8	<0.05	<0.01	<0.10	8		
Fluoxetine	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Fluroxypyr	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Gemfibrozil	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Glufosinate	<0.4	<0.4	<0.4	4	<0.4	<0.4	<0.4	4		
Hexachlorobenzene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Hexachlorobutadiene	<0.2	<0.1	<0.2	8	<0.1	<0.1	<0.2	8		
Hexachlorocyclopentadiene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Hexachloroethane	<0.3	<0.3	<0.3	4	<0.3	<0.3	<0.3	4		
Hexaconazole	<0.009	<0.009	<0.009	4	<0.009	<0.009	<0.009	4		
Hydroxy Carbofuran (3)	<6.263	<0.016	<25.000	4	<6.263	<0.016	<25.000	4		
Ibuprofen	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Imazamethabenz-methyl	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Imazamox	<0.009	<0.009	<0.009	4	<0.009	<0.009	<0.009	4		
Imazethapyr	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Indeno(1,2,3-cd)pyrene	<0.10	<0.01	<0.20	8	<0.10	<0.01	<0.20	8		
Indomethacin	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Iprodione	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Isophorone	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Isopropylbenzene	<0.05	<0.03	<0.10	4	<0.03	<0.03	<0.03	4		
Ketoprofen	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Lincomycin	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Lindane (alpha-BHC)	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Lindane (gamma-BHC)	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Linuron	<0.040	<0.040	<0.040	4	<0.040	<0.040	<0.040	4		
MCPB	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
MCPP	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Meclofenamic acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Metalaxyl-M	<0.030	<0.030	<0.030	4	<0.030	<0.030	<0.030	4		
Methamphetamine	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Methomyl	<0.9	<0.2	<5.0	7	<0.9	<0.2	<5.0	7		
Methyl t-Butyl Ether (MTBE)	<0.50	<0.02	<0.50	370	<0.49	<0.02	<0.50	370	(15)	
Methyl Triclosan	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Methyl-4,6-dinitrophenol (2)	<0.7	<0.7	<0.7	4	<0.7	<0.7	<0.7	4		

7.7 Treated Water Entering the Distribution System: Physical, Inorganic, and Organic

2017

	ROSSDALE				E.L. SMITH				Limits	
	Mean	Min	Max	Count	Mean	Min	Max	Count	Approval or GCDWQ MAC, (AO or OG)	EPCOR
Secondary Organics (ug/L) ***										
Methylcholanthrene (3)	<0.007	<0.007	<0.007	4	<0.007	<0.007	<0.007	4		
Methylnaphthalene (1)	<0.006	<0.006	<0.006	4	<0.006	<0.006	<0.006	4		
Methylnaphthalene (2)	<0.006	<0.006	<0.006	4	<0.006	<0.006	<0.006	4		
MIBK	<1.0	<1.0	<1.0	366	<1.0	<1.0	<1.0	366		
Microcystin Total	<0.11	<0.10	0.20	10	<0.13	<0.10	0.22	10		
Monobromoacetic acid	<1	<1	<2	12	<1	<1	<2	11		
Monochloroacetic acid	<4	<2	6	12	<4	<2	6	12		
Monuron	<1.253	<0.004	<5.000	4	<1.253	<0.004	<5.000	4		
N,N-diethyl-m-toluamide	0.009	<0.005	0.022	4	0.009	<0.005	0.020	4		
Naphthalene	<0.11	<0.01	<0.30	12	<0.09	<0.01	<0.20	12		
Napropamide	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Naproxen	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
n-Butylbenzene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Nitrobenzene	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Nitrophenol (2)	<0.3	<0.3	<0.3	4	<0.3	<0.3	<0.3	4		
Nitrophenol (4)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
N-Nitroso-di-n-propylamine	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
N-Nitrosodiphenylamine	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Norfloxacin	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Norfluoxetine	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
n-Propylbenzene	<0.02	<0.02	<0.02	4	<0.03	<0.02	<0.04	4		
Ofloxacin	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Oxolinic acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Oxycarboxin	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
p, p' - Methoxychlor	<0.03	<0.03	<0.03	4	<0.03	<0.03	<0.03	4		
Parathion	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Pentoxifylline	<0.500	<0.500	<0.500	4	<0.500	<0.500	<0.500	4		
Perylene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Phenanthrene	<0.10	<0.01	<0.20	8	<0.10	<0.01	<0.20	8		
Phenol	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Pipemidic acid	<0.5	<0.5	<0.5	4	<0.5	<0.5	<0.5	4		
p-Isopropyltoluene	<0.11	<0.04	<0.30	4	<0.04	<0.04	<0.04	4		
Propiconazole	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Pyrene	<0.05	<0.01	<0.10	8	<0.05	<0.01	<0.10	8		
Pyridaben	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Quinclorac	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Quizalofop	<0.030	<0.030	<0.030	4	<0.030	<0.030	<0.030	4		
Retene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Salicylic acid	<0.025	<0.025	<0.025	4	<0.025	<0.025	<0.025	4		
sec-Butylbenzene	<0.1	<0.1	<0.3	4	<0.1	<0.1	<0.1	4		
Styrene	<0.49	<0.02	<0.50	370	<0.49	<0.02	<0.50	370		
Sulfabenzamide	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfadimethoxine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfadoxine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfamerazine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfamethazine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfamethoxazole	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfapyridine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfaquinoxaline	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfathiazole	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		

7.7 Treated Water Entering the Distribution System: Physical, Inorganic, and Organic

2017

	ROSSDALE				E.L. SMITH				Limits	
	Mean	Min	Max	Count	Mean	Min	Max	Count	Approval or GCDWQ MAC, (AO or OG)	EPCOR
Secondary Organics (ug/L) * **										
tert-Butylbenzene	<0.1	<0.1	<0.3	4	<0.1	<0.1	<0.1	4		
Tetrachloroethane (1,1,1,2)	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Tetrachloroethane (1,1,2,2)	<1.0	<0.2	<1.0	395	<1.0	<0.1	<1.0	396		
Thiamethoxam	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Tolfenamic acid	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Total Organic Carbon	2.2	1.4	3.4	50	2.0	<0.6	3.4	50		
Total Volatile Organics (NonTHM)	<1.0	<1.0	<1.0	366	<1.0	<1.0	2.2	366		
Total Volatile Organics (Unknown)	<1.1	<1.0	15.8	365	<1.2	<1.0	24.6	365		
Triallate	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Trichloroacetic acid	10	6	14	12	9	5	14	12		
Trichlorobenzene (1,2,3)	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Trichlorobenzene (1,2,4)	<0.5	<0.1	<0.5	374	<0.5	<0.1	<0.5	374		
Trichlorocarbanilide (3,4,4)	<0.025	<0.025	<0.025	4	<0.025	<0.025	<0.025	4		
Trichloroethane (1,1,1)	<0.5	<0.1	<0.5	395	<0.5	<0.1	<0.5	396		
Trichloroethane (1,1,2)	<0.06	<0.06	<0.06	4	<0.06	<0.05	<0.06	4		
Trichlorofluoromethane	<0.1	<0.1	<0.2	4	<0.1	<0.1	<0.1	4		
Trichloropropane (1,2,3)	<0.2	<0.2	<0.2	4	<0.2	<0.1	<0.2	4		
Triclopyr	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Triclosan	<0.025	<0.025	<0.025	4	<0.025	<0.025	<0.025	4		
Trimethoprim	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Trimethylbenzene (1,2,4)	<0.06	<0.04	<0.10	4	<0.04	<0.04	<0.04	4		
Trimethylbenzene (1,3,5)	<0.08	<0.04	<0.20	4	<0.04	<0.04	<0.04	4		
Vinclozolin	<0.040	<0.040	<0.040	4	<0.040	<0.040	<0.040	4		
Xylene (1,2)	<0.5	<0.5	<0.5	366	<0.5	<0.5	<0.5	366		
Xylene (1,4)	<0.5	<0.5	<0.5	366	<0.5	<0.5	1.0	366		
Xylene (m,p)	<0.1	<0.1	<0.2	4	<0.1	<0.1	<0.1	4		
Xylene (o)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.03	4		

* Health Canada Guidelines for Canadian Drinking Water Quality Maximum Acceptable Concentration and Alberta Environment and Sustainable Resource Development (ESRD) Approval Limit. Limits in brackets indicate aesthetic objective or operational guidelines.

7.8 ROSSDALE AND E.L. SMITH COMBINED FILTER EFFLUENT WATER ANALYSIS

2017

	ROSSDALE				E.L. SMITH				Limits	
	Mean	Min	Max	Count	Mean	Min	Max	Count	Approval or GCDWQ MAC, (AO or OG	EPCOR
Physical										
FPA-Intensity (N/A)	0.59	<0.25	1.25	32	0.56	<0.25	1.19	33		
Turbidity (NTU)	0.08	0.06	0.26	365	0.07	0.03	0.25	365		0.3
UV 254 %T	94.0	89.0	97.3	365	94.3	89.5	97.3	365		
Primary Inorganics (mg/L) **										
Bromate, dissolved	<0.005	<0.005	<0.005	102	<0.005	<0.005	<0.005	102	0.01	
Chlorate, dissolved	0.12	0.06	0.35	102	0.10	0.02	0.19	102	1	
Chlorite, dissolved	<0.005	<0.005	0.020	102	<0.005	<0.005	0.020	102	1	
Nitrate (as N), dissolved	0.06	<0.01	0.31	101	0.06	<0.01	0.24	102	10	
Nitrite (as N), dissolved	<0.005	<0.005	0.010	102	<0.005	<0.005	0.009	102	1	
Primary Organics (ug/L) **										
Benzene	<0.5	<0.5	<0.5	366	<0.5	<0.5	<0.5	366	5	
Carbon Tetrachloride	<1.0	<0.5	<1.0	392	<1.0	<0.5	<1.0	392	2	
Chlorobenzene	<0.5	<0.5	<0.5	366	<0.5	<0.5	<0.5	366	80 (30)	
Dichlorobenzene (1,2)	<0.5	<0.5	<0.5	366	<0.5	<0.5	<0.5	366	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.5	<0.5	366	<0.5	<0.5	<0.5	366	5 (1)	
Dichloroethane (1,2)	<0.5	<0.5	<0.5	2	<0.5	<0.5	<0.5	2	5	
Dichloroethylene (1,1)	<3.0	<0.5	<3.0	366	<3.0	<0.5	<3.0	366	14	
Ethylbenzene	<0.5	<0.5	<0.5	366	<0.5	<0.5	<0.5	366	140 (1.6)	
Methylene Chloride	<0.5	<0.5	<0.5	366	<0.5	<0.5	<0.5	366	50	
Tetrachloroethylene	<0.5	<0.5	<0.5	392	<0.5	<0.5	<0.5	392	30	
Toluene	<0.5	<0.5	<0.5	366	<0.5	<0.5	<0.5	366	60 (24)	
Trichloroethylene	<0.5	<0.5	<0.5	392	<0.5	<0.5	<0.5	392	5	
Trihalomethanes	15.1	2.6	37.2	392	11.4	3.5	31.9	392	100	50
Vinyl Chloride	<1.0	<1.0	<1.0	1	<1.0	<1.0	<1.0	1	2	
Secondary Inorganics (mg/L) ***										
Ammonia as N	0.16	0.08	0.25	76	0.16	0.05	0.38	85		
Bromide, dissolved	<0.005	<0.005	0.007	102	<0.005	<0.005	<0.005	102		
Chloride, dissolved	6.9	4.1	33.7	102	6.0	<0.1	16.2	102	(250)	
Sulphate, dissolved	68.9	47.3	143.0	102	70.5	46.5	148.1	102	(500)	

7.8 ROSSDALE AND E.L. SMITH COMBINED FILTER EFFLUENT WATER ANALYSIS

2017

	ROSSDALE				E.L. SMITH				Limits	
	Mean	Min	Max	Count	Mean	Min	Max	Count	Approval or GCDWQ MAC, (AO or OG	EPCOR
Secondary Organics (ug/L) * **										
Bromodichloromethane	<0.6	<0.5	2.7	392	<0.5	<0.5	2.5	392		16
Bromoform	<1.0	<0.5	<1.0	392	<1.0	<0.5	<1.0	392		
Chloroform	14.9	2.6	37.2	392	11.2	3.5	31.9	392		
Dibromochloromethane	<0.5	<0.5	<0.5	392	<0.5	<0.5	<0.5	392		
Dichlorobenzene (1,3)	<0.5	<0.5	<0.5	366	<0.5	<0.5	<0.5	366		
Dichloroethylene, cis (1,2)	<0.5	<0.5	<0.5	366	<0.5	<0.5	<0.5	366		
Dichloroethylene, trans (1,2)	<0.5	<0.5	<0.5	366	<0.5	<0.5	0.5	366		
Dichloropropane (1,2)	<0.5	<0.5	<0.5	366	<0.5	<0.5	<0.5	366		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.5	<0.5	366	<0.5	<0.5	<0.5	366	(15)	
MIBK	<1.0	<1.0	<1.0	366	<1.0	<1.0	<1.0	366		
Styrene	<0.5	<0.5	<0.5	366	<0.5	<0.5	<0.5	366		
Tetrachloroethane (1,1,2,2)	<1.0	<0.5	<1.0	392	<1.0	<0.5	<1.0	392		
Total Volatile Organics (NonTHM)	<1.0	<1.0	2.1	366	<1.0	<1.0	<1.0	366		
Total Volatile Organics (Unknown)	<1.1	<1.0	16.6	365	<1.1	<1.0	19.0	365		
Trichlorobenzene (1,2,4)	<0.5	<0.5	<0.5	366	<0.5	<0.5	<0.5	366		
Trichloroethane (1,1,1)	<0.5	<0.5	<0.5	392	<0.5	<0.5	<0.5	392		
Xylene (1,2)	<0.5	<0.5	<0.5	366	<0.5	<0.5	<0.5	366		
Xylene (1,4)	<0.5	<0.5	<0.5	366	<0.5	<0.5	<0.5	366		

* Health Canada Guidelines for Canadian Drinking Water Quality Maximum Acceptable Concentration and Alberta Environment and Sustainable Resource Development (ESRD) Approval Limit. Limits in brackets indicate aesthetic objective or operational guidelines.

7.9 Routine Distribution System

2017

- Schedule A compliance samples collected on Feb 1, Apr 3, July 10 and Oct 11.
- Microcystine samples colleced on Feb 1, Apr 3, July 10 and Oct 11.
- All other samples collected at various times during the year.

