

Water Quality 2018

7.1 Water Quality Objectives for EPCOR

2018

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)	
Microorganism Log Removal at			
<i>Giardia</i>	≥5.5	≥6.0 (2)	>6.5
<i>Cryptosporidium</i>	≥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 January 2017 Summary of Epcor Edmonton Water Quality Standards.

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

2018

Parameter	Unit	MAC*	Average	Median	Min	Max	Count
Alkalinity Total	mg CaCO3/L		126	118	66	167	730
Aluminum	mg/L	(0.1/0.2)	0.029	0.065	0.022	0.105	24
Arsenic	mg/L	0.01	0.0003	0.0003	<0.0002	0.0004	24
Bromate Dissolved	mg/L	0.01	<0.005	<0.020	<0.020	<0.020	200
Bromodichloromethane	µg/L		<0.5	<0.5	<0.5	2.0	732
Cadmium	mg/L	0.005	<0.0002	<0.0002	<0.0002	<0.0002	24
Calcium Hardness	mg CaCO3/L		117	111	81	140	730
Chlorate Dissolved	mg/L	1	<0.1	<0.5	<0.5	<0.5	200
Chloride Dissolved	mg/L	(250)	4.36	5.24	2.95	17.50	200
Chlorite Dissolved	mg/L	1	<0.01	<0.20	<0.20	<0.20	199
Chromium	mg/L	0.05	<0.0002	<0.0002	<0.0002	0.0004	24
Colour	TCU	(15)	<0.9	<1.0	<1.0	2.2	730
Conductivity	µS/cm	(<1)	392	380	336	456	104
Copper	mg/L	(1)	<0.0050	<0.0053	<0.0053	<0.0053	24
Cryptosporidium	oocysts/100L		<0.1	<0.1	<0.1	<0.1	36
Fluoride	mg/L		0.67	0.68	0.62	0.75	184
Giardia	cysts/100L		<0.1	<0.1	<0.1	<0.1	36
Haloacetic Acids, total (HAA5)	ug/L	80	10.8	14.4	8.0	41.6	24
Hardness, Total	mg CaCO3/L		181	168	116	229	730
Iron	mg/L	(0.3)	<0.0050	<0.0053	<0.0053	<0.0053	24
Lead	mg/L	0.01	<0.0002	<0.0002	<0.0002	<0.0002	24
Manganese	mg/L	(0.05)	<0.0020	<0.0021	<0.0021	0.0320	24
Mercury	mg/L	0.001	<0.0002	<0.0002	<0.0002	<0.0002	24
NDMA	ng/L	40	4.9	1.3	<0.5	12.6	24
Nitrate (as N) Dissolved	mg/L	10	0.059	0.054	<0.050	0.574	200
Nitrite (as N) Dissolved	mg/L	1	<0.01	<0.02	<0.02	<0.02	200
pH	N/A	(6.5-8.5)	7.8	7.8	7.4	8.2	730
Potassium	mg/L		0.60	0.70	0.60	2.55	24
Sodium	mg/L	(200)	10.14	8.05	3.22	32.90	24
Sulphate Dissolved	mg/L	(500)	66.7	63.4	52.6	119.6	200
Total Chlorine	N/A		1.98	2.09	1.72	2.57	590
Total Dissolved Solids	mg/L	(500)	217	215	198	266	24
Total Organic Carbon	mg/L C		1.5	1.7	<0.6	6.8	106
Trihalomethanes	µg/L	100	6.9	11.3	3.4	33.6	730
Turbidity	NTU		0.05	0.05	0.03	0.40	730
Uranium	mg/L	0.02	<0.0005	<0.0005	<0.0005	0.0006	24
Zinc	mg/L	(5)	<0.0050	<0.0053	<0.0053	0.0060	24

Bacteriological Data

Coliforms, total	PA/100mL		Absent	Absent	Absent	Absent	731
E. coli	PA/100mL		Absent	Absent	Absent	Absent	731

* 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 - 2018

Testing of the Edmonton Drinking Water

Drinking Water Testing		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Water Treatment Plant	# Tests	7,446	6,694	7,587	7,393	7,597	7,186	7,475	7,493	7,229	7,458	7,611	7,818	88,987
	# Samples	321	280	347	350	306	263	270	298	276	271	274	280	3,536
Field Reservoirs	# Tests	675	700	620	700	692	1,053	1,107	725	720	775	750	725	9,242
	# Samples	55	44	44	44	59	52	63	49	48	59	48	49	614
Routine Distribution System	# Tests	1,210	1,082	1,086	1,082	1,448	1,249	1,378	1,322	1,296	1,314	1,131	991	14,589
	# Samples	162	153	153	153	208	180	187	192	187	191	165	158	2,089
System Depressurization/Repair	# Tests	304	404	256	234	465	320	454	300	248	252	232	164	3,633
	# Samples	76	101	64	59	114	80	114	75	62	64	58	41	908
Customer Complaints	# Tests	401	234	368	166	200	233	204	598	297	269	596	634	4,200
	# Samples	7	5	6	3	4	5	4	11	5	5	10	12	77
Externally Contracted Analyses	# Tests	238	242	228	214	240	214	232	210	186	186	12	13	2,215
	# Samples	119	121	114	107	120	107	116	105	93	25	8	9	1,044
Total	# Tests	10,274	9,356	10,145	9,789	10,642	10,255	10,850	10,648	9,976	10,254	10,332	10,345	122,866
	# Samples	740	704	728	716	811	687	754	730	671	592	557	542	8,232