Parameter	Mean	Min	Max	Count	Limits: GCDWQ or Approval or MAC* or (AO or OG)	Limits: EPCOR
Physical						
Colour (TCU)	<1	<1	<1	4	(15)	10
pH (N/A)	7.9	7.5	8.2	116	(6.5 – 8.5)	7.3-8.3
Total Dissolved Solids (mg/L)	237	213	268	4	(500)	
Turbidity (NTU)	0.16	0.05	6.34	2,179		1.0/3.0
UV 254 %T	93	92	94	4		
Primary Inorganics (mg/L) **						
Antimony	<0.0002	<0.0002	<0.0002	19	0.006	
Arsenic	<0.0002	<0.0002	0.0002	19	0.01	
Barium	0.063	0.053	0.071	19	1	
Boron	0.013	0.008	0.038	19	5	
Bromate, dissolved	<0.005	<0.005	<0.005	106	0.01	
Cadmium	<0.0002	<0.0001	<0.0002	19	0.005	
Chlorate, dissolved	0.10	0.04	0.24	106	1	
Chlorine, total	1.81	0.36	2.32	2,179	>0.5 and < 3.0	>1.0 and <2.4
Chlorite, dissolved	<0.005	<0.005	<0.005	106	1	
Chromium	<0.0002	<0.0002	0.0005	19	0.05	
Cyanide, dissolved	<0.002	<0.002	<0.002	4	0.2	
Fluoride, dissolved	0.68	0.66	0.71	4	0.5-0.9	0.6-0.8
Lead	0.0009	<0.0001	0.0086	19	0.01	
Mercury	<0.0002	<0.0001	<0.0002	22	0.001	
Nitrate (as N), dissolved	0.07	<0.01	0.29	114	10	
Nitrite (as N), dissolved	<0.01	<0.01	0.02	106	1	
Selenium	<0.0002	<0.0002	0.0003	19	0.01	
Uranium	<0.0005	<0.0005	0.0006	19	0.02	

7.9 Routine Distribution System

2017

- Schedule A compliance samples collected on Feb 1, Apr 3, July 10 and Oct 11.
- Microcystine samples colleced on Feb 1, Apr 3, July 10 and Oct 11.
- All other samples collected at various times during the year.

Parameter	Mean	Min	Max	Count	Limits: GCDWQ or Approval or MAC* or (AO or OG)	Limits: EPCOR
Primary Organics (ug/L) **						
2,4-D	<0.005	<0.005	<0.005	4	100	
Atrazine	<0.005	<0.005	<0.005	4	5	
Benzene	<0.5	<0.1	<0.5	175	5	
Benzo(a)pyrene	<0.005	<0.005	<0.005	4	0.01	
Bromoxynil	<0.005	<0.005	<0.005	4	5	
Carbon Tetrachloride	<1.0	<0.03	<1.0	189	5	
Chlorobenzene	<0.5	<0.03	<0.5	175	80	
Chlorpyrifos	<0.005	<0.005	<0.005	4	90	
Cyanazine	<0.060	<0.060	<0.060	4	10	
Diazinon	<0.005	<0.005	<0.005	4	20	
Dicamba	<0.005	<0.005	<0.005	4	120	
Dichlorobenzene (1,2)	<0.5	<0.03	<0.5	175	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.1	<0.5	175	5 (1)	
Dichloroethane (1,2)	<0.1	<0.1	<0.1	4	5	
Dichloroethylene (1,1)	<3.0	<3.0	<3.0	171	14	
Dichlorophenol (2,4)	<0.10	<0.10	<0.10	4	900 (0.3)	
Diclofop-methyl	<0.02	<0.02	<0.02	4	9	
Dimethoate	<0.005	<0.005	<0.005	4	20	
Diuron	<0.2	<0.2	<0.2	4	150	
Ethylbenzene	<0.5	<0.0	<0.5	175	(2.4)	
Glyphosate	<0.1	<0.1	<0.1	4	280	
Malathion	<0.050	<0.050	<0.050	4	190	
MCPA	<0.005	<0.005	<0.005	4	0.1	
Methylene Chloride	<0.5	<0.1	<0.5	175	50	
Metolachlor	<0.012	<0.012	<0.012	4	50	
Metribuzin	<0.010	<0.010	<0.010	4	80	
Nitrilotriacetic acid	<0.1	<0.1	<0.1	4	0.4	
Pentachlorophenol	<0.6	<0.6	<0.6	4	60 (30)	
Picloram	<0.022	<0.022	<0.022	4	190	
Simazine	<0.010	<0.010	<0.010	4	10	
Terbufos	<0.03	<0.03	<0.03	4	1	
Tetrachloroethylene	<0.5	<0.1	<0.5	189	10	
Tetrachlorophenol (2,3,4,6)	<0.4	<0.4	<0.4	4	100 (1)	
Toluene	<0.5	<0.03	<0.5	175	(24)	
Trichloroethylene	<0.5	<0.2	<0.5	189	5	
Trichlorophenol (2,4,6)	<0.7	<0.7	<0.7	4	5 (2)	
Trifluralin	<0.005	<0.005	<0.005	4	45	
Vinyl Chloride	<0.1	<0.1	<0.1	4	2	
Xylenes	<0.045	<0.020	<0.100	4	90 (20)	

7.9 Routine Distribution System

2017

- Schedule A compliance samples collected on Feb 1, Apr 3, July 10 and Oct 11.
- Microcystine samples colleced on Feb 1, Apr 3, July 10 and Oct 11.
- All other samples collected at various times during the year.

Parameter	Mean	Min	Max	Count	Limits: GCDWQ or Approval or MAC* or (AO or OG)	Limits: EPCOR
Secondary Inorganics (mg/L) * **						
Alkalinity, PHP (mg CaCO3/L)	<1	<1	<1	4		
Alkalinity, total (mg CaCO3/L)	120	99	140	4		
Aluminum	0.099	0.036	0.138	19	(0.1/0.2)	0.1/0.2
Ammonia as N	0.17	0.10	0.25	116		
Beryllium	<0.0002	<0.0002	<0.0002	19		
Bromide, dissolved	<0.01	<0.01	<0.01	106		
Calcium	45.3	36.5	52.5	4		
Chloride, dissolved	6.7	4.7	17.0	106	(250)	
Chlorine, free	<0.03	<0.03	<0.03	4		
Cobalt	<0.0002	<0.0002	<0.0002	19		
Copper	0.016	<0.005	0.117	19	(1)	
Hardness, total (mg CaCO3/L)	165	132	192	4		
Iron	0.012	<0.004	0.042	19	(0.3)	0.3
Lithium	0.0031	0.0027	0.0038	19		
Magnesium	13.1	10.4	15.3	4		
Manganese	<0.002	<0.002	0.009	19	(0.05)	
Molybdenum	0.0008	0.0006	0.0008	19		
Nickel	0.0025	<0.0005	0.0372	19		
Phosphorus	0.03	<0.02	0.03	4		
Potassium	2.06	0.70	5.99	4		
Silicon	1.98	1.58	2.27	4		
Silver	<0.0002	<0.0002	<0.0002	19		
Sodium	16.2	8.3	33.5	4	(200)	
Strontium	0.400	0.329	0.436	19		
Sulphate, dissolved	72.3	48.8	118.0	106	(500)	
Sulphide	<0.002	<0.002	<0.002	4	(0.05)	
Thallium	<0.0005	<0.0005	0.0005	19		
Tin	<0.0005	<0.0003	<0.0005	19		
Titanium	<0.0005	<0.0005	<0.0005	19		
Total Kjeldahl Nitrogen (TKN)	0.46	0.42	0.50	4		
Vanadium	<0.0005	<0.0002	<0.0005	19		
Zinc	0.019	<0.002	0.138	19	(5)	
Zirconium	<0.0005	<0.0002	<0.0005	19		

7.9 Routine Distribution System

2017

- Schedule A compliance samples collected on Feb 1, Apr 3, July 10 and Oct 11.
- Microcystine samples colleced on Feb 1, Apr 3, July 10 and Oct 11.
- All other samples collected at various times during the year.

Parameter	Mean	Min	Max	Count	Limits: GCDWQ or Approval or MAC* or (AO or OG)	Limits: EPCOR
Secondary Organics (ug/L) * **						
Bromochloroacetic acid	<1	<1	<2	75		
Bromodichloromethane	<0.6	<0.5	1.1	185		16
Bromoform	<1.0	<1.0	<1.0	185		
Chloroform	19.2	7.8	43.2	185		
Desethyl Atrazine	<0.050	<0.050	<0.050	4		
Desisopropyl Atrazine	<0.080	<0.080	<0.080	4		
Dibromoacetic acid	<1	<1	<2	75		
Dibromochloromethane	<0.5	<0.5	<0.5	185		
Dichloroacetic acid	11	5	19	75		
Dichlorobenzene (1,3)	<0.5	<0.5	<0.5	171		
Dichloroethylene, cis (1,2)	<0.5	<0.5	<0.5	171		
Dichloroethylene, trans (1,2)	<0.5	<0.5	<0.5	171		
Dichloropropane (1,2)	<0.5	<0.5	<0.5	171		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.5	<0.5	171	(15)	
MIBK	<1.0	<1.0	<1.0	171		
Microcystin Total	<0.100	<0.100	0.100	7		
Monobromoacetic acid	<1	<1	<2	69		
Monochloroacetic acid	<4	<2	11	75		
p, p' - Methoxychlor	<0.03	<0.03	<0.03	4		
Styrene	<0.5	<0.5	<0.5	171		
Tetrachloroethane (1,1,2,2)	<1.0	<1.0	<1.0	185		
Total Organic Carbon	2.2	1.7	2.6	4		
Total Volatile Organics (NonTHM)	<1.0	<1.0	<1.0	171		
Total Volatile Organics (Unknown)	2.9	<1.0	29.6	171		
Triallate	<0.005	<0.005	<0.005	4		
Trichloroacetic acid	10	4	16	75		
Trichlorobenzene (1,2,4)	<0.5	<0.5	<0.5	171		
Trichloroethane (1,1,1)	<0.5	<0.5	<0.5	185		
Xylene (1,2)	<0.5	<0.5	<0.5	171		
Xylene (1,4)	<0.5	<0.5	<0.5	171		
Xylene (m,p)	<0.103	<0.070	<0.200	4		
Xylene (o)	<0.020	<0.020	<0.020	4		

7.10 Castledowns, Clareview and Kaskitayo Reservoirs

2017

	Castledowns				Clareview				Kaskitayo				Limits	
Parameter	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Physical														
Colour (TCU)	<1	<1	1	6	<1	<1	1	6	<1	<1	1	5	(15)	10
Conductivity (uS/cm)	397	365	440	6	403	348	455	6	422	376	455	5		
Odour	Inoff	Inoff	Inoff	6	Inoff	Inoff	Inoff	6	Inoff	Inoff	Inoff	5	(Inoffensive)	Inoffensive
pH (N/A)	7.9	7.7	8	6	7.9	7.8	8.1	6	7.9	7.8	8.2	5	(6.5 – 8.5)	7.3-8.3
Turbidity (NTU)	0.09	0.06	0.27	51	0.21	0.06	0.85	52	0.08	0.06	0.17	40		1.0/3.0
Primary Inorganics (mg/L) **														
Antimony	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	5	0.006	
Arsenic	<0.0002	<0.0002	0.0003	6	<0.0002	<0.0002	0.0003	6	<0.0002	<0.0002	<0.0002	5	0.01	
Barium	0.063	0.056	0.07	6	0.063	0.051	0.071	6	0.064	0.059	0.07	5	1	
Boron	0.015	0.008	0.041	6	0.012	0.007	0.021	6	0.01	0.008	0.013	5	5	
Bromate, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	5	0.01	
Cadmium	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	5	0.005	
Chlorate, dissolved	0.098	0.055	0.125	6	0.119	0.09	0.146	6	0.099	0.04	0.137	5	1	
Chlorine, total	1.91	1.47	2.23	51	1.7	1.38	1.99	52	1.98	1.74	2.17	40	>0.5 and < 3.0	>1.0 and <2.4
Chlorite, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	5	1	
Chromium	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	5	0.05	
Fluoride, dissolved	0.68	0.64	0.71	6	0.69	0.65	0.74	6	0.69	0.67	0.74	5	0.5-0.9	0.6-0.8
Lead	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	5	0.01	
Mercury	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	5	0.001	
Nitrate (as N), dissolved	0.07	0.02	0.17	6	0.07	0.01	0.14	6	0.06	0.01	0.11	5	10	
Nitrite (as N), dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	5	1	
Selenium	<0.0002	<0.0002	<0.0002	6	0.0003	<0.0002	0.0003	6	0.0003	<0.0002	0.0003	5	0.05	
Uranium	<0.0005	<0.0005	0.0006	6	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	5	0.02	

7.10 Castledowns, Clareview and Kaskitayo Reservoirs

2017

	Castledowns				Clareview				Kaskitayo				Limits	
Parameter	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Primary Organics (ug/L) **														
Benzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	5	
Carbon Tetrachloride	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	6	5	
Chlorobenzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	80	
Dichlorobenzene (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	5 (1)	
Dichloroethylene (1,1)	<3.0	<3.0	<3.0	6	<3.0	<3.0	<3.0	6	<3.0	<3.0	<3.0	5	14	
Ethylbenzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	140 (1.6)	
Methylene Chloride	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	50	
Tetrachloroethylene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	6	10	
Toluene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	60 (24)	
Trichloroethylene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	6	5	

7.10 Castledowns, Clareview and Kaskitayo Reservoirs

2017

	Castledowns				Clareview				Kaskitayo				Limits	
Parameter	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Secondary Inorganics (mg/L) ***														
Alkalinity, total (mg CaCO3/L)	119	98	138	6	120	96	135	6	127	113	136	5		
Aluminum	0.065	0.028	0.107	6	0.074	0.029	0.133	6	0.056	0.03	0.109	5	(0.1/0.2)	0.1/0.2
Beryllium	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	0.0004	6	<0.0002	<0.0002	0.0004	5		
Bromide, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	5		
Calcium	44.7	37.2	52.4	6	45.7	42.1	51.6	6	47.1	43.4	53.2	5		
Chloride, dissolved	7	5.3	11.5	6	6.8	4.9	10.1	6	6.3	5.6	6.8	5	(250)	
Cobalt	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	5		
Copper	<0.005	<0.002	<0.005	6	0.009	<0.002	0.019	6	0.01	<0.002	0.031	5	(1)	
Hardness, Ca (mg CaCO3/L)	109	90	126	6	112	105	124	6	116	95	127	5		
Hardness, total (mg CaCO3/L)	164	135	186	6	174	159	192	6	178	160	191	5		
Iron	<0.005	<0.002	<0.005	6	0.02	0.013	0.026	6	<0.004	<0.002	<0.005	5	(0.3)	0.3
Lithium	0.0032	0.0029	0.0037	6	0.0032	0.0025	0.0041	6	0.0033	0.0025	0.0037	5		
Magnesium	12.8	10.6	15.6	6	13.3	11.6	15.3	6	13.9	12	15.6	5		
Manganese	0.003	<0.002	0.009	6	0.004	<0.002	0.011	6	<0.002	<0.002	0.003	5	(0.05)	
Molybdenum	0.0008	0.0007	0.0009	6	0.0008	0.0006	0.0009	6	0.0008	0.0006	0.0009	5		
Nickel	<0.0006	<0.0004	0.0008	6	<0.0006	<0.0005	0.0009	6	<0.0005	<0.0005	0.0006	5		
Phosphorus	0.03	0.02	0.04	6	0.03	<0.02	0.03	6	0.03	0.03	0.04	5		
Potassium	1.58	0.6	5.71	6	1.21	0.6	2.47	6	1	0.7	1.51	5		
Silicon	1.88	1.35	2.33	6	1.93	1.48	2.24	6	2.01	1.6	2.17	5		
Silver	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	5		
Sodium	14.8	5.9	31.8	6	12.5	6.6	27.4	6	15.1	8.5	29.6	5	(200)	
Strontium	0.402	0.353	0.454	6	0.421	0.367	0.468	6	0.427	0.366	0.459	5		
Sulphate, dissolved	71.3	50.8	101	6	71	47.8	107	6	76.7	62.9	101	5	(500)	
Thallium	<0.0004	<0.0001	<0.0005	6	<0.0005	<0.0002	<0.0005	6	<0.0004	<0.0002	<0.0005	5		
Tin	<0.0005	<0.0002	<0.0005	6	<0.0005	<0.0002	<0.0005	6	<0.0004	<0.0002	<0.0005	5		
Titanium	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	5		
Vanadium	<0.0005	<0.0004	<0.0005	6	<0.0005	<0.0003	<0.0005	6	<0.0005	<0.0003	0.0006	5		
Zinc	<0.005	<0.002	<0.005	6	<0.005	<0.002	<0.005	6	<0.004	<0.002	<0.005	5	(5)	
Zirconium	<0.0005	<0.0002	<0.0005	6	<0.0005	<0.0002	<0.0005	6	<0.0004	<0.0002	<0.0005	5		