Additional Testing		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
New Watermain Testing	# Tests	65	20	5	50	95	60	75	180	165	165	315	129	1,324
	# Samples	13	4	1	10	19	12	15	36	33	33	63	26	265
Water Treatment Plant Waste Discharge	# Tests	8	8	12	8	8	8	8	10	8	185	50	57	370
	# Samples	4	4	6	4	4	4	4	5	4	42	35	32	148
Quality Control	# Tests	8,066	7,212	8,695	7,691	8,268	7,900	8,796	8,454	7,986	732	217	683	74,700
	# Samples	132	108	128	120	135	127	144	137	134	128	60	476	1,829
Total	# Tests	8,139	7,240	8,712	7,749	8,371	7,968	8,879	8,644	8,159	1,082	582	869	76,394
	# Samples	149	116	135	134	158	143	163	178	171	203	158	534	2,242

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Total	# Tests	18,450	16,619	19,110	17,790	19,070	18,257	19,774	19,340	18,176	11,336	10,914	11,214	200,050
	# Samples	758	713	736	731	834	703	773	771	708	795	715	1,076	9,313

7.4 Bacteriological Data: Water Treatment Plants

2018

Treated Water Entering the Distribution System

	# of +VE Samples		# of Samples		Limit	Required Frequency - Each Plant*	Unit
	Rossdale	Smith	Rossdale	Smith			
Coliforms, total	0	0	365	365	0/100 mL	[Daily]	PA/100mL
E. coli	0	0	365	365	0/100 mL	[Daily]	PA/100mL
Heterotrophic Plate Count	134	139	365	365	N/A	[Daily]	CFU/mL

Water Entering the Plant Reservoir

	# of +VE Samples		# of Samples		Limit	Required Frequency - Each Plant*	Unit
	Rossdale	Smith	Rossdale	Smith			
Coliforms, total	0	0	364	365	N/A	[Daily]	PA/100mL
E. coli	0	0	364	365	N/A	[Daily]	PA/100mL
Heterotrophic Plate Count	138	139	364	365	N/A	[Daily]	CFU/mL

Raw River Water Entering the Treatment Plants

							Limits		Unit		
	ROSSDALE			E.L. SMITH			Rossdale	Smith		GCDWQ or Approval	Required Frequency - Each Plant*
	Mean	Min	Max	Mean	Min	Max	# of Samples				
Coliforms, total	3,351	0	31,000	1,285	158	17,000	364	55	N/A	[Weekly]	MPN/100 mL
E. coli	561	0	12,000	115	16	550	366	55	N/A	[Weekly]	MPN/100 mL
Heterotrophic Plate Count	1,624	10	9,900	2,010	62	21,000	13	12	N/A	[Monthly]	[CFU/mL]

* Indicates EPCOR Operations Program.

**7.5 Bacteriological Data: Distribution System
2018**

	Coliforms, total			E. coli			HPC		
	Count	# +ve	% +ve	Count	# +ve	% +ve	Count	# +ve	% +ve
January									
FIELD DISTRIBUTION	105	0	0.0	105	0	0.0	104	9	8.7
FIELD DISTRIBUTION - PLPH	54	0	0.0	54	0	0.0	0	0	0.0
FIELD RESERVOIR	55	0	0.0	55	0	0.0	55	0	0.0
FIELD RESERVOIR - PLPH (duplicate-not counted)	66	0	0.0	66	0	0.0	0	0	0.0
Monthly	214	0	0.0	214	0	0.0	159	9	5.7
February									
FIELD DISTRIBUTION	96	0	0.0	96	0	0.0	96	3	3.1
FIELD DISTRIBUTION - PLPH	63	0	0.0	63	0	0.0	0	0	0.0
FIELD RESERVOIR	47	0	0.0	47	0	0.0	44	0	0.0
FIELD RESERVOIR - PLPH (duplicate-not counted)	55	0	0.0	55	0	0.0	0	0	0.0
Monthly	206	0	0.0	206	0	0.0	140	3	2.1
March									
FIELD DISTRIBUTION	97	0	0.0	97	0	0.0	97	6	6.2
FIELD DISTRIBUTION - PLPH	57	0	0.0	57	0	0.0	0	0	0.0
FIELD RESERVOIR	45	0	0.0	45	0	0.0	44	1	2.3
FIELD RESERVOIR - PLPH (duplicate-not counted)	56	0	0.0	56	0	0.0	0	0	0.0
Monthly	199	0	0.0	199	0	0.0	141	7	5.0
April									
FIELD DISTRIBUTION	97	0	0.0	97	0	0.0	97	7	7.2
FIELD DISTRIBUTION - PLPH	57	0	0.0	57	0	0.0	0	0	0.0
FIELD RESERVOIR	44	0	0.0	44	0	0.0	44	1	2.3
FIELD RESERVOIR - PLPH (duplicate-not counted)	50	0	0.0	50	0	0.0	0	0	0.0
Monthly	198	0	0.0	198	0	0.0	141	8	5.7
May									
FIELD DISTRIBUTION	152	1	0.7	152	0	0.0	152	15	9.9
FIELD DISTRIBUTION - PLPH	58	0	0.0	58	0	0.0	0	0	0.0
FIELD RESERVOIR	60	0	0.0	60	0	0.0	58	4	6.9
FIELD RESERVOIR - PLPH (duplicate-not counted)	60	0	0.0	60	0	0.0	0	0	0.0
Monthly	270	1	0.4	270	0	0.0	210	19	9.0
June									
FIELD DISTRIBUTION	124	0	0.0	124	0	0.0	124	5	4.0
FIELD DISTRIBUTION - PLPH	57	0	0.0	57	0	0.0	0	0	0.0
FIELD RESERVOIR	53	0	0.0	53	0	0.0	52	1	1.9
FIELD RESERVOIR - PLPH (duplicate-not counted)	49	0	0.0	49	0	0.0	0	0	0.0
Monthly	234	0	0.0	234	0	0.0	176	6	3.4
July									
FIELD DISTRIBUTION	131	0	0.0	131	0	0.0	131	4	3.1
FIELD DISTRIBUTION - PLPH	57	0	0.0	57	0	0.0	0	0	0.0
FIELD RESERVOIR	63	0	0.0	63	0	0.0	63	1	1.6
FIELD RESERVOIR - PLPH (duplicate-not counted)	59	0	0.0	59	0	0.0	0	0	0.0
Monthly	251	0	0.0	251	0	0.0	194	5	2.6

**7.5 Bacteriological Data: Distribution System
2018**

	Coliforms, total			E. coli			HPC		
	Count	# +ve	% +ve	Count	# +ve	% +ve	Count	# +ve	% +ve
August									
FIELD DISTRIBUTION	136	0	0.0	136	0	0.0	136	59	43.4
FIELD DISTRIBUTION - PLPH	57	0	0.0	57	0	0.0	0	0	0.0
FIELD RESERVOIR	49	0	0.0	49	0	0.0	49	16	32.7
FIELD RESERVOIR - PLPH (duplicate-not counted)	48	0	0.0	48	0	0.0	0	0	0.0
Monthly	242	0	0.0	242	0	0.0	185	75	40.5
September									
FIELD DISTRIBUTION	131	0	0.0	131	0	0.0	131	131	100.0
FIELD DISTRIBUTION - PLPH	56	0	0.0	56	0	0.0	0	0	0.0
FIELD RESERVOIR	48	0	0.0	48	0	0.0	48	48	100.0
FIELD RESERVOIR - PLPH (duplicate-not counted)	37	0	0.0	37	0	0.0	0	0	0.0
Monthly	235	0	0.0	235	0	0.0	179	179	100.0
October									
FIELD DISTRIBUTION	133	0	0.0	133	0	0.0	133	133	100.0
FIELD DISTRIBUTION - PLPH	56	0	0.0	56	0	0.0	0	0	0.0
FIELD RESERVOIR	59	0	0.0	59	0	0.0	59	59	100.0
FIELD RESERVOIR - PLPH (duplicate-not counted)	58	0	0.0	58	0	0.0	0	0	0.0
Monthly	248	0	0.0	248	0	0.0	192	192	100.0
November									
FIELD DISTRIBUTION	107	0	0.0	107	0	0.0	107	107	100.0
FIELD DISTRIBUTION - PLPH	55	0	0.0	55	0	0.0	0	0	0.0
FIELD RESERVOIR	53	0	0.0	53	0	0.0	53	53	100
FIELD RESERVOIR - PLPH (duplicate-not counted)	60	0	0.0	60	0	0.0	0	0	0.0
Monthly	215	0	0.0	215	0	0.0	160	160	100.0
December									
FIELD DISTRIBUTION	102	0	0.0	102	0	0.0	102	102	100.0
FIELD DISTRIBUTION - PLPH	56	0	0.0	56	0	0.0	0	0	0.0
FIELD RESERVOIR	55	0	0.0	55	0	0.0	55	55	100.0
FIELD RESERVOIR - PLPH (duplicate-not counted)	48	0	0.0	48	0	0.0	0	0	0.0
Monthly	213	0	0.0	213	0	0.0	157	157	100.0
Year to Date	2,725	1	0.0	2,725	0	0.0	2,034	820	40.3

Guidelines for Canadian Drinking Water Quality recommend 180 bacteriological samples for a city the size of Edmonton based on 2016 Census with a population of 899,447. Total Coliform and E.coli testing is required in the AEP Approval. HPC bacteria testing is additional testing and is not required by approval.

In August 2018, the analytical method for HPC bacteria was modified to increase the sensitivity and lower the detection limit.