7.10 Castledowns, Clareview and Kaskitayo Reservoirs

2017

	Castledowns				Clareview				Kaskitayo				Limits	
Parameter	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Secondary Organics (ug/L) * **														
Bromodichloromethane	<0.6	<0.5	0.9	6	<0.6	<0.5	1.3	7	<0.6	<0.5	0.8	6		16
Bromoform	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	6		
Chloroform	18.9	11	28	6	21.1	15.2	33.5	7	19.1	8	43	6		
Dibromochloromethane	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	6		
Dichlorobenzene (1,3)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5		
Dichloroethylene, cis (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5		
Dichloroethylene, trans (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5		
Dichloropropane (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	(15)	
MIBK	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	5		
Styrene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5		
Tetrachloroethane (1,1,2,2)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	6		
Total Organic Carbon	1.8	<0.6	2.8	6	2.1	1.6	3.1	6	2.2	1.6	3.2	5		
Total Volatile Organics (NonTHM)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	5		
Total Volatile Organics (Unknown)	<1.0	<1.0	1.2	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	5		
Trichlorobenzene (1,2,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5		
Trichloroethane (1,1,1)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	6		
Xylene (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5		
Xylene (1,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5		

* Health Canada Guidelines for Canadian Drinking Water Quality Maximum Acceptable Concentration and Alberta Environment and Sustainable Resource Development

** Primary Parameters are those that have Maximum Acceptable Concentration (MAC) in Health Canada Guidelines for Canadian Drinking Water Quality Maximum

*** Secondary Parameters do not have health based limits in Health Canada Guidelines for Canadian Drinking Water Quality Maximum Acceptable Concentration (GCDWG).

7.11 Londonderry, Millwoods and North Jasper Place Reservoirs

2017

	Londonderry				Millwoods				North Jasper Place				Limits	
Parameter	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Physical														
Colour (TCU)	<1	<1	1	6	<1	<1	<1	6	<1	<1	1	6	(15)	10
Conductivity (uS/cm)	394	360	435	6	396	363	435	6	411	353	455	6		
Odour	Inoff	Inoff	Inoff	6	Inoff	Inoff	Inoff	6	Inoff	Inoff	Inoff	6	(Inoffensive)	Inoffensive
pH (N/A)	7.9	7.8	8	6	7.9	7.7	8	6	7.9	7.7	8	6	(6.5 – 8.5)	7.3-8.3
Turbidity (NTU)	0.13	0.08	0.32	52	0.09	0.06	0.24	53	0.1	0.07	0.21	52		1.0/3.0
Primary Inorganics (mg/L) **														
Antimony	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	0.006	
Arsenic	<0.0002	<0.0002	0.0003	6	<0.0002	<0.0002	0.0003	6	<0.0002	<0.0002	<0.0002	6	0.01	
Barium	0.064	0.056	0.074	6	0.061	0.054	0.067	6	0.062	0.051	0.069	6	1	
Boron	0.016	0.008	0.043	6	0.013	0.007	0.028	6	0.013	0.007	0.027	6	5	
Bromate, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	0.01	
Cadmium	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	6	0.005	
Chlorate, dissolved	0.139	0.093	0.286	6	0.097	0.054	0.131	6	0.11	0.071	0.149	6	1	
Chlorine, total	1.84	1.5	2.15	52	1.97	1.41	2.23	53	1.6	1.28	1.88	52	>0.5 and < 3.0	>1.0 and <2.4
Chlorite, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	1	
Chromium	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	0.05	
Fluoride, dissolved	0.7	0.67	0.72	6	0.69	0.66	0.72	6	0.68	0.65	0.72	6	0.5-0.9	0.6-0.8
Lead	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	6	0.01	
Mercury	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	6	0.001	
Nitrate (as N), dissolved	0.08	0.02	0.22	6	0.07	0.01	0.15	6	0.08	0.02	0.13	6	10	
Nitrite (as N), dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	1	
Selenium	<0.0002	<0.0002	0.0003	6	<0.0002	<0.0002	0.0003	6	0.0003	<0.0002	0.0004	6	0.05	
Uranium	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	0.0006	6	<0.0005	<0.0005	<0.0005	6	0.02	

7.11 Londonderry, Millwoods and North Jasper Place Reservoirs

2017

	Londonderry				Millwoods				North Jasper Place				Limits	
Parameter	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Primary Organics (ug/L) **														
Benzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	5	
Carbon Tetrachloride	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	7	5	
Chlorobenzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	80	
Dichlorobenzene (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	5 (1)	
Dichloroethylene (1,1)	<3.0	<3.0	<3.0	6	<3.0	<3.0	<3.0	6	<3.0	<3.0	<3.0	6	14	
Ethylbenzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	140 (1.6)	
Methylene Chloride	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	50	
Tetrachloroethylene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7	10	
Toluene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	60 (24)	
Trichloroethylene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7	5	

7.11 Londonderry, Millwoods and North Jasper Place Reservoirs

2017

	Londonderry				Millwoods				North Jasper Place				Limits	
Parameter	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Secondary Inorganics (mg/L) ***														
Alkalinity, total (mg CaCO3/L)	117	91	136	6	119	96	140	6	121	105	135	6		
Aluminum	0.077	0.033	0.15	6	0.067	0.021	0.117	6	0.059	0.033	0.105	6	(0.1/0.2)	0.1/0.2
Beryllium	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	0.0004	6		
Bromide, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6		
Calcium	45.4	36.6	52.2	6	44.6	37	54.4	6	45.7	41.7	53	6		
Chloride, dissolved	7.3	4.9	15	6	6.5	5	9.8	6	6.7	5.4	8.7	6	(250)	
Cobalt	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6		
Copper	<0.005	<0.002	<0.005	6	<0.005	<0.002	<0.005	6	0.01	<0.002	0.03	6	(1)	
Hardness, Ca (mg CaCO3/L)	110	90	125	6	109	90	125	6	114	104	125	6		
Hardness, total (mg CaCO3/L)	165	131	189	6	165	137	190	6	172	157	193	6		
Iron	0.011	<0.005	0.033	6	<0.005	<0.002	<0.005	6	<0.005	<0.005	0.007	6	(0.3)	0.3
Lithium	0.0034	0.0026	0.0038	6	0.0031	0.0027	0.0038	6	0.003	0.0024	0.0039	6		
Magnesium	12.8	10.6	15.4	6	12.7	10.5	15.7	6	13.2	11.6	15.4	6		
Manganese	0.003	<0.002	0.01	6	0.003	<0.002	0.008	6	0.003	<0.002	0.01	6	(0.05)	
Molybdenum	0.0008	0.0007	0.0009	6	0.0007	0.0006	0.0008	6	0.0008	0.0007	0.0009	6		
Nickel	0.0007	<0.0004	0.0009	6	0.0007	<0.0004	0.0012	6	<0.0005	<0.0005	0.0007	6		
Phosphorus	0.03	0.02	0.03	6	0.03	0.02	0.04	6	0.03	0.03	0.04	6		
Potassium	1.73	0.6	6.5	6	1.45	0.6	4.93	6	1.18	0.6	2.53	6		
Silicon	1.92	1.41	2.27	6	1.88	1.35	2.28	6	1.96	1.52	2.2	6		
Silver	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6		
Sodium	13.2	6.2	29.1	6	14.2	5.8	30.6	6	14.7	7.5	28.3	6	(200)	
Strontium	0.405	0.348	0.456	6	0.404	0.337	0.459	6	0.409	0.363	0.46	6		
Sulphate, dissolved	69.7	51.9	96.1	6	70.8	51.3	99.9	6	74	49.6	101	6	(500)	
Thallium	<0.0004	<0.0001	<0.0005	6	<0.0004	<0.0001	<0.0005	6	<0.0005	<0.0002	<0.0005	6		
Tin	<0.0005	<0.0002	<0.0005	6	<0.0005	<0.0002	<0.0005	6	<0.0005	<0.0002	<0.0005	6		
Titanium	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	6		
Vanadium	<0.0005	<0.0004	0.0007	6	<0.0005	<0.0004	0.0006	6	<0.0005	<0.0003	<0.0005	6		
Zinc	0.009	<0.005	0.012	6	<0.005	<0.002	0.008	6	<0.005	<0.002	<0.005	6	(5)	
Zirconium	<0.0005	<0.0002	<0.0005	6	<0.0005	<0.0002	<0.0005	6	<0.0005	<0.0002	<0.0005	6		

7.11 Londonderry, Millwoods and North Jasper Place Reservoirs

2017

	Londonderry				Millwoods				North Jasper Place				Limits	
Parameter	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Secondary Organics (ug/L) * **														
Bromodichloromethane	<0.6	<0.5	1	6	<0.6	<0.5	1	6	<0.6	<0.5	1	7		16
Bromoform	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	7		
Chloroform	22.2	13.3	33.2	6	19.2	11.1	30.6	6	18.6	10.7	32.1	7		
Dibromochloromethane	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7		
Dichlorobenzene (1,3)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Dichloroethylene, cis (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Dichloroethylene, trans (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Dichloropropane (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	(15)	
MIBK	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Styrene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Tetrachloroethane (1,1,2,2)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	7		
Total Organic Carbon	1.9	<0.6	2.8	6	1.7	<0.6	2.6	6	1.8	1.5	2.6	6		
Total Volatile Organics (NonTHM)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Total Volatile Organics (Unknown)	<1.0	<1.0	1.2	6	<1.3	<1.0	2.7	6	<1.0	<1.0	<1.0	6		
Trichlorobenzene (1,2,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Trichloroethane (1,1,1)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7		
Xylene (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Xylene (1,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		

* Health Canada Guidelines for Canadian Drinking Water Quality Maximum Acceptable Concentration and Alberta Environment and Sustainable Resource Development

** Primary Parameters are those that have Maximum Acceptable Concentration (MAC) in Health Canada Guidelines for Canadian Drinking Water Quality Maximum

*** Secondary Parameters do not have health based limits in Health Canada Guidelines for Canadian Drinking Water Quality Maximum Acceptable Concentration (GCDWG).

7.12 Ormsby, Papaschase 1 and Papaschase 2 Reservoirs

2017

	Ormsby				Papaschase 1				Papaschase 2				Limits	
Parameter	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Physical														
Colour (TCU)	<1	<1	1	6	<1	<1	1	5	<1	<1	1	6	(15)	10
Conductivity (uS/cm)	400	365	443	6	385	365	420	5	408	354	456	6		
Odour	Inoff	Inoff	Inoff	6	Inoff	Inoff	Inoff	5	Inoff	Inoff	Inoff	6	(Inoffensive)	Inoffensive
pH (N/A)	7.9	7.7	8	6	7.9	7.8	8	5	7.9	7.8	8	6	(6.5 – 8.5)	7.3-8.3
Turbidity (NTU)	0.09	0.06	0.18	52	0.23	0.08	1.76	43	0.09	0.06	0.2	52		1.0/3.0
Primary Inorganics (mg/L) **														
Antimony	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	5	<0.0002	<0.0002	<0.0002	6	0.006	
Arsenic	0.0002	<0.0002	0.0003	6	0.0003	<0.0002	0.0003	5	<0.0002	<0.0002	0.0003	6	0.01	
Barium	0.062	0.055	0.067	6	0.061	0.056	0.065	5	0.062	0.052	0.068	6	1	
Boron	0.014	0.007	0.033	6	0.01	0.008	0.013	5	0.01	0.007	0.013	6	5	
Bromate, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	5	<0.005	<0.005	<0.005	6	0.01	
Cadmium	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	5	<0.0002	<0.0001	<0.0002	6	0.005	
Chlorate, dissolved	0.097	0.061	0.142	6	0.109	0.09	0.123	5	0.115	0.08	0.144	6	1	
Chlorine, total	1.91	1.68	2.19	52	1.67	0.96	2.17	43	1.92	1.7	2.12	52	>0.5 and < 3.0	>1.0 and <2.4
Chlorite, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	5	<0.005	<0.005	<0.005	6	1	
Chromium	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	5	<0.0002	<0.0002	<0.0002	6	0.05	
Fluoride, dissolved	0.69	0.65	0.73	6	0.7	0.67	0.73	5	0.7	0.64	0.74	6	0.5-0.9	0.6-0.8
Lead	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	5	<0.0002	<0.0001	<0.0002	6	0.01	
Mercury	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	5	<0.0002	<0.0001	<0.0002	6	0.001	
Nitrate (as N), dissolved	0.07	0.02	0.16	6	0.05	0.01	0.1	5	0.06	0.01	0.12	6	10	
Nitrite (as N), dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	5	<0.005	<0.005	<0.005	6	1	
Selenium	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	0.0003	5	0.0003	<0.0002	0.0004	6	0.05	
Uranium	<0.0005	<0.0005	0.0006	6	<0.0005	<0.0005	0.0006	5	<0.0005	<0.0005	<0.0005	6	0.02	

7.12 Ormsby, Papaschase 1 and Papaschase 2 Reservoirs

2017

	Ormsby				Papaschase 1				Papaschase 2				Limits	
Parameter	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Primary Organics (ug/L) **														
Benzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	6	5	
Carbon Tetrachloride	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	5	<1.0	<1.0	<1.0	7	5	
Chlorobenzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	6	80	
Dichlorobenzene (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	6	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	6	5 (1)	
Dichloroethylene (1,1)	<3.0	<3.0	<3.0	6	<3.0	<3.0	<3.0	5	<3.0	<3.0	<3.0	6	14	
Ethylbenzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	6	140 (1.6)	
Methylene Chloride	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	6	50	
Tetrachloroethylene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	7	10	
Toluene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	6	60 (24)	
Trichloroethylene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	7	5	