**7.5 Bacteriological Data: Distribution System
2018**

	Coliforms, total			E. coli			HPC					
	Count	# +ve	% +ve	Count	# +ve	% +ve	Count	# +ve	% +ve			
Samples from Complaints												
January	7	0	0.0	7	0	0.0	7	1	14.3			
February	5	0	0.0	5	0	0.0	5	0	0.0			
March	6	0	0.0	6	0	0.0	6	0	0.0			
April	3	0	0.0	3	0	0.0	3	0	0.0			
May	4	0	0.0	4	0	0.0	4	0	0.0			
June	5	0	0.0	5	0	0.0	5	0	0.0			
July	4	0	0.0	4	0	0.0	4	1	25.0			
August	11	0	0.0	11	0	0.0	11	6	54.5			
September	5	0	0.0	5	0	0.0	5	5	100.0			
October	5	0	0.0	5	0	0.0	5	5	100.0			
November	10	0	0.0	10	0	0.0	10	10	100.0			
December	12	0	0.0	12	0	0.0	12	12	100.0			
	Year to Date			77	0	0.0	77	0	0.0	77	40	51.9
Samples from Depressurizations												
January	76	0	0.0	76	0	0.0	0	0	0.0			
February	101	0	0.0	101	0	0.0	0	0	0.0			
March	64	0	0.0	64	0	0.0	0	0	0.0			
April	59	0	0.0	59	0	0.0	0	0	0.0			
May	115	1	0.9	115	0	0.0	9	2	22.2			
June	80	0	0.0	80	0	0.0	0	0	0.0			
July	113	6	5.3	113	0	0.0	0	0	0.0			
August	75	0	0.0	75	0	0.0	0	0	0.0			
September	62	1	1.6	62	0	0.0	0	0	0.0			
October	63	0	0.0	63	0	0.0	0	0	0.0			
November	58	0	0.0	58	0	0.0	0	0	0.0			
December	41	0	0.0	41	0	0.0	0	0	0.0			
	Year to Date			907	8	0.9	907	0	0.0	9	2	22.2

7.6 Giardia and Cryptosporidium

2018

Treated Water entering the distribution system

	Cryptosporidium		Giardia	
	oocysts/100L		cysts/100L	
	E.L. Smith	Rossdale	E.L. Smith	Rossdale
2 - Jan	<0.1	<0.1	<0.1	<0.1
12 - Feb		<0.1		<0.1
13 - Mar	<0.1	<0.1	<0.1	<0.1
20 - Mar		<0.1		<0.1
3 - Apr	<0.1	<0.1	<0.1	<0.1
16 - Apr		<0.1		<0.1
7 - May		<0.1		<0.1
22 - May	<0.1		<0.1	
6 - Jun		<0.1		<0.1
12 - Jun	<0.1		<0.1	
3 - Jul	<0.1	<0.1	<0.1	<0.1
7 - Aug	<0.1		<0.1	
13 - Aug		<0.1		<0.1
4 - Sep	<0.1		<0.1	
11 - Sep		<0.1		<0.1
24 - Sep	<0.1	<0.1	<0.1	<0.1
19 - Nov		<0.1		<0.1
23 - Nov	<0.1		<0.1	
3 - Dec		<0.1		<0.1
4 - Dec	<0.1		<0.1	

Water entering plant reservoir

	Cryptosporidium		Giardia	
	oocysts/100L		cysts/100L	
	E.L. Smith	Rossdale	E.L. Smith	Rossdale
2 - Jan	<0.1	<0.1	<0.1	<0.1
12 - Feb		<0.1		<0.1
13 - Feb	<0.1		<0.1	
13 - Mar	<0.1	<0.1	<0.1	0.1
20 - Mar		<0.1		<0.1
3 - Apr	<0.1	<0.1	<0.1	<0.1
16 - Apr		<0.1		<0.1
7 - May		<0.1		<0.1
22 - May	<0.1		<0.1	
6 - Jun		<0.1		<0.1
12 - Jun	<0.1		<0.1	
25 - Jun	<0.1		<0.1	
3 - Jul	<0.1	<0.1	<0.1	<0.1
7 - Aug	<0.1		<0.1	
13 - Aug		<0.1		<0.1
4 - Sep	<0.1		<0.1	
11 - Sep		<0.1		<0.1
24 - Sep	<0.1	<0.1	<0.1	<0.1
27 - Dec		<0.1		<0.1
28 - Dec	<0.1		<0.1	

7.6 Giardia and Cryptosporidium

2018

Raw Water

	Cryptosporidium		Giardia	
	oocysts/100L		cysts/100L	
	E.L. Smith	Rossdale	E.L. Smith	Rossdale
2 - Jan	<1.0	<0.7	<1.0	3.6
15 - Jan		<1.0		13
29 - Jan	<0.9	<5.5	3.6	17
12 - Feb		<2.0		35
13 - Feb	<1.1		2.2	
26 - Feb	<0.8	<0.9	9.8	34
13 - Mar	<1.0	<0.7	2.9	7.9
26 - Mar	<1.0	<1.2	9.7	9.5
3 - Apr	<0.1	<0.1	6.1	<0.1
5 - Apr		<0.9		11
16 - Apr		<13		52
7 - May		<110		<110
22 - May	<10		90	
6 - Jun		<3.3		150
12 - Jun	<6.2		12	
3 - Jul	<4.4	<10	8.7	10
7 - Aug	<2.8		5.7	
13 - Aug		<1.9		7.5
4 - Sep	1.0		7.9	
11 - Sep		6.7		12
17 - Sep	<2.5	<2.8	2.5	8.3
24 - Sep	<1.2	<1.4	<1.2	1.4
19 - Nov		<1.8		3.5
23 - Nov	<1.7		<1.7	
3 - Dec		<1.6		<1.6
4 - Dec	<7.0		<7.0	
17 - Dec	<1.1	<1.3	2.2	6.5

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

2018

									Limits	
	ROSSDALE				E.L. SMITH				*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Physical										
Colour (TCU)	<1	<1	2	364	<1	<1	2	365	(15)	10
Conductivity (uS/cm)	381	336	436	52	386	349	456	52	(<1)	<1
FPA-Intensity (N/A)	0.73	0.31	1.50	83	0.68	0.31	1.56	83		
pH (N/A)	7.9	7.5	8.1	365	7.8	7.4	8.2	365	(6.5-8.5)	7.3-8.3
Total Dissolved Solids (mg/L)	220	199	261	12	225	198	266	12	(500)	
Turbidity (NTU)	0.05	0.03	0.40	365	0.05	0.03	0.10	365		0.3
Primary Inorganics (mg/L) **										
Antimony	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12	0.006	
Arsenic	0.0003	<0.0002	0.0004	12	0.0003	<0.0002	0.0003	12	0.01	
Barium	0.060	0.052	0.082	12	0.061	0.049	0.088	12	1	
Boron	0.009	0.006	0.013	12	0.009	0.006	0.013	12	5	
Bromate Dissolved	<0.005	<0.003	<0.020	100	<0.004	<0.003	<0.010	100	0.01	
Cadmium	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12	0.005	
Chlorate Dissolved	<0.117	<0.030	<0.500	100	<0.080	<0.025	<0.124	100	1	
Chlorite Dissolved	<0.072	<0.005	<0.200	99	<0.073	<0.005	<0.200	100	1	
Chromium	<0.0002	<0.0002	0.0004	12	<0.0002	<0.0002	0.0004	12	0.05	
Cyanide Dissolved	<0.002	<0.002	0.002	12	<0.002	<0.002	0.003	12		
Fluoride	0.68	0.64	0.73	92	0.68	0.62	0.75	92		
Fluoride Dissolved	0.68	0.59	0.75	273	0.66	0.53	0.76	273	1.5	0.6-0.8
Lead	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12	0.01	
Mercury	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12	0.001	
Nitrate (as N) Dissolved	0.066	<0.005	0.574	100	0.062	<0.005	0.428	100	10	
Nitrite (as N) Dissolved	<0.005	<0.005	<0.020	100	<0.005	<0.005	<0.010	100	1	
Selenium	<0.0002	<0.0002	0.0003	12	<0.0002	<0.0002	0.0003	12	0.01	
Total Chlorine	2.12	1.70	2.50	365	2.09	1.83	2.57	366	0.5 - 3.0	1.0 -2.4
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