7.12 Ormsby, Papaschase 1 and Papaschase 2 Reservoirs

2017

	Ormsby				Papaschase 1				Papaschase 2				Limits	
Parameter	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Secondary Inorganics (mg/L) * **														
Alkalinity, total (mg CaCO3/L)	119	97	137	6	122	111	137	5	125	108	137	6		
Aluminum	0.068	0.02	0.118	6	0.083	0.041	0.155	5	0.071	0.029	0.137	6	(0.1/0.2)	0.1/0.2
Beryllium	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	5	<0.0002	<0.0002	0.0004	6		
Bromide, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	5	<0.005	<0.005	<0.005	6		
Calcium	44.7	37	51.9	6	45.8	42.2	51.4	5	46.6	42.6	52.8	6		
Chloride, dissolved	7	5.2	10.2	6	6	5.5	6.9	5	6.1	4.9	7.3	6	(250)	
Cobalt	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	5	<0.0002	<0.0002	<0.0002	6		
Copper	<0.005	<0.002	<0.005	6	<0.004	<0.002	<0.005	5	0.011	<0.002	0.026	6	(1)	
Hardness, Ca (mg CaCO3/L)	109	90	127	6	111	104	119	5	111	77	125	6		
Hardness, total (mg CaCO3/L)	164	137	188	6	170	159	191	5	175	151	193	6		
Iron	<0.005	<0.002	<0.005	6	0.019	0.011	0.029	5	<0.005	<0.002	<0.005	6	(0.3)	0.3
Lithium	0.0032	0.0027	0.0037	6	0.0033	0.0029	0.0037	5	0.0032	0.0024	0.0038	6		
Magnesium	12.8	10.6	15.2	6	13.2	12.5	15.2	5	13.7	12.2	15.5	6		
Manganese	0.003	<0.002	0.008	6	<0.002	<0.002	<0.002	5	<0.003	<0.002	0.005	6	(0.05)	
Molybdenum	0.0007	0.0007	0.0008	6	0.0007	0.0007	0.0008	5	0.0008	0.0006	0.0009	6		
Nickel	0.0006	<0.0004	0.001	6	<0.0006	<0.0004	0.001	5	<0.0006	<0.0005	0.0008	6		
Phosphorus	0.03	0.03	0.04	6	0.03	0.02	0.04	5	0.03	<0.02	0.04	6		
Potassium	1.48	0.6	5.13	6	0.77	0.6	1.04	5	0.99	0.6	1.72	6		
Silicon	1.9	1.36	2.35	6	1.83	1.36	2.23	5	1.96	1.57	2.22	6		
Silver	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	5	<0.0002	<0.0002	<0.0002	6		
Sodium	14.7	5.8	30.3	6	10.5	6.4	19.7	5	12.8	7.4	27.4	6	(200)	
Strontium	0.401	0.345	0.459	6	0.415	0.388	0.456	5	0.422	0.378	0.46	6		
Sulphate, dissolved	71.1	51.2	99.1	6	63.9	52.1	87.6	5	71.8	51	104	6	(500)	
Thallium	<0.0004	<0.0001	<0.0005	6	<0.0004	<0.0001	<0.0005	5	<0.0005	<0.0002	<0.0005	6		
Tin	<0.0005	<0.0002	<0.0005	6	<0.0004	<0.0002	<0.0005	5	<0.0005	<0.0002	<0.0005	6		
Titanium	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	5	<0.0005	<0.0005	<0.0005	6		
Vanadium	<0.0005	<0.0004	0.0006	6	<0.0005	<0.0004	0.0006	5	<0.0005	<0.0003	<0.0005	6		
Zinc	<0.005	<0.002	<0.005	6	<0.004	<0.002	<0.005	5	<0.005	<0.002	<0.005	6	(5)	
Zirconium	<0.0005	<0.0002	<0.0005	6	<0.0004	<0.0002	<0.0005	5	<0.0005	<0.0002	<0.0005	6		

7.12 Ormsby, Papaschase 1 and Papaschase 2 Reservoirs

2017

	Ormsby				Papaschase 1				Papaschase 2				Limits	
Parameter	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Secondary Organics (ug/L) * **														
Bromodichloromethane	<0.6	<0.5	1	6	<0.6	<0.5	1.1	5	<0.6	<0.5	0.9	7		16
Bromoform	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	5	<1.0	<1.0	<1.0	7		
Chloroform	20.3	11.1	31	6	24.8	15.1	33.4	5	18.8	7.5	41.5	7		
Dibromochloromethane	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	7		
Dichlorobenzene (1,3)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	6		
Dichloroethylene, cis (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	6		
Dichloroethylene, trans (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	6		
Dichloropropane (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	6		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	6	(15)	
MIBK	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	5	<1.0	<1.0	<1.0	6		
Styrene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	6		
Tetrachloroethane (1,1,2,2)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	5	<1.0	<1.0	<1.0	7		
Total Organic Carbon	1.7	<0.6	2.7	6	1.5	<0.6	2.6	5	2.1	1.6	3.1	6		
Total Volatile Organics (NonTHM)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	5	<1.0	<1.0	<1.0	6		
Total Volatile Organics (Unknown)	<1.2	<1.0	2.4	6	<1.3	<1.0	2.6	5	<1.0	<1.0	1	6		
Trichlorobenzene (1,2,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	6		
Trichloroethane (1,1,1)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	7		
Xylene (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	6		
Xylene (1,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	6		

* Health Canada Guidelines for Canadian Drinking Water Quality Maximum Acceptable Concentration and Alberta Environment and Sustainable Resource Development

** Primary Parameters are those that have Maximum Acceptable Concentration (MAC) in Health Canada Guidelines for Canadian Drinking Water Quality Maximum

*** Secondary Parameters do not have health based limits in Health Canada Guidelines for Canadian Drinking Water Quality Maximum Acceptable Concentration (GCDWG).

7.13 Rosslyn 1, Rosslyn 2 and Thorncliff Reservoirs

2017

	Rosslyn 1				Rosslyn 2				Thorncliff				Limits	
Parameter	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Physical														
Colour (TCU)	<1	<1	1	6	<1	<1	1	6	<1	<1	1	6	(15)	10
Conductivity (uS/cm)	400	360	440	6	405	351	455	6	409	352	451	6		
Odour	Inoff	Inoff	Inoff	6	Inoff	Inoff	Inoff	6	Inoff	Inoff	Inoff	6	(Inoffensive)	Inoffensive
pH (N/A)	7.8	7.8	7.9	6	7.9	7.8	8	6	7.9	7.8	8.1	6	(6.5 – 8.5)	7.3-8.3
Turbidity (NTU)	0.15	0.08	0.34	52	0.11	0.07	0.19	53	0.1	0.06	0.27	51		1.0/3.0
Primary Inorganics (mg/L) **														
Antimony	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	0.006	
Arsenic	0.0003	<0.0002	0.0003	6	<0.0002	<0.0002	0.0003	6	<0.0002	<0.0002	<0.0002	6	0.01	
Barium	0.062	0.056	0.067	6	0.063	0.051	0.071	6	0.062	0.051	0.071	6	1	
Boron	0.013	0.007	0.028	6	0.011	0.007	0.019	6	0.013	0.007	0.029	6	5	
Bromate, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	0.01	
Cadmium	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	6	0.005	
Chlorate, dissolved	0.11	0.082	0.135	6	0.118	0.097	0.15	6	0.113	0.076	0.158	6	1	
Chlorine, total	1.53	1.15	2	52	1.7	1.27	2.02	53	1.69	1.23	2.17	51	>0.5 and < 3.0	>1.0 and <2.4
Chlorite, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	1	
Chromium	0.0003	<0.0002	0.0009	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	0.05	
Fluoride, dissolved	0.68	0.63	0.71	6	0.68	0.65	0.73	6	0.68	0.65	0.72	6	0.5-0.9	0.6-0.8
Lead	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	6	0.01	
Mercury	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	6	<0.0002	<0.0001	<0.0002	6	0.001	
Nitrate (as N), dissolved	0.07	0.01	0.15	6	0.07	0.01	0.13	6	0.08	0.02	0.13	6	10	
Nitrite (as N), dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	1	
Selenium	<0.0002	<0.0002	0.0003	6	0.0003	<0.0002	0.0004	6	<0.0002	<0.0002	0.0003	6	0.05	
Uranium	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	6	0.02	

7.13 Rosslyn 1, Rosslyn 2 and Thorncliff Reservoirs

2017

	Rosslyn 1				Rosslyn 2				Thorncliff				Limits	
Parameter	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Primary Organics (ug/L) **														
Benzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	5	
Carbon Tetrachloride	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7	5	
Chlorobenzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	80	
Dichlorobenzene (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	5 (1)	
Dichloroethylene (1,1)	<3.0	<3.0	<3.0	6	<3.0	<3.0	<3.0	6	<3.0	<3.0	<3.0	6	14	
Ethylbenzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	140 (1.6)	
Methylene Chloride	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	50	
Tetrachloroethylene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	10	
Toluene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	60 (24)	
Trichloroethylene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	5	

7.13 Rosslyn 1, Rosslyn 2 and Thorncliff Reservoirs

2017

	Rosslyn 1				Rosslyn 2				Thorncliff				Limits	
Parameter	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Secondary Inorganics (mg/L) ***														
Alkalinity, total (mg CaCO3/L)	122	112	136	6	120	97	137	6	121	106	133	6		
Aluminum	0.068	0.029	0.132	6	0.075	0.037	0.13	6	0.064	0.037	0.114	6	(0.1/0.2)	0.1/0.2
Beryllium	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	0.0004	6	<0.0002	<0.0002	0.0004	6		
Bromide, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6		
Calcium	46.4	42.2	51.2	6	46.2	42.4	52	6	45.7	42	53.6	6		
Chloride, dissolved	6.8	5.5	10.1	6	6.7	5	9.6	6	6.7	5.1	9.1	6	(250)	
Cobalt	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6		
Copper	<0.005	<0.002	<0.005	6	0.007	<0.002	0.022	6	<0.007	<0.002	0.017	6	(1)	
Hardness, Ca (mg CaCO3/L)	113	102	121	6	113	106	124	6	108	75	124	6		
Hardness, total (mg CaCO3/L)	172	160	184	6	174	160	196	6	173	162	193	6		
Iron	0.025	<0.005	0.089	6	<0.006	<0.005	0.007	6	<0.005	<0.002	<0.005	6	(0.3)	0.3
Lithium	0.0034	0.0028	0.0041	6	0.0031	0.0025	0.004	6	0.003	0.0023	0.0038	6		
Magnesium	13.5	12.4	15.4	6	13.5	11.8	15.6	6	13.3	11.6	15.5	6		
Manganese	<0.002	<0.002	0.003	6	0.003	<0.002	0.01	6	0.004	<0.002	0.011	6	(0.05)	
Molybdenum	0.0008	0.0006	0.001	6	0.0008	0.0007	0.0009	6	0.0008	0.0007	0.0009	6		
Nickel	0.0007	<0.0005	0.0011	6	<0.0006	<0.0005	0.0008	6	<0.0005	<0.0005	0.0007	6		
Phosphorus	0.03	0.02	0.03	6	0.03	<0.02	0.05	6	0.03	<0.02	0.04	6		
Potassium	1.14	0.7	2.74	6	1.12	0.6	2.05	6	1.21	0.6	2.47	6		
Silicon	1.93	1.36	2.26	6	1.96	1.49	2.22	6	1.95	1.52	2.17	6		
Silver	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6		
Sodium	12.4	6.9	21.8	6	12.9	6.9	26.9	6	14.9	7.5	29.8	6	(200)	
Strontium	0.421	0.378	0.454	6	0.412	0.357	0.466	6	0.412	0.362	0.468	6		
Sulphate, dissolved	69.2	52.4	92.9	6	72.8	48.6	109	6	74.3	49.8	103	6	(500)	
Thallium	<0.0004	<0.0001	<0.0005	6	<0.0005	<0.0002	<0.0005	6	<0.0005	<0.0002	<0.0005	6		
Tin	<0.0005	<0.0002	<0.0005	6	<0.0005	<0.0002	<0.0005	6	<0.0005	<0.0002	<0.0005	6		
Titanium	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	0.0006	6	<0.0005	<0.0005	<0.0005	6		
Vanadium	<0.0005	<0.0005	0.0006	6	<0.0005	<0.0003	0.0006	6	<0.0005	<0.0003	<0.0005	6		
Zinc	<0.005	<0.002	<0.005	6	0.013	<0.002	0.053	6	<0.005	<0.002	<0.005	6	(5)	
Zirconium	<0.0005	<0.0002	<0.0005	6	<0.0005	<0.0002	<0.0005	6	<0.0005	<0.0002	<0.0005	6		

7.13 Rosslyn 1, Rosslyn 2 and Thorncliff Reservoirs

2017

	Rosslyn 1				Rosslyn 2				Thorncliff				Limits	
Parameter	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Secondary Organics (ug/L) * **														
Bromodichloromethane	<0.6	<0.5	1	6	<0.6	<0.5	1.2	7	<0.6	<0.5	1	7		16
Bromoform	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7		
Chloroform	22.4	14.6	31.4	6	20.4	14.2	32	7	18.3	9.5	38.1	7		
Dibromochloromethane	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7		
Dichlorobenzene (1,3)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Dichloroethylene, cis (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Dichloroethylene, trans (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Dichloropropane (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	(15)	
MIBK	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Styrene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Tetrachloroethane (1,1,2,2)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7		
Total Organic Carbon	1.8	<0.6	2.8	6	2	1.5	3.1	6	1.9	1.5	2.6	6		
Total Volatile Organics (NonTHM)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Total Volatile Organics (Unknown)	<1.3	<1.0	2.7	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Trichlorobenzene (1,2,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Trichloroethane (1,1,1)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7		
Xylene (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Xylene (1,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		

* Health Canada Guidelines for Canadian Drinking Water Quality Maximum Acceptable Concentration and Alberta Environment and Sustainable Resource Development

** Primary Parameters are those that have Maximum Acceptable Concentration (MAC) in Health Canada Guidelines for Canadian Drinking Water Quality Maximum

*** Secondary Parameters do not have health based limits in Health Canada Guidelines for Canadian Drinking Water Quality Maximum Acceptable Concentration (GCDWG).