2018

									Limits	
	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	<0.007	4	<0.007	<0.005	<0.007	4	100	
2,4-Dichlorophenol	<0.01	<0.01	0.02	4	<0.01	<0.01	0.02	4		
Atrazine	<0.003	<0.002	<0.005	4	<0.003	<0.002	<0.005	4	5	
Benzene	<0.5	<0.1	<0.5	372	<0.5	<0.1	<0.5	372	5	
Benzo(a)pyrene	<0.05	<0.01	<0.10	8	<0.05	<0.01	<0.10	8	0.01	
Bromoxynil	<0.024	<0.005	<0.030	4	<0.024	<0.005	<0.030	4	5	
Carbon Tetrachloride	<1.0	<0.1	<1.0	374	<1.0	<0.1	<1.0	374	2	
Chlorobenzene	<0.49	<0.03	<0.50	372	<0.49	<0.03	<0.50	372	80 (30)	
Chlorpyrifos	<0.003	<0.002	<0.005	4	<0.003	<0.002	<0.005	4	90	
Cyanazine	<0.023	<0.010	<0.060	4	<0.023	<0.010	<0.060	4		
Diazinon	<0.004	<0.004	<0.005	4	<0.004	<0.004	<0.005	4	20	
Dicamba	<0.003	<0.002	<0.005	4	<0.003	<0.002	<0.005	4	120	
Dichlorobenzene (1,2)	<0.49	<0.03	<0.50	372	<0.49	<0.03	<0.50	372	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.1	<0.5	372	<0.5	<0.1	<0.5	372	5 (1)	
Dichloroethane (1,2)	<0.2	<0.1	<0.5	7	<0.2	<0.1	<0.5	7	5	
Dichloroethylene (1,1)	<3.0	<0.1	<3.0	372	<3.0	<0.1	<3.0	372	14	
Dichlorophenol (2,4)	<0.10	<0.10	<0.10	4	<0.10	<0.10	<0.10	4	9 (0.3)	
Diclofop-methyl	<0.01	<0.01	<0.02	4	<0.01	<0.01	<0.02	4		
Dimethoate	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	20	
Diuron	<0.2	<0.2	<0.2	6	<0.2	<0.2	<0.2	6	150	
Ethylbenzene	<0.50	<0.02	<0.50	371	<0.50	<0.02	<0.50	371	140 (1.6)	
Glyphosate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4	280	
Haloacetic Acids, (HAA5)	17.6	8.4	41.6	12	16.3	8.0	40.1	12	80	40
Malathion	<0.035	<0.030	<0.050	4	<0.035	<0.030	<0.050	4	190	
MCPA	<0.009	<0.005	<0.010	4	<0.009	<0.005	<0.010	4	100	
Methylene Chloride	<0.5	<0.1	<0.5	372	<0.5	<0.1	<0.5	372	50	
Metolachlor	<0.008	<0.007	<0.012	4	<0.008	<0.007	<0.012	4	50	
Metribuzin	<0.004	<0.002	<0.010	4	<0.004	<0.002	<0.010	4	80	
Microcystin Total	<0.10	<0.10	<0.10	12	<0.10	<0.10	0.11	12		
NDMA (ng/L)	2.84	<0.50	12.60	12	1.29	<0.50	3.50	12	40	10
NTA (mg/L)	<0.24	<0.05	<0.30	4	<0.24	<0.05	<0.30	4		
Pentachlorophenol	<0.6	<0.6	<0.6	4	<0.6	<0.6	<0.6	4	60 (30)	
Perfluoro-n-Octanoic Acid (PFOA)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Perfluorooctane Sulfonate (PFOS)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Phorate	<0.004	<0.003	<0.005	4	<0.004	<0.003	<0.005	4	2	
Picloram	<0.013	<0.010	<0.022	4	<0.013	<0.010	<0.022	4	190	
Simazine	<0.006	<0.004	<0.010	4	<0.006	<0.004	<0.010	4	10	
Terbufos	<0.02	<0.01	<0.03	4	<0.02	<0.01	<0.03	4	1	
Tetrachloroethylene	<0.5	<0.1	<0.5	374	<0.5	<0.1	<0.5	374	10	
Tetrachlorophenol (2,3,4,6)	<0.4	<0.4	<0.4	4	<0.4	<0.4	<0.4	4	100 (1)	
Toluene	<0.50	<0.03	<0.50	372	<0.49	<0.03	<0.50	372	60 (24)	
Trichloroethylene	<0.50	<0.03	<0.50	374	<0.50	<0.03	<0.50	374	5	
Trichlorophenol (2,4,6)	<0.7	<0.7	<0.7	4	<0.7	<0.7	<0.7	4	5 (2)	
Trifluralin	<0.003	<0.002	<0.005	4	<0.003	<0.002	<0.005	4	45	
Trihalomethanes	14.3	3.4	32.2	370	12.7	3.8	33.6	370	100	50
Vinyl Chloride	<0.5	<0.1	<1.0	7	<0.5	<0.1	<1.0	7	2	