7.14 Routine Distribution System, Field Reservoirs, Fire Stations and Staff Residences
Disinfection Byproducts, HAA, THM, NDMA

2017

HAA (Haloacetic Acid)

Parameter or Location	12 months running				GCDWQ or Approval or MAC* or (AO or OG) 12 month running	EPCOR single result
	Mean	Min	Max	Count		
HAA (ug/L)					80	40
01-SR	16.7	10.4	23.7	4		
02-SR	21.6	21.6	21.6	1		
03-SR	20.8	11.4	28.3	4		
04-SR	27.8	22.0	33.0	4		
05-SR	17.1	9.9	22.6	4		
07-SR	23.9	10.9	32.5	3		
08-SR	22.9	11.2	33.6	12		
09-SR	19.8	19.8	19.8	1		
12-OF	22.5	22.5	22.5	1		
19-DC	29.1	29.1	29.1	1		
19-RI	20.7	8.8	32.4	11		
19-SR	21.1	9.1	27.3	4		
22-SR	22.5	13.5	31.7	5		
24-RI	22.9	12.8	31.5	12		
24-SR	20.0	20.0	20.0	1		
28-SR	21.7	15.5	26.5	3		
29-SR	28.2	20.1	33.4	3		
31-SR	26.0	26.0	26.0	1		
Total Count				75		
Mean	22.5	16.4	27.5			
Min	16.7	8.8	19.8			
Max	29.1	29.1	33.6			

7.14 Routine Distribution System, Field Reservoirs, Fire Stations and Staff Residences
Disinfection Byproducts, HAA, THM, NDMA

2017

Trihalomethanes

Parameter or Location	12 months running				GCDWQ or Approval or MAC* or (AO or OG) 12 month running	EPCOR single result
	Mean	Min	Max	Count		
Trihalomethanes (ug/L)					100	50
01-RI	18.5	9.7	39.3	13		
01-SR	15.2	10.5	25.7	5		
02-SR	23.1	23.1	23.1	1		
03-SR	24.5	16.0	33.9	4		
04-SR	21.0	14.9	26.5	4		
05-SR	14.2	9.7	23.9	4		
07-SR	25.0	12.8	38.8	3		
08-SR	16.3	9.3	34.0	13		
09-SR	18.9	18.9	18.9	1		
10-DE	19.1	8.8	39.1	13		
11-DE	18.3	7.8	42.2	13		
12-OF	23.0	23.0	23.0	1		
13-RI	23.6	15.8	41.6	13		
16-DE	14.8	7.9	23.5	13		
18-DE	21.4	10.2	43.2	13		
19-DC	18.0	18.0	18.0	1		
19-RI	19.2	8.3	39.6	12		
19-SR	13.4	8.5	21.7	4		
22-SR	17.5	11.9	35.3	6		
24-RI	23.0	13.1	41.0	13		
24-SR	13.3	12.6	14.0	2		
25-RI	20.9	13.6	39.4	13		
28-DE	18.4	8.6	37.8	13		
28-SR	19.8	15.0	28.9	3		
29-SR	26.8	19.2	37.4	3		
31-SR	31.5	31.5	31.5	1		
Total Count				185		
Mean	20.0	13.8	31.6			
Min	13.3	7.8	14.0			
Max	31.5	31.5	43.2			

7.14 Routine Distribution System, Field Reservoirs, Fire Stations and Staff Residences
Disinfection Byproducts, HAA, THM, NDMA

2017

Trihalomethanes

Parameter or Location	12 months running				GCDWQ or Approval or MAC* or (AO or OG) 12 month running	EPCOR single result
	Mean	Min	Max	Count		
Trihalomethanes (ug/L)					100	50
CASTLEDOWNS RESERVOIR	19.0	11.0	28.0	6		
CLAREVIEW RESERVOIR	21.6	15.9	33.5	7		
KASKITAYO RESERVOIR	19.3	8.4	43.0	6		
LONDONDERRY RESERVOIR	22.4	13.3	33.2	6		
MILLWOODS RESERVOIR	19.4	11.1	30.6	6		
NORTH JASPER RESERVOIR	18.9	11.3	32.1	7		
ORMSBY RESERVOIR	20.5	11.1	31.0	6		
PAPASCHASE RESERVOIR 1	25.0	15.1	33.4	5		
PAPASCHASE RESERVOIR 2	18.9	7.5	41.5	7		
ROSSLYN RESERVOIR 1	22.6	14.6	31.4	6		
ROSSLYN RESERVOIR 2	20.8	14.8	32.0	7		
THORNCLIFF RESERVOIR	18.6	10.0	38.1	7		

Parameter or Location	12 months running				GCDWQ or Approval or MAC* or (AO or OG) 12 month running	EPCOR single result
	Mean	Min	Max	Count		
NDMA (ng/L)					40	10
01-SR	3.0	2.0	4.0	2		
04-SR	3.9	2.8	5.0	2		
05-SR	2.7	2.3	3.0	2		
07-SR	3.3	3.3	3.3	1		
08-SR	1.9	0.6	3.8	8		
09-SR	2.7	2.7	2.7	1		
19-SR	8.3	1.5	15.0	2		
22-SR	6.0	1.8	12.0	4		
24-RI	6.5	1.4	24.5	11		
28-SR	2.2	2.2	2.2	1		
29-SR	3.3	2.9	3.5	3		
31-SR	9.4	9.4	9.4	1		
Total Count				38		
Mean	4.4	2.7	7.4			
Min	1.9	0.6	2.2			
Max	9.4	9.4	24.5			

Location Code: City is divided into 28 zones by population. Location is coded by zone and site type.

RI - Regional Influent
SR - Staff Residence
DE - Dead End
PF - Plant First Customer (Guardhouse)
FS - Firestation
PR - Private Residence (Non-Staff)

7.15 Raw River Water: Physical, Inorganic, Organic and Pesticide Parameters

2017

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Physical										
Colour (TCU)	10	<1	65	235	9	2	76	236	(15)	10
Conductivity (uS/cm)	350	283	413	52	344	282	405	52		
FPA-Intensity (N/A)	0.74	<0.25	1.75	73	0.67	0.25	1.62	74		
pH (N/A)	8.3	8.0	8.5	12	8.2	8.0	8.5	12	(6.5–8.5)	7.3-8.3
Total Dissolved Solids (mg/L)	212	184	233	12	217	182	266	12	(500)	
Total Suspended Solids (mg/L)	41	<5	193	12	36	<5	174	12		
Turbidity (NTU) (daily)	29.27	1.24	618.00	364	26.71	0.97	702.00	365	(1.0)	1
Primary Inorganics (mg/L) **										
Antimony	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	0.0003	12	0.006	
Antimony, dissolved	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12	0.006	
Arsenic	0.0007	0.0003	0.0025	12	0.0006	0.0003	0.0019	12	0.010	
Arsenic, dissolved	0.0003	<0.0002	0.0006	12	0.0003	<0.0002	0.0005	12	0.010	
Barium	0.081	0.059	0.142	12	0.079	0.059	0.131	12	1.0	
Barium, dissolved	0.066	0.057	0.075	12	0.065	0.057	0.073	12	1.0	
Boron	0.013	0.008	0.020	12	0.012	0.007	0.018	12	5	
Boron, dissolved	0.010	0.008	0.014	12	0.010	0.008	0.014	12	5	
Bromate, dissolved	<0.005	<0.005	<0.005	102	<0.005	<0.005	<0.005	102	0.01	
Cadmium	<0.0002	<0.0001	<0.0002	12	<0.0002	<0.0001	<0.0002	12	0.005	
Cadmium, dissolved	<0.0002	<0.0001	<0.0002	12	<0.0002	<0.0001	<0.0002	12	0.005	
Chlorate, dissolved	<0.005	<0.005	<0.005	102	<0.005	<0.005	0.010	102	1	
Chlorine, total	<0.03	<0.03	<0.03	12	<0.03	<0.03	<0.03	12	0.5 - 3.0	1.0 -2.4
Chlorite, dissolved	<0.005	<0.005	0.040	102	<0.005	<0.005	0.030	102	1	
Chromium	0.0013	<0.0002	0.0054	12	0.0011	<0.0002	0.0053	12	0.05	
Chromium, dissolved	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12		
Cyanide, dissolved	<0.002	<0.002	<0.002	11	<0.002	<0.002	<0.002	11	0.2	
Fluoride, dissolved	0.12	0.10	0.14	52	0.12	0.10	0.14	52	1.5	0.6–0.8
Lead	0.0007	<0.0001	0.0029	12	0.0007	<0.0001	0.0033	12	0.010	
Lead, dissolved	<0.0002	<0.0001	0.0003	12	<0.0002	<0.0001	0.0003	12	0.010	
Mercury	<0.0002	<0.0001	<0.0002	12	<0.0002	<0.0001	<0.0002	12	0.001	
Mercury, dissolved	<0.0002	<0.0001	<0.0002	12	<0.0002	<0.0001	<0.0002	12	0.001	
Nitrate (as N), dissolved	0.06	<0.01	0.30	102	0.06	<0.01	0.23	102	10	
Nitrite (as N), dissolved	0.008	<0.005	0.020	102	0.007	<0.005	0.020	102	1	
Selenium	0.0003	<0.0002	0.0004	12	0.0003	<0.0002	0.0004	12	0.05	
Selenium, dissolved	0.0002	<0.0002	0.0003	12	0.0002	<0.0002	0.0004	12	0.05	
Uranium	0.0006	<0.0005	0.0009	12	<0.0006	<0.0005	0.0008	12	0.02	
Uranium, dissolved	<0.0006	<0.0005	0.0007	12	<0.0005	<0.0005	0.0006	12	0.02	

7.15 Raw River Water: Physical, Inorganic, Organic and Pesticide Parameters

2017

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Primary Organics (ug/L) **										
2,4-D	0.007	<0.005	0.009	4	0.007	<0.005	0.009	4	100	
Atrazine	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	5	
Benzene	<0.50	<0.03	<0.50	367	<0.50	<0.05	<0.50	370	5	
Benzo(a)pyrene	<0.05	<0.01	<0.10	8	<0.05	<0.01	<0.10	8	0.01	
Bromoxynil	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	5	
Carbon Tetrachloride	<0.99	<0.07	<1.00	392	<0.99	<0.03	<1.00	396	2	
Chlorobenzene	<0.49	<0.03	<0.50	367	<0.49	<0.03	<0.50	370	80 (30)	
Chlorpyrifos	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	90	
Diazinon	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	20	
Dicamba	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	120	
Dichlorobenzene (1,2)	<0.49	<0.03	<0.50	367	<0.49	<0.03	<0.50	370	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.1	<0.5	367	<0.5	<0.1	<0.5	370	5 (1)	
Dichloroethane (1,2)	<0.1	<0.1	<0.5	5	<0.1	<0.1	<0.5	5	5	
Dichloroethylene (1,1)	<3.0	<0.1	<3.0	367	<3.0	<0.2	<3.0	370	14	
Dichlorophenol (2,4)	<0.10	<0.10	<0.10	4	<0.10	<0.10	<0.10	4	900 (0.3)	
Diclofop-methyl	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Dimethoate	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	20	
Diuron	<0.9	<0.2	<5.0	7	<0.9	<0.2	<5.0	7	150	
Ethyl benzene	<0.02	<0.02	<0.03	4	<0.02	<0.02	<0.02	4		
Ethylbenzene	<0.50	<0.50	<0.50	363	<0.50	<0.50	<0.50	366	140 (1.6)	
Glyphosate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4	280	
Malathion	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4	190	
MCPA	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	100	
Methylene Chloride	<0.5	<0.1	<0.5	367	<0.5	<0.1	<0.5	370	50	
Metolachlor	<0.012	<0.012	<0.012	4	<0.012	<0.012	<0.012	4	50	
Metribuzin	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4	80	
Nitrilotriacetic acid	<0.3	<0.2	<0.3	4	<0.3	<0.2	<0.3	4		
Pentachlorophenol	<0.6	<0.6	<0.6	4	<0.6	<0.6	<0.6	4	60 (30)	
Phorate	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	2	
Picloram	<0.022	<0.022	<0.022	4	<0.022	<0.022	<0.022	4	190	
Simazine	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4	10	
Terbufos	<0.03	<0.03	<0.03	4	<0.03	<0.03	<0.03	4	1	
Tetrachloroethylene	<0.5	<0.1	<0.5	392	<0.5	<0.1	<0.5	396	10	
Tetrachlorophenol (2,3,4,6)	<0.4	<0.4	<0.4	4	<0.4	<0.4	<0.4	4	100 (1)	
Toluene	<0.49	<0.03	<0.50	367	<0.49	<0.03	<0.50	370	60 (24)	
Trichloroethylene	<0.5	<0.1	<0.5	392	<0.5	<0.2	<0.5	396	5	
Trichlorophenol (2,4,6)	<0.7	<0.7	<0.7	4	<0.7	<0.7	<0.7	4	5 (2)	
Trifluralin	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	45	
Trihalomethanes	<1.0	<1.0	<1.0	388	<1.0	<1.0	<1.0	392	100	50
Vinyl Chloride	<0.2	<0.1	<1.0	5	<0.2	<0.1	<1.0	5	2	

7.15 Raw River Water: Physical, Inorganic, Organic and Pesticide Parameters

2017

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Radionuclides Bq/L)										
Cesium-137	<0.20	<0.20	0.20	2	<0.20	<0.20	<0.20	2	10	
Gross Alpha	<0.12	<0.12	0.12	2	<0.12	<0.12	0.12	2	(0.5)	
Gross Beta	0.19	<0.10	0.27	2	0.15	<0.10	0.19	2	(1.0)	
Iodine-131	<0.30	<0.30	<0.30	2	<0.30	<0.30	<0.30	2	6	
Lead-210	<0.02	<0.02	<0.02	2	<0.02	<0.02	<0.02	2	0.2	
Radium-226	<0.01	<0.01	0.01	2	0.01	<0.01	0.01	2	0.5	
Strontium-90	<0.1	<0.1	<0.1	2	<0.1	<0.1	<0.1	2	5	
Tritium	<15	<15	<15	2	32	<15	48	2	7000	

7.15 Raw River Water: Physical, Inorganic, Organic and Pesticide Parameters

2017

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Inorganics (mg/L) ***										
Alkalinity, PHP (mg CaCO3/L)	<1	<1	<1	12	<1	<1	<1	12		
Alkalinity, total (mg CaCO3/L)	132	108	152	52	131	106	148	52		
Aluminum	1.009	0.089	5.710	12	0.939	0.092	5.680	12	(0.1/0.2)	0.1/0.2
Aluminum, dissolved	0.032	0.005	0.074	12	0.014	<0.003	0.111	12		
Ammonia as N	0.09	<0.05	0.42	82	0.08	<0.05	0.34	84		
Beryllium	<0.0002	<0.0002	0.0004	12	<0.0002	<0.0002	0.0004	12		
Beryllium, dissolved	<0.0002	<0.0002	0.0003	12	<0.0002	<0.0002	0.0003	12		
Bromide, dissolved	<0.005	<0.005	0.013	102	<0.005	<0.005	0.007	102		
Calcium	48.2	41.5	55.8	12	48.7	42.1	61.7	12		
Calcium, dissolved	46.02	37.10	53.20	12	46.21	37.50	53.70	12		
Chloride, dissolved	1.9	0.6	11.5	102	1.0	0.5	5.2	102	(250)	
Chlorine, free	<0.03	<0.03	<0.03	12	<0.03	<0.03	<0.03	12		
Cobalt	0.0006	<0.0002	0.0025	12	0.0005	<0.0002	0.0020	12		
Cobalt, dissolved	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12		
Copper	<0.005	<0.002	0.009	12	<0.005	<0.002	0.007	12	(1.0)	
Copper, dissolved	<0.005	<0.002	<0.005	12	<0.005	<0.002	<0.005	12	(1.0)	
Hardness, Calcium (mg CaCO3/L)	110	86	132	52	110	87	131	52		
Hardness, total (mg CaCO3/L)	169	130	202	52	168	132	200	52		
Iron	1.071	0.067	5.610	12	0.924	0.077	4.290	12	(0.3)	0.3
Iron, dissolved	0.016	<0.005	0.094	12	0.015	<0.004	0.090	12	(0.3)	0.3
Lithium	0.0042	0.0030	0.0069	12	0.0039	0.0028	0.0064	12		
Lithium, dissolved	0.0036	0.0031	0.0043	12	0.0034	0.0028	0.0041	12		
Magnesium	14.3	12.6	16.0	12	14.4	12.4	17.3	12		
Magnesium, dissolved	13.75	11.10	15.80	12	13.76	10.90	15.80	12		
Manganese	0.031	<0.002	0.162	12	0.032	0.003	0.137	12	(0.05)	
Manganese, dissolved	0.004	<0.002	0.021	12	0.003	<0.002	0.014	12		
Molybdenum	0.0009	0.0007	0.0012	12	0.0008	0.0006	0.0010	12		
Molybdenum, dissolved	0.0008	0.0006	0.0009	12	0.0007	0.0006	0.0009	12		
Nickel	0.0028	<0.0005	0.0107	12	0.0017	<0.0005	0.0070	12		
Nickel, dissolved	<0.0006	<0.0004	0.0016	12	0.0006	<0.0005	0.0015	12		
Phosphate,Ortho (as P)	<0.02	<0.02	0.04	12	<0.02	<0.02	0.02	11		
Phosphorus	0.06	0.03	0.20	12	0.07	0.02	0.20	12		
Phosphorus, dissolved	0.04	0.02	0.08	12	0.04	0.02	0.08	12		
Potassium	1.26	0.60	3.97	12	1.12	0.60	2.93	12		
Potassium, dissolved	1.04	0.70	3.05	12	0.94	0.60	2.42	12		
Silicon	3.57	1.73	10.60	12	3.10	1.57	7.52	12		
Silicon, dissolved	1.93	1.33	2.29	12	1.93	1.37	2.33	12		
Silver	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12		
Silver, dissolved	<0.0002	<0.0002	0.0004	12	<0.0002	<0.0002	<0.0002	12		
Sodium	4.4	2.8	7.2	12	3.9	2.6	5.2	12	(200)	
Sodium, dissolved	4.4	3.3	7.0	12	4.0	3.0	5.2	12		
Strontium	0.430	0.355	0.480	12	0.430	0.357	0.468	12		
Strontium, dissolved	0.419	0.319	0.464	12	0.416	0.327	0.461	12		

7.15 Raw River Water: Physical, Inorganic, Organic and Pesticide Parameters

2017

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Inorganics (mg/L) * **										
Sulphate, dissolved	48	27	64	102	47	27	65	102	(500)	
Sulphide	<0.002	<0.002	<0.002	11	<0.003	<0.002	0.011	11	(0.05)	
Thallium	<0.0005	<0.0002	<0.0005	12	<0.0005	<0.0001	<0.0005	12		
Thallium, dissolved	<0.0005	<0.0001	<0.0005	12	<0.0005	<0.0001	<0.0005	12		
Tin	<0.0005	<0.0002	<0.0005	12	<0.0005	<0.0002	<0.0005	12		
Tin, dissolved	<0.0005	<0.0002	<0.0005	12	<0.0005	<0.0002	<0.0005	12		
Titanium	0.0134	0.0009	0.0694	12	0.0105	0.0010	0.0403	12		
Titanium, dissolved	<0.0006	<0.0005	0.0014	12	<0.0005	<0.0005	0.0010	12		
Total Kjeldahl Nitrogen (TKN)	0.26	<0.03	0.99	12	0.22	<0.03	1.16	12		
Vanadium	0.0026	0.0006	0.0103	12	0.0021	0.0007	0.0084	12		
Vanadium, dissolved	<0.0005	<0.0002	<0.0005	12	<0.0005	<0.0002	<0.0005	12		
Zinc	0.007	<0.002	0.022	12	<0.007	<0.002	0.020	12	(5)	
Zinc, dissolved	<0.005	<0.002	<0.005	12	<0.005	<0.002	<0.005	12		
Zirconium	<0.0007	<0.0002	0.0017	12	<0.0006	<0.0002	0.0012	12		
Zirconium, dissolved	<0.0005	<0.0002	<0.0005	12	<0.0005	<0.0002	<0.0005	12		

7.15 Raw River Water: Physical, Inorganic, Organic and Pesticide Parameters

2017

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Organics (ug/L) ***										
2,4-DB	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
2,4-Dichlorophenol	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
2,4-DP	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Acenaphthene	<0.10	<0.01	<0.20	8	<0.10	<0.01	<0.20	8		
Acenaphthylene	<0.06	<0.01	<0.10	8	<0.06	<0.01	<0.10	8		
Acetaminophen	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Acetylsalicylic acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Acridine	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Aldicarb	<0.4	<0.1	<2.0	7	<0.4	<0.1	<2.0	7		
Aldicarb Sulfone	<1.38	<0.16	<5.00	4	<1.38	<0.16	<5.00	4		
Aldicarb Sulfoxide	<0.60	<0.10	<2.00	4	<0.60	<0.10	<2.00	4		
Aldrin	<0.009	<0.009	<0.009	4	<0.009	<0.009	<0.009	4		
alpha-Endosulfan	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Aminocarb	<0.264	<0.018	<1.000	4	<0.264	<0.018	<1.000	4		
Aminomethyl Phosphonic Acid	<0.3	<0.3	<0.3	4	<0.3	<0.3	<0.3	4		
Aminopyralid	<0.03	<0.03	<0.03	4	<0.03	<0.03	<0.03	4		
Anthracene	<0.10	<0.01	<0.20	8	<0.10	<0.01	<0.20	8		
Azinphos-methyl	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4	20	
Benomyl	<1.260	<0.010	<5.000	4	<1.260	<0.010	<5.000	4		
Bentazon	<0.006	<0.006	<0.006	4	<0.006	<0.006	<0.006	4		
Benzidine	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Benzo(a)anthracene	<0.05	<0.01	<0.10	8	<0.05	<0.01	<0.10	8		
Benzo(b)fluoranthene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Benzo(b,j,k)fluoranthene	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Benzo(c)phenanthrene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Benzo(e)pyrene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Benzo(ghi)perylene	<0.05	<0.01	<0.10	8	<0.05	<0.01	<0.10	8		
Benzo(k)fluoranthene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Benzoylecgonine	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Bezafibrate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Bis(2-chloroethoxy)methane	<0.3	<0.3	<0.3	4	<0.3	<0.3	<0.3	4		
Bis(2-chloroethyl)ether	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Bis(2-chloroisopropyl)ether	<0.3	<0.3	<0.3	4	<0.3	<0.3	<0.3	4		
Bis(2-ethylhexyl)phthalate	<0.3	<0.3	<0.3	4	<0.3	<0.3	0.3	4		
Bromacil	<0.030	<0.030	<0.030	4	<0.030	<0.030	<0.030	4		
Bromobenzene	<0.04	<0.03	<0.05	4	<0.03	<0.03	<0.03	4		
Bromodichloromethane	<0.5	<0.1	<0.5	392	<0.5	<0.1	<0.5	396		16
Bromoform	<0.99	<0.04	<1.00	392	<0.99	<0.06	<1.00	396		
Bromomethane	<0.2	<0.1	<0.2	4	<0.2	<0.2	<0.2	4		
Bromophenyl phenyl ether (4)	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Butylbenzylphthalate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Caffeine	<0.02	<0.02	0.03	4	<0.02	<0.02	<0.02	4		
Carbamazepine	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		

7.15 Raw River Water: Physical, Inorganic, Organic and Pesticide Parameters

2017

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Organics (ug/L) ***										
Carbaryl	<6.254	<0.005	<25.000	4	<6.254	<0.005	<25.000	4	90	
Carbathiin	<0.200	<0.200	<0.200	4	<0.200	<0.200	<0.200	4		
Carbofuran	<6.254	<0.005	<25.000	4	<6.254	<0.005	<25.000	4	90	
Chloramphenicol	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Chloro-2-MethylPhenol (4)	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Chloro-3-methylphenol (4)	<0.8	<0.8	<0.8	4	<0.8	<0.8	<0.8	4		
Chloroethane	<0.2	<0.1	<0.2	4	<0.2	<0.2	<0.2	4		
Chloroethoxyethylene (2)	<0.06	<0.05	<0.10	4	<0.05	<0.05	<0.05	4		
Chloroform	<0.50	<0.03	<0.50	392	<0.50	<0.05	<0.50	396		
Chloromethane	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Chloronaphthalene (2)	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Chlorophenol (2)	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Chlorophenyl phenyl ether (4)	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Chlorothalonil	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Chlorotoluene (2)	<0.05	<0.04	<0.05	4	<0.05	<0.05	<0.05	4		
Chlorotoluene (4)	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Chrysene	<0.102	<0.004	<0.200	8	<0.102	<0.004	<0.200	8		
Ciprofloxacin	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Clindamycin	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Clodinafop acid metabolite	<0.070	<0.070	<0.070	4	<0.070	<0.070	<0.070	4		
Clodinafop-propargyl	<0.040	<0.040	<0.040	4	<0.040	<0.040	<0.040	4		
Clofibric Acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Clopyralid	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Cocaine	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Codeine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Cotinine	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Cyanazine	<0.060	<0.060	<0.060	4	<0.060	<0.060	<0.060	4		
Desethyl Atrazine	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Desisopropyl Atrazine	<0.080	<0.080	<0.080	4	<0.080	<0.080	<0.080	4		
Dibenzo(a,h)pyrene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Dibenzo(a,i)pyrene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Dibenzo(a,l)pyrene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Dibenzo(ah)anthracene	<0.05	<0.01	<0.10	8	<0.05	<0.01	<0.10	8		
Dibromo-3-chloropropane (1,2)	<0.9	<0.8	<1.0	4	<0.8	<0.8	<0.8	4		
Dibromochloromethane	<0.50	<0.04	<0.50	392	<0.50	<0.04	<0.50	396		
Dibromoethane (1,2)	<0.07	<0.07	<0.07	4	<0.06	<0.03	<0.07	4		
Dibromomethane	<0.04	<0.03	<0.06	4	<0.03	<0.03	<0.03	4		
Dichlorobenzene (1,3)	<0.49	<0.03	<0.50	367	<0.49	<0.03	<0.50	370		
Dichloroethane (1,1)	<0.06	<0.04	<0.07	4	<0.07	<0.07	<0.07	4		
Dichloroethylene, cis (1,2)	<0.49	<0.04	<0.50	367	<0.50	<0.04	<0.50	370		
Dichloroethylene, trans (1,2)	<0.49	<0.04	<0.50	367	<0.50	<0.04	<0.50	370		
Dichloropropane (1,2)	<0.50	<0.07	<0.50	367	<0.50	<0.03	<0.50	370		
Dichloropropane (1,3)	<0.05	<0.04	<0.07	4	<0.04	<0.04	<0.04	4		

7.15 Raw River Water: Physical, Inorganic, Organic and Pesticide Parameters

2017

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Organics (ug/L) * **										
Dichloropropane (2,2)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Dichloropropylene (1,1)	<0.06	<0.04	<0.06	4	<0.06	<0.06	<0.06	4		
Dichloropropylene cis (1,3)	<0.04	<0.03	<0.06	4	<0.03	<0.03	<0.03	4		
Dichloropropylene trans (1,3)	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Diclofenac	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Dieldrin	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Diethyl phthalate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Dimethyl phthalate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Dimethylbenz(a)anthracene (7,12)	<0.008	<0.008	<0.008	4	<0.008	<0.008	<0.008	4		
Dimethylphenol (2,4)	<0.3	<0.3	<0.3	4	<0.3	<0.3	<0.3	4		
Di-n-butylphthalate	<0.3	<0.3	<0.3	4	<0.3	<0.3	<0.3	4		
Dinitrophenol (2,4)	<0.7	<0.7	<0.7	4	<0.7	<0.7	<0.7	4		
Dinitrotoluene (2,4)	<0.3	<0.3	<0.3	4	<0.3	<0.3	<0.3	4		
Dinitrotoluene (2,6)	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Di-n-octyl phthalate	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Diphenylhydrazine (1,2)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Disulfoton	<0.200	<0.200	<0.200	4	<0.200	<0.200	<0.200	4		
Enrofloxacin	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
EPTC	<6.255	<0.006	<25.000	4	<6.255	<0.006	<25.000	4		
Erythromycin	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Ethalfluralin	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Ethion	<0.10	<0.10	<0.10	4	<0.10	<0.10	<0.10	4		
Ethofumesate	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Fenoprofen	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Fenoxaprop-p-ethyl	<0.040	<0.040	<0.040	4	<0.040	<0.040	<0.040	4		
Fluazifop	<0.040	<0.040	<0.040	4	<0.040	<0.040	<0.040	4		
Fluoranthene	<0.05	<0.01	<0.10	8	<0.05	<0.01	<0.10	8		
Fluorene	<0.05	<0.01	<0.10	8	<0.05	<0.01	<0.10	8		
Fluoxetine	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Fluroxypyr	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Gemfibrozil	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Glufosinate	<0.4	<0.4	<0.4	4	<0.4	<0.4	<0.4	4		
Hexachlorobenzene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Hexachlorobutadiene	<0.1	<0.1	<0.2	8	<0.2	<0.1	<0.2	8		
Hexachlorocyclopentadiene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Hexachloroethane	<0.3	<0.3	<0.3	4	<0.3	<0.3	<0.3	4		
Hexaconazole	<0.009	<0.009	<0.009	4	<0.009	<0.009	<0.009	4		
Hydroxy Carbofuran (3)	<6.263	<0.016	<25.000	4	<6.263	<0.016	<25.000	4		
Ibuprofen	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Imazamethabenz-methyl	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Imazamox	<0.009	<0.009	<0.009	4	<0.009	<0.009	<0.009	4		
Imazethapyr	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Indeno(1,2,3-cd)pyrene	<0.10	<0.01	<0.20	8	<0.10	<0.01	<0.20	8		