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

2018

									Limits	
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	<0.14	<0.08	<0.20	2	<0.20	<0.20	<0.20	2	10	
Gross Alpha	<0.12	<0.11	<0.12	2	<0.12	<0.12	<0.12	2	(0.5)	
Gross Beta	<0.08	<0.06	0.10	2	<0.08	<0.06	<0.10	2	(1.0)	
Iodine-131	<0.40	<0.30	<0.50	2	<0.35	<0.30	<0.40	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		
Strontium-90	<0.1	<0.1	<0.1	2	<0.1	<0.1	<0.1	2	5	
Tritium	22	<15	28	2	<15	<15	<15	2	7000	
Secondary Inorganics (mg/L) ***										
Alkalinity Total (mg CaCO3/L)	117	66	167	365	119	80	149	365		
Aluminum	0.061	0.023	0.105	12	0.059	0.022	0.087	12	(0.1/0.2)	0.1/0.2
Ammonia as N	0.12	0.10	0.14	4	0.14	0.13	0.14	4		
Ammonia as NH3	0.13	0.06	0.21	85	0.14	0.05	0.20	85		
Beryllium	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12		
Bromide Dissolved	<0.023	<0.005	<0.300	100	<0.021	<0.005	<0.050	100		
Calcium	42.6	38.0	52.6	12	43.3	38.2	55.0	12		
Chloride Dissolved	6	3	18	100	6	4	11	100	(250)	
Chlorine Free	<0.030	<0.030	<0.030	99	<0.030	<0.030	<0.030	97		
Cobalt	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12		
Copper	<0.005	<0.005	<0.005	12	<0.005	<0.005	<0.005	12	(1)	
Hardness, Ca (mg CaCO3/L)	112	81	140	365	111	82	139	365		
Hardness, Total (mg CaCO3/L)	169	120	205	365	169	116	229	365		
Iron	<0.005	<0.005	<0.005	12	<0.005	<0.005	<0.005	12	(0.3)	0.3
Lithium	0.0030	0.0012	0.0037	12	0.0029	0.0015	0.0034	12		
Magnesium	12.7	9.4	16.0	12	12.9	9.6	16.4	12		
Manganese	0.004	<0.002	0.021	12	0.005	<0.002	0.032	12	(0.05)	
Molybdenum	0.0007	0.0006	0.0009	12	0.0007	0.0006	0.0009	12		
Nickel	<0.0006	<0.0005	0.0011	12	0.0008	<0.0005	0.0028	12		
Phosphate, Ortho (as P)	<0.02	<0.01	<0.02	12	<0.02	<0.01	<0.02	12		
Phosphorus	0.03	<0.02	0.05	12	0.04	<0.02	0.06	12		
Potassium	0.84	0.60	2.55	12	0.79	0.60	1.93	12		
Silicon	1.76	1.51	2.06	12	1.88	1.52	2.96	12		
Silver	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12		
Sodium	9.6	6.4	25.8	12	11.0	3.2	32.9	12	(200)	
Strontium	0.396	0.271	0.489	12	0.399	0.286	0.500	12		
Sulphate Dissolved	65	54	120	100	67	53	114	100	(500)	
Sulphide	<0.002	<0.002	0.002	9	<0.002	<0.002	0.002	9	(0.05)	
Sulphide, dissolved	<0.002	<0.002	<0.002	3	<0.002	<0.002	<0.002	3		
Thallium	<0.0005	<0.0005	<0.0005	12	<0.0005	<0.0005	<0.0005	12		
Tin	<0.0005	<0.0005	<0.0005	12	<0.0005	<0.0005	<0.0005	12		
Titanium	<0.0005	<0.0005	<0.0005	12	<0.0009	<0.0005	<0.0050	12		
Vanadium	<0.0005	<0.0005	<0.0006	12	<0.0009	<0.0005	<0.0050	12		
Zinc	<0.005	<0.005	<0.005	12	<0.005	<0.005	0.006	12	(5)	
Zirconium	<0.0005	<0.0005	0.0006	12	<0.0005	<0.0005	<0.0005	12		

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

2018

									Limits	
	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	<0.008	<0.005	<0.009	4	<0.008	<0.005	<0.009	4		
2,4-DP	<0.004	<0.003	<0.005	4	<0.004	<0.003	<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	<0.1	<0.1	<0.1	6	<0.1	<0.1	<0.1	6		
Aldicarb sulfone	<0.20	<0.20	<0.20	5	<0.20	<0.20	<0.20	5		
Aldicarb sulfoxide	<0.10	<0.10	<0.10	5	<0.10	<0.10	<0.10	5		
Aldrin	<0.005	<0.004	<0.009	4	<0.005	<0.004	<0.009	4		
alpha-Endosulfan	<0.004	<0.003	<0.005	4	<0.004	<0.003	<0.005	4		
Aminocarb	<0.020	<0.020	<0.020	5	<0.020	<0.020	<0.020	5		
Aminomethyl Phosphonic Acid	<0.3	<0.3	<0.3	4	<0.3	<0.3	<0.3	4		
Aminopyralid	<0.05	<0.03	<0.05	4	<0.05	<0.03	<0.05	4		
Anthracene	<0.10	<0.01	<0.20	8	<0.10	<0.01	<0.20	8		
Azinphos-methyl	<0.1	<0.1	<0.2	4	<0.1	<0.1	<0.2	4		
Azoxystrobin	<0.005	<0.005	<0.005	3	<0.005	<0.005	<0.005	3		
Benomyl	<0.010	<0.010	<0.010	5	<0.010	<0.010	<0.010	5		
Bentazon	<0.005	<0.005	<0.006	4	<0.005	<0.005	<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	0.03	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		
Benzoylcegonine	<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	0.4	4	<0.3	<0.3	0.4	4		
Bromacil	<0.053	<0.030	<0.060	4	<0.053	<0.030	<0.060	4		
Bromobenzene	<0.03	<0.03	<0.03	4	<0.03	<0.03	<0.03	4		
Bromochloroacetic acid	<1	<1	<1	12	<1	<1	<1	12		
Bromodichloromethane	<0.6	<0.5	2.0	374	<0.5	<0.5	1.3	374		16
Bromoform	<1.0	<0.1	<1.0	374	<1.0	<0.1	<1.0	374		
Bromomethane	<0.1	<0.1	<0.2	4	<0.1	<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	0.2	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	<0.005	<0.005	<0.005	5	<0.005	<0.005	<0.005	5		
Carbathiin	<0.200	<0.200	<0.200	4	<0.200	<0.200	<0.200	4		