7.15 Raw River Water: Physical, Inorganic, Organic and Pesticide Parameters

2017

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Organics (ug/L) * **										
Indomethacin	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Iprodione	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Isophorone	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Isopropylbenzene	<0.03	<0.03	<0.03	4	<0.05	<0.03	<0.10	4		
Ketoprofen	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Lincomycin	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Lindane (alpha-BHC)	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Lindane (gamma-BHC)	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Linuron	<0.040	<0.040	<0.040	4	<0.040	<0.040	<0.040	4		
MCPB	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
MCPP	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Meclofenamic acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Metalaxyl-M	<0.030	<0.030	<0.030	4	<0.030	<0.030	<0.030	4		
Methamphetamine	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Methomyl	<0.9	<0.2	<5.0	7	<0.9	<0.2	<5.0	7		
Methyl t-Butyl Ether (MTBE)	<0.49	<0.02	<0.50	367	<0.50	<0.02	<0.50	370		
Methyl Triclosan	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Methyl-4,6-dinitrophenol (2)	<0.7	<0.7	<0.7	4	<0.7	<0.7	<0.7	4		
Methylcholanthrene (3)	<0.007	<0.007	<0.007	4	<0.007	<0.007	<0.007	4		
Methylnaphthalene (1)	<0.006	<0.006	<0.006	4	<0.006	<0.006	<0.006	4		
Methylnaphthalene (2)	<0.006	<0.006	<0.006	4	<0.006	<0.006	<0.006	4		
MIBK	<1.0	<1.0	<1.0	363	<1.0	<1.0	<1.0	366		
Microcystin Total	<0.11	<0.10	0.20	10	<0.12	<0.10	0.20	10	1.5	
Monuron	<1.253	<0.004	<5.000	4	<1.253	<0.004	<5.000	4		
N,N-diethyl-m-toluamide	0.009	<0.005	0.020	4	0.008	<0.005	0.017	4		
Naphthalene	<0.09	<0.01	<0.20	12	<0.11	<0.01	<0.30	12		
Napropamide	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Naproxen	<0.006	<0.005	0.007	4	<0.005	<0.005	<0.005	4		
n-Butylbenzene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Nitrobenzene	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Nitrophenol (2)	<0.3	<0.3	<0.3	4	<0.3	<0.3	<0.3	4		
Nitrophenol (4)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
N-Nitroso-di-n-propylamine	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
N-Nitrosodiphenylamine	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Norfloxacin	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Norfluoxetine	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
n-Propylbenzene	<0.03	<0.02	<0.04	4	<0.02	<0.02	<0.02	4		
Ofloxacin	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Oxolinic acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Oxycarboxin	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
p, p' - Methoxychlor	<0.03	<0.03	<0.03	4	<0.03	<0.03	<0.03	4		
Parathion	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Pentoxifylline	<0.500	<0.500	<0.500	4	<0.500	<0.500	<0.500	4		

7.15 Raw River Water: Physical, Inorganic, Organic and Pesticide Parameters

2017

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Organics (ug/L) * **										
Perylene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Phenanthrene	<0.10	<0.01	<0.20	8	<0.10	<0.01	<0.20	8		
Phenol	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Pipemidic acid	<0.5	<0.5	<0.5	4	<0.5	<0.5	<0.5	4		
p-Isopropyltoluene	<0.04	<0.04	<0.04	4	<0.11	<0.04	<0.30	4		
Propiconazole	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Pyrene	<0.05	<0.01	<0.10	8	<0.05	<0.01	<0.10	8		
Pyridaben	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Quinclorac	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Quizalofop	<0.030	<0.030	<0.030	4	<0.030	<0.030	<0.030	4		
Retene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Salicylic acid	0.038	<0.025	0.067	4	0.040	<0.025	0.060	4		
sec-Butylbenzene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.3	4		
Styrene	<0.49	<0.02	<0.50	367	<0.49	<0.02	<0.50	370		
Sulfabenzamide	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfadimethoxine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfadoxine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfamerazine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfamethazine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfamethoxazole	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfapyridine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfaquinoxaline	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfathiazole	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
tert-Butylbenzene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.3	4		
Tetrachloroethane (1,1,1,2)	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Tetrachloroethane (1,1,2,2)	<1.0	<0.1	<1.0	392	<1.0	<0.2	<1.0	396		
Thiamethoxam	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Tolfenamic acid	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Total Organic Carbon	3.6	1.6	11.3	50	3.5	0.6	11.4	50		
Total Volatile Organics (NonTHM)	<1.0	<1.0	<1.0	363	<1.0	<1.0	<1.0	366		
Total Volatile Organics (Unknown)	<1.1	<1.0	17.3	362	<1.3	<1.0	43.1	365		
Triallate	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Trichlorobenzene (1,2,3)	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Trichlorobenzene (1,2,4)	<0.5	<0.1	<0.5	371	<0.5	<0.1	<0.5	374		
Trichlorocarbanilide (3,4,4)	<0.025	<0.025	<0.025	4	<0.025	<0.025	<0.025	4		
Trichloroethane (1,1,1)	<0.5	<0.1	<0.5	392	<0.5	<0.1	<0.5	396		
Trichloroethane (1,1,2)	<0.06	<0.05	<0.06	4	<0.06	<0.06	<0.06	4		
Trichlorofluoromethane	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.2	4		
Trichloropropane (1,2,3)	<0.2	<0.1	<0.2	4	<0.2	<0.2	<0.2	4		
Triclopyr	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Triclosan	<0.025	<0.025	<0.025	4	<0.025	<0.025	<0.025	4		
Trimethoprim	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Trimethylbenzene (1,2,4)	<0.04	<0.04	<0.04	4	<0.06	<0.04	<0.10	4		

7.15 Raw River Water: Physical, Inorganic, Organic and Pesticide Parameters

2017

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	**Min**	**Max**	**Count**	**Mean**	**Min**	**Max**	**Count**		
Secondary Organics (ug/L) * **										
Trimethylbenzene (1,3,5)	<0.04	<0.04	<0.04	4	<0.08	<0.04	<0.20	4		
Vinclozolin	<0.040	<0.040	<0.040	4	<0.040	<0.040	<0.040	4		
Xylene (1,2)	<0.5	<0.5	<0.5	363	<0.5	<0.5	<0.5	366		
Xylene (1,4)	<0.5	<0.5	<0.5	363	<0.5	<0.5	<0.5	366		
Xylene (m,p)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.2	4		
Xylene (o)	<0.02	<0.02	<0.03	4	<0.02	<0.02	<0.02	4		

7.16 Statistics on Water Quality Complaint Samples Submitted for Laboratory Testing 2017

	INCIDENT REATED STATISTICS													SAMPLE RELATED STATISTICS			
MONTH	TOTAL	#	VIOLATION	AESTHETIC	#	PERCENT	COMPLAINT TYPES (1)							#	PBR	VIOLATING	TOTAL
	INCIDENTS	VALID (3)	INCIDENTS (2)	OBJECTIVE	SATISFIED	SATISFIED	H	C	T	S	TO	TO-PL	O	SAMPLES	VARIANCES	TESTS	TESTS
JAN	10	1	0	0	10	100%	0	4	3	2	1	0	0	10	2	0	470
FEB	9	1	0	0	9	100%	0	2	3	1	2	0	1	11	3	0	477
MAR	6	0	0	0	6	100%	1	1	0	1	3	0	0	6	0	0	346
APR	10	2	0	2	10	100%	0	3	1	5	1	0	0	12	11	0	690
MAY	7	2	0	0	7	100%	0	1	3	0	3	0	0	7	1	0	334
JUN	5	0	0	0	5	100%	0	0	0	0	5	0	0	5	0	0	334
JUL	6	0	0	0	6	100%	0	0	0	2	1	0	3	6	2	0	299
AUG	5	1	0	0	5	100%	0	0	1	2	2	0	0	5	5	0	465
SEP	4	0	0	0	4	100%	0	1	1	2	0	0	0	4	0	0	202
OCT	4	0	0	0	4	100%	0	2	0	0	1	0	1	4	2	0	167
NOV	2	0	0	0	2	100%	0	1	0	1	0	0	0	2	0	0	40
DEC	2	0	0	0	2	100%	0	0	1	0	1	0	0	2	0	0	132
YTD	70	7	0	2	70	100%	1	15	13	16	20	0	5	74	26	0	3956

(1) Complaint types: H - Hardness, C - Color, T - Turbidity, S - Sickness, TO - Taste & Odor, TO-PL - Pipe lubricant implicated, O - Other

(2) Number of Violations: Incidents where approval levels were exceeded.

(3) Number Valid: Incidents where a test result was found to exceed specified objectives (EPCOR) and required action.

7.17 METHOD DETECTION LIMITS

Analyte	MDL	Unit
Alkalinity phenolphthalein	1	mg CaCO3/L
Alkalinity, total	1	mg CaCO3/L
Aluminum	0.005	mg/L
Aluminum, dissolved	0.005	mg/L
Ammonia as N	0.05	mg/L
Ammonia as NH3	0.05	mg/L
Antimony	0.0002	mg/L
Antimony, dissolved	0.0002	mg/L
Arsenic	0.0002	mg/L
Arsenic, dissolved	0.0002	mg/L
Barium	0.002	mg/L
Barium, dissolved	0.002	mg/L
Benzene	0.5	ug/L
Beryllium	0.0002	mg/L
Beryllium, dissolved	0.0002	mg/L
Bicarbonate	3	mg CaCO3/L
Boron	0.005	mg/L
Boron, dissolved	0.005	mg/L
Bromate, dissolved	0.005	mg/L
Bromide, dissolved	0.005	mg/L
Bromoacetic acid	1	
Bromochloroacetic acid	1.0	ug/L
Bromodichloroacetic Acid	1	
Bromodichloromethane	0.5	ug/L
Bromoform	1.0	ug/L
Cadmium	0.0002	mg/L
Cadmium, dissolved	0.0002	mg/L
Calcium	0.1	mg/L
Calcium, dissolved	0.1	mg/L
Carbon Tetrachloride	1.0	ug/L
Carbonate	3	mg CaCO3/L
Chlorate, dissolved	0.005	mg/L
Chloride, dissolved	0.05	mg/L
Chlorine, free	0.03	mg/L
Chlorine, total	0.03	mg/L
Chlorite, dissolved	0.005	mg/L
Chlorobenzene	0.5	ug/L
Chlorodibromoacetic Acid	2	
Chloroform	0.5	ug/L
Chromium	0.0002	mg/L
Chromium, dissolved	0.0002	mg/L
Cobalt	0.0002	mg/L
Cobalt, dissolved	0.0002	mg/L
Colour	1	TCU
Conductivity	0.2	uS/cm
Copper	0.005	mg/L
Copper, dissolved	0.005	mg/L
Cryptosporidium	0.1	oocysts/100L
Dibromoacetic acid	1.0	ug/L
Dibromochloromethane	0.5	ug/L
Dichloroacetic acid	2.0	ug/L
Dichlorobenzene (1,2)	0.5	ug/L
Dichlorobenzene (1,3)	0.5	ug/L

7.17 METHOD DETECTION LIMITS

Analyte	MDL	Unit
Dichlorobenzene (1,4)	0.5	ug/L
Dichloroethane (1,2)	0.5	ug/L
Dichloroethylene (1,1)	3.0	ug/L
Dichloroethylene, cis (1,2)	0.5	ug/L
Dichloroethylene, trans (1,2)	0.5	ug/L
Dichloropropane (1,2)	0.5	ug/L
Dilution Factor		
Ethylbenzene	0.5	ug/L
Fluoride, dissolved	0.05	mg/L
FPA-Intensity	0.25	N/A
Giardia	0.1	cysts/100L
Haloacetic Acids, total (HAA5)	5.0	ug/L
Haloacetic Acids, total (HAA6)	5.0	ug/L
Hardness, Calcium	2	mg CaCO3/L
Hardness, total	2	mg CaCO3/L
Heterotrophic Plate Count	1	CFU/mL
Iron	0.005	mg/L
Iron, dissolved	0.005	mg/L
Lead	0.0002	mg/L
Lead, dissolved	0.0002	mg/L
Lithium	0.0002	mg/L
Lithium, dissolved	0.0002	mg/L
Magnesium	0.1	mg/L
Magnesium, dissolved	0.1	mg/L
Manganese	0.002	mg/L
Manganese, dissolved	0.002	mg/L
Mercury	0.0002	mg/L
Mercury, dissolved	0.0002	mg/L
Meter TCL2	0.03	mg/L
Methyl t-Butyl Ether (MTBE)	0.5	ug/L
Methylene Chloride	0.5	ug/L
MIBK	1.0	ug/L
Microcystin	0.10	
Microcystin Total	0.10	ug/L
Molybdenum	0.0002	mg/L
Molybdenum, dissolved	0.0002	mg/L
Monobromoacetic acid	1.0	ug/L
Monochloramine	0.01	mg/L
Monochloroacetic acid	5.0	ug/L
Nickel	0.0005	mg/L
Nickel, dissolved	0.0005	mg/L
Nitrate (as N), dissolved	0.005	mg/L
Nitrilotriacetic acid	0.3	mg/L
Nitrite (as N), dissolved	0.005	mg/L
Particle Count (1.2-2um)	1	Counts/mL
Particle Count (10-15um)	1	Counts/mL
Particle Count (15-20um)	1	Counts/mL
Particle Count (20-25um)	1	Counts/mL
Particle Count (25-50um)	1	Counts/mL
Particle Count (2-5um)	1	Counts/mL
Particle Count (50-150um)	1	Counts/mL
Particle Count (5-10um)	1	Counts/mL
Particle Counts (1-150um)	5	Counts/mL
Phosphate,Ortho (as P)	0.02	mg/L

7.17 METHOD DETECTION LIMITS

Analyte	MDL	Unit
Phosphorus	0.02	mg/L
Phosphorus, dissolved	0.02	mg/L
Potassium	0.1	mg/L
Potassium, dissolved	0.1	mg/L
Selenium	0.0002	mg/L
Selenium, dissolved	0.0002	mg/L
Silicon	0.02	mg/L
Silicon, dissolved	0.02	mg/L
Silver	0.0002	mg/L
Silver, dissolved	0.0002	mg/L
Sodium	0.1	mg/L
Sodium, dissolved	0.1	mg/L
Strontium	0.002	mg/L
Strontium, dissolved	0.002	mg/L
Styrene	0.5	ug/L
Sulphate, dissolved	0.05	mg/L
Tetrachloroethane (1,1,2,2)	1.0	ug/L
Tetrachloroethylene	0.5	ug/L
Thallium	0.0005	mg/L
Thallium, dissolved	0.0005	mg/L
Tin	0.0005	mg/L
Tin, dissolved	0.0005	mg/L
Titanium	0.0005	mg/L
Titanium, dissolved	0.0005	mg/L
Toluene	0.5	ug/L
Total Dissolved Solids	10	mg/L
Total Suspended Solids	5	mg/L
Total Volatile Organics (NonTHM)	1.0	ug/L
Total Volatile Organics (Unknown)	1.0	ug/L
Tribromoacetic Acid	4	
Trichloroacetic acid	3.0	ug/L
Trichlorobenzene (1,2,4)	0.5	ug/L
Trichloroethane (1,1,1)	0.5	ug/L
Trichloroethylene	0.5	ug/L
Trihalomethanes	1.0	ug/L
Turbidity	0.02	NTU
Uranium	0.0005	mg/L
Uranium, dissolved	0.0005	mg/L
UV 254 % Transmittance	1	%T/cm
Vanadium	0.0005	mg/L
Vanadium, dissolved	0.0005	mg/L
Vinyl Chloride	1.0	ug/L
Xylene (1,2)	0.5	ug/L
Xylene (1,4)	0.5	ug/L
Zinc	0.005	mg/L
Zinc, dissolved	0.005	mg/L
Zirconium	0.0005	mg/L
Zirconium, dissolved	0.0005	mg/L
Contract Lab Analysis		
2,4-D	0.005	ug/L
2,4-DB	0.005	ug/L
2,4-Dichlorophenol	0.01	ug/L
2,4-DP	0.005	ug/L

7.17 METHOD DETECTION LIMITS

Analyte	MDL	Unit
Acenaphthene	0.2	ug/L
Acenaphthylene	0.1	ug/L
Acetaminophen	0.05	ug/L
Acetylsalicylic acid	0.01	ug/L
Acridine	0.01	ug/L
Aldicarb	0.05	ug/L
Aldicarb Sulfone	0.2	ug/L
Aldicarb Sulfoxide	0.1	ug/L
Aldrin	0.009	ug/L
alpha-Endosulfan	0.005	ug/L
Aminocarb	0.02	ug/L
Aminomethyl Phosphonic Acid	0.3	ug/L
Aminopyralid	0.03	ug/L
Anthracene	0.2	ug/L
Atrazine	0.005	ug/L
Azinphos-methyl	0.2	ug/L
Benomyl	0.01	ug/L
Bentazon	0.006	ug/L
Benzene	0.05	ug/L
Benzidine	0.2	ug/L
Benzo(a)anthracene	0.005	ug/L
Benzo(a)pyrene	0.005	ug/L
Benzo(b)fluoranthene	0.1	ug/L
Benzo(b,j,k)fluoranthene	0.02	ug/L
Benzo(c)phenanthrene	0.006	ug/L
Benzo(e)pyrene	0.01	ug/L
Benzo(ghi)perylene	0.007	ug/L
Benzo(k)fluoranthene	0.1	ug/L
Benzoylecgonine	0.01	ug/L
Bezafibrate	0.1	ug/L
Bis(2-chloroethoxy)methane	0.3	ug/L
Bis(2-chloroethyl)ether	0.2	ug/L
Bis(2-chloroisopropyl)ether	0.3	ug/L
Bis(2-ethylhexyl)phthalate	0.3	ug/L
Bromacil	0.03	ug/L
Bromobenzene	0.03	ug/L
Bromochloroacetic acid	2	ug/L
Bromodichloromethane	0.1	ug/L
Bromoform	0.06	ug/L
Bromomethane	0.2	ug/L
Bromophenyl phenyl ether (4)	0.2	ug/L
Bromoxynil	0.005	ug/L
Butylbenzylphthalate	0.1	ug/L
Caffeine	0.02	ug/L
Carbamazepine	0.01	ug/L
Carbaryl	0.005	ug/L
Carbathiin	0.2	ug/L
Carbofuran	0.005	ug/L
Carbon Tetrachloride	0.07	ug/L
Cesium-137	0.2	Bq/L
Chloramphenicol	0.01	ug/L
Chloro-2-MethylPhenol (4)	0.01	ug/L
Chloro-3-methylphenol (4)	0.8	ug/L
Chlorobenzene	0.03	ug/L

7.17 METHOD DETECTION LIMITS

Analyte	MDL	Unit
Chloroethane	0.2	ug/L
Chloroethoxyethylene (2)	0.05	ug/L
Chloroform	0.05	ug/L
Chloromethane	0.1	ug/L
Chloronaphthalene (2)	0.2	ug/L
Chlorophenol (2)	0.2	ug/L
Chlorophenyl phenyl ether (4)	0.2	ug/L
Chlorothalonil	0.005	ug/L
Chlorotoluene (2)	0.05	ug/L
Chlorotoluene (4)	0.05	ug/L
Chlorpyrifos	0.005	ug/L
Chrysene	0.2	ug/L
Ciprofloxacin	0.02	ug/L
Clindamycin	0.01	ug/L
Clodinafop acid metabolite	0.07	ug/L
Clodinafop-propargyl	0.04	ug/L
Clofibric Acid	0.01	ug/L
Clopyralid	0.02	ug/L
Cocaine	0.01	ug/L
Codeine	0.05	ug/L
Cotinine	0.01	ug/L
Cyanazine	0.06	ug/L
Cyanide, dissolved	0.002	mg/L
Desethyl Atrazine	0.05	ug/L
Desisopropyl Atrazine	0.08	ug/L
Diazinon	0.005	ug/L
Dibenzo(a,h)pyrene	0.01	ug/L
Dibenzo(a,i)pyrene	0.01	ug/L
Dibenzo(a,l)pyrene	0.008	ug/L
Dibenzo(ah)anthracene	0.1	ug/L
Dibromo-3-chloropropane (1,2)	0.8	ug/L
Dibromoacetic acid	2	ug/L
Dibromochloromethane	0.04	ug/L
Dibromoethane (1,2)	0.07	ug/L
Dibromomethane	0.03	ug/L
Dicamba	0.005	ug/L
Dichloroacetic acid	2	ug/L
Dichlorobenzene (1,2)	0.03	ug/L
Dichlorobenzene (1,3)	0.03	ug/L
Dichlorobenzene (1,4)	0.05	ug/L
Dichloroethane (1,1)	0.07	ug/L
Dichloroethane (1,2)	0.05	ug/L
Dichloroethylene (1,1)	0.2	ug/L
Dichloroethylene, cis (1,2)	0.04	ug/L
Dichloroethylene, trans (1,2)	0.04	ug/L
Dichlorophenol (2,4)	0.1	ug/L
Dichloropropane (1,2)	0.07	ug/L
Dichloropropane (1,3)	0.04	ug/L
Dichloropropane (2,2)	0.1	ug/L
Dichloropropylene (1,1)	0.06	ug/L
Dichloropropylene cis (1,3)	0.03	ug/L
Dichloropropylene trans (1,3)	0.05	ug/L
Diclofenac	0.01	ug/L
Diclofop-methyl	0.02	ug/L

7.17 METHOD DETECTION LIMITS

Analyte	MDL	Unit
Dieldrin	0.005	ug/L
Diethyl phthalate	0.1	ug/L
Dimethoate	0.005	ug/L
Dimethyl phthalate	0.1	ug/L
Dimethylbenz(a)anthracene (7,12)	0.008	ug/L
Dimethylphenol (2,4)	0.3	ug/L
Di-n-butylphthalate	0.3	ug/L
Dinitrophenol (2,4)	0.7	ug/L
Dinitrotoluene (2,4)	0.3	ug/L
Dinitrotoluene (2,6)	0.2	ug/L
Di-n-octyl phthalate	0.2	ug/L
Diphenylhydrazine (1,2)	0.1	ug/L
Dissolved Organic Carbon	0.5	mg/L
Disulfoton	0.2	ug/L
Diuron	0.2	ug/L
Enrofloxacin	0.02	ug/L
EPTC	0.006	ug/L
Erythromycin	0.01	ug/L
Ethalfluralin	0.005	ug/L
Ethion	0.1	ug/L
Ethofumesate	0.005	ug/L
Ethyl benzene	0.02	ug/L
Ethylbenzene	0.02	ug/L
Fenoprofen	0.005	ug/L
Fenoxaprop-p-ethyl	0.04	ug/L
Fluazifop	0.04	ug/L
Fluoranthene	0.1	ug/L
Fluorene	0.1	ug/L
Fluoxetine	0.01	ug/L
Fluroxypyr	0.01	ug/L
Gemfibrozil	0.005	ug/L
Glufosinate	0.4	ug/L
Glyphosate	0.10	ug/L
Gross Alpha	0.12	Bq/L
Gross Beta	0.10	Bq/L
Haloacetic Acids, total (HAA5)	2	ug/L
Haloacetic Acids, total (HAA6)	2	ug/L
Hexachlorobenzene	0.1	ug/L
Hexachlorobutadiene	0.1	ug/L
Hexachlorocyclopentadiene	0.1	ug/L
Hexachloroethane	0.3	ug/L
Hexaconazole	0.009	ug/L
Hydroxy Carbofuran (3)	0.02	ug/L
Ibuprofen	0.005	ug/L
Imazamethabenz-methyl	0.05	ug/L
Imazamox	0.009	ug/L
Imazethapyr	0.02	ug/L
Indeno(1,2,3-cd)pyrene	0.2	ug/L
Indomethacin	0.05	ug/L
Iodine-131	0.3	Bq/L
Iprodione	0.02	ug/L
Isophorone	0.2	ug/L
Isopropylbenzene	0.03	ug/L
Ketoprofen	0.01	ug/L

7.17 METHOD DETECTION LIMITS

Analyte	MDL	Unit
Lead-210	0.02	Bq/L
Lincomycin	0.05	ug/L
Lindane (alpha-BHC)	0.005	ug/L
Lindane (gamma-BHC)	0.005	ug/L
Linuron	0.04	ug/L
Malathion	0.05	ug/L
MCPA	0.005	ug/L
MCPB	0.02	ug/L
MCPP	0.005	ug/L
Meclofenamic acid	0.01	ug/L
Mercury	0.0001	mg/L
Metalaxyl-M	0.03	ug/L
Methamphetamine	0.02	ug/L
Methomyl	0.2	ug/L
Methyl t-Butyl Ether (MTBE)	0.02	ug/L
Methyl Triclosan	0.01	ug/L
Methyl-4,6-dinitrophenol (2)	0.7	ug/L
Methylcholanthrene (3)	0.007	ug/L
Methylene Chloride	0.05	ug/L
Methylnaphthalene (1)	0.006	ug/L
Methylnaphthalene (2)	0.006	ug/L
Metolachlor	0.012	ug/L
Metribuzin	0.01	ug/L
Monobromoacetic acid	2	ug/L
Monochloroacetic acid	2	ug/L
Monuron	0.004	ug/L
N,N-diethyl-m-toluamide	0.005	ug/L
Naphthalene	0.2	ug/L
Napropamide	0.02	ug/L
Naproxen	0.005	ug/L
n-Butylbenzene	0.1	ug/L
NDMA	0.5	ng/L
Nitrilotriacetic acid	0.05	mg/L
Nitrobenzene	0.2	ug/L
Nitrophenol (2)	0.3	ug/L
Nitrophenol (4)	0.1	ug/L
N-Nitroso-di-n-propylamine	0.2	ug/L
N-Nitrosodiphenylamine	0.1	ug/L
Norfloxacin	0.02	ug/L
Norfluoxetine	0.02	ug/L
n-Propylbenzene	0.02	ug/L
Ofloxacin	0.02	ug/L
Oxolinic acid	0.01	ug/L
Oxycarboxin	0.05	ug/L
p, p' - Methoxychlor	0.03	ug/L
Parathion	0.01	ug/L
Pentachlorophenol	0.6	ug/L
Pentoxifylline	0.5	ug/L
Perylene	0.006	ug/L
Phenanthrene	0.2	ug/L
Phenol	0.1	ug/L
Phorate	0.005	ug/L
Picloram	0.022	ug/L
Pipemidic acid	0.5	ug/L

7.17 METHOD DETECTION LIMITS

Analyte	MDL	Unit
p-Isopropyltoluene	0.04	ug/L
Propiconazole	0.05	ug/L
Pyrene	0.1	ug/L
Pyridaben	0.02	ug/L
Quinclorac	0.005	ug/L
Quizalofop	0.03	ug/L
Radium-226	0.005	Bq/L
Retene	0.007	ug/L
Salicylic acid	0.025	ug/L
sec-Butylbenzene	0.05	ug/L
Simazine	0.01	ug/L
Strontium-90	0.1	Bq/L
Styrene	0.02	ug/L
Sulfabenzamide	0.05	ug/L
Sulfadimethoxine	0.05	ug/L
Sulfadoxine	0.05	ug/L
Sulfamerazine	0.05	ug/L
Sulfamethazine	0.05	ug/L
Sulfamethoxazole	0.05	ug/L
Sulfapyridine	0.05	ug/L
Sulfaquinoxaline	0.05	ug/L
Sulfathiazole	0.05	ug/L
Sulphide	0.002	mg/L
Terbufos	0.03	ug/L
tert-Butylbenzene	0.08	ug/L
Tetrachloroethane (1,1,1,2)	0.05	ug/L
Tetrachloroethane (1,1,2,2)	0.2	ug/L
Tetrachloroethylene	0.06	ug/L
Tetrachlorophenol (2,3,4,6)	0.4	ug/L
Thiamethoxam	0.05	ug/L
Tolfenamic acid	0.005	ug/L
Toluene	0.03	ug/L
Total Kjeldahl Nitrogen (TKN)	0.03	mg/L
Total Organic Carbon	0.6	mg/L
Triallate	0.005	ug/L
Trichloroacetic acid	2	ug/L
Trichlorobenzene (1,2,3)	0.05	ug/L
Trichlorobenzene (1,2,4)	0.2	ug/L
Trichlorocarbanilide (3,4,4)	0.025	ug/L
Trichloroethane (1,1,1)	0.1	ug/L
Trichloroethane (1,1,2)	0.06	ug/L
Trichloroethylene	0.2	ug/L
Trichlorofluoromethane	0.09	ug/L
Trichlorophenol (2,4,6)	0.7	ug/L
Trichloropropane (1,2,3)	0.2	ug/L
Triclopyr	0.01	ug/L
Triclosan	0.025	ug/L
Trifluralin	0.005	ug/L
Trimethoprim	0.02	ug/L
Trimethylbenzene (1,2,4)	0.04	ug/L
Trimethylbenzene (1,3,5)	0.04	ug/L
Tritium	15	Bq/L
Vinclozolin	0.04	ug/L
Vinyl Chloride	0.06	ug/L

7.17 METHOD DETECTION LIMITS

Analyte	MDL	Unit
Xylene (m,p)	0.07	ug/L
Xylene (o)	0.02	ug/L
Xylenes	0.02	ug/L

7.18 EXPLANATION OF NOTATIONS USED

Concentrations are reported as mg/L unless otherwise indicated.
Alkalinity and Hardness (Ca and Total) are reported as mg $CaCO_3$/L

%T	=	% Transmission
- ve	=	Absent
+ ve	=	Present
µg/L	=	Micrograms per litre (1 µg/L = 0.001 mg/L)
µS/cm	=	Microsiemens per centimeter (unit of conductivity)
2/Y	=	Twice per Year
AO	=	Aesthetic Objective
Bq/L	=	Becquerel(s) per litre (unit of radionuclide concentration)
CCPP	=	Calcium Carbonate Precipitation Potential
CFU	=	Colony Forming Units
Comm	=	Commercial Laboratories
D	=	Daily
EWSI	=	EPCOR Water Services Inc.
FPA	=	Flavour Profile Analysis
GCDWQ	=	Guidelines for Canadian Drinking Water Quality
GM	=	Geometric Mean
HPC	=	Heterotrophic Plate Count
inoff	=	Inoffensive (no objectionable odour)
M	=	Monthly
MAC	=	Maximum Acceptable Concentration
MDL	=	Method Detection Limit
N/A	=	Not Available
ND	=	Not Detected
NTU	=	Nephelometric Turbidity Units
PA	=	Presence/Absence Testing
PBR	=	Performance Based Rates
PHP	=	phenolphthalein
PLPH	=	Provincial Laboratory of Public Health
ppb	=	Parts Per Billion
ppm	=	Parts Per Million
Q	=	Quarterly
QA	=	Quality Assurance
QC	=	Quality Control
TCU	=	True Colour Units
TDS	=	Total Dissolved Solids
TOC	=	Total Organic Carbon
WL	=	Water Laboratory
WTP	=	Water Treatment Plant