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

2018

									Limits	
	ROSSDALE				E.L. SMITH				*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Organics (ug/L) ***										
Carbofuran	<0.005	<0.005	<0.005	5	<0.005	<0.005	<0.005	5		
Chloramphenicol	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Chloro-2-MethylPhenol (4)	<0.004	<0.002	<0.010	4	<0.004	<0.002	<0.010	4		
Chloro-3-methylphenol (4)	<0.8	<0.8	<0.8	4	<0.8	<0.8	<0.8	4		
Chloroethane	<0.1	<0.1	<0.2	4	<0.1	<0.1	<0.2	4		
Chloroethoxyethylene (2)	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Chloroform	14.2	3.4	32.2	374	12.8	3.8	33.6	374		
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	<0.024	<0.005	<0.030	4	<0.024	<0.005	<0.030	4		
Chlorotoluene (2)	<0.05	<0.05	<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	<0.104	<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	<0.025	<0.010	<0.070	4	<0.025	<0.010	<0.070	4		
Clodinafop-propargyl	<0.018	<0.010	<0.040	4	<0.018	<0.010	<0.040	4		
Clofibric Acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Clopyralid	<0.050	<0.020	<0.060	4	<0.050	<0.020	<0.060	4		
Clothianidin	<0.005	<0.005	<0.005	3	<0.005	<0.005	<0.005	3		
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		
Deltamethrin	<0.007	<0.007	<0.007	3	<0.007	<0.007	<0.007	3		
Desethyl Atrazine	<0.028	<0.020	<0.050	4	<0.028	<0.020	<0.050	4		
Desisopropyl Atrazine	<0.035	<0.020	<0.080	4	<0.035	<0.020	<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)	<1.5	<0.8	<2.1	4	<1.5	<0.8	<2.1	4		
Dibromoacetic acid	<1	<1	<1	12	<1	<1	<1	12		
Dibromochloromethane	<0.50	<0.04	<0.50	374	<0.50	<0.04	<0.50	374		
Dibromoethane (1,2)	<0.07	<0.07	<0.07	4	<0.07	<0.07	<0.07	4		
Dibromomethane	<0.03	<0.03	<0.03	4	<0.03	<0.03	<0.03	4		
Dichloroacetic acid	7	4	9	12	7	4	11	12		
Dichlorobenzene (1,3)	<0.49	<0.03	<0.50	372	<0.49	<0.03	<0.50	372		
Dichloroethane (1,1)	<0.05	<0.02	<0.07	4	<0.05	<0.02	<0.07	4		
Dichloroethylene, cis (1,2)	<0.50	<0.04	<0.50	372	<0.50	<0.04	<0.50	372		
Dichloroethylene, trans (1,2)	<0.50	<0.04	<0.50	372	<0.50	<0.04	<0.50	372		
Dichloropropane (1,2)	<0.5	<0.1	<0.5	372	<0.5	<0.1	<0.5	372		
Dichloropropane (1,3)	<0.04	<0.04	<0.04	4	<0.04	<0.04	<0.04	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	<0.06	<0.06	4		

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

2018

									Limits	
	ROSSDALE				E.L. SMITH				*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Organics (ug/L) ***										
Dichloropropylene cis (1,3)	<0.03	<0.03	<0.03	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	<0.007	<0.005	<0.008	4	<0.007	<0.005	<0.008	4		
Diethyl phthalate	<0.1	<0.1	0.1	4	<0.1	<0.1	0.1	4		
Difenoconazol	<0.004	<0.004	<0.004	3	<0.004	<0.004	<0.004	3		
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	<0.125	<0.100	<0.200	4	<0.125	<0.100	<0.200	4		
Enrofloxacin	<0.02	<0.02	<0.02	4	<0.02	<0.02	0.02	4		
EPTC	<0.006	<0.006	<0.006	5	<0.006	<0.006	<0.006	5		
Erythromycin	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Ethalfuralin	<0.024	<0.005	<0.030	4	<0.024	<0.005	<0.030	4		
Ethion	<0.09	<0.09	<0.10	4	<0.09	<0.09	<0.10	4		
Ethofumesate	<0.003	<0.002	<0.005	4	<0.003	<0.002	<0.005	4		
Fenoprofen	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Fenoxaprop-p-ethyl	<0.018	<0.010	<0.040	4	<0.018	<0.010	<0.040	4		
Fluazifop	<0.013	<0.004	<0.040	4	<0.013	<0.004	<0.040	4		
Fluoranthene	<0.05	<0.01	<0.10	8	<0.06	<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	<0.004	<0.002	<0.010	4	<0.004	<0.002	<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	<0.2	<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	<0.010	<0.009	<0.010	4	<0.010	<0.009	<0.010	4		
Hydroxy Carbofuran (3)	<0.020	<0.020	<0.020	5	<0.020	<0.020	<0.020	5		
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	<0.008	<0.007	<0.009	4	<0.008	<0.007	<0.009	4		
Imazethapyr	<0.013	<0.010	<0.020	4	<0.013	<0.010	<0.020	4		
Imidacloprid	<0.005	<0.005	<0.005	3	<0.005	<0.005	<0.005	3		
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	<0.013	<0.010	<0.020	4	<0.013	<0.010	<0.020	4		
Isophorone	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		

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

2018

									Limits	
	ROSSDALE				E.L. SMITH				*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Organics (ug/L) ***										
Isopropylbenzene	<0.03	<0.03	<0.03	4	<0.03	<0.03	<0.03	4	(15)	
Ketoprofen	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Lambda-Cyhalothrin	<0.020	<0.020	<0.020	3	<0.020	<0.020	<0.020	3		
Lincomycin	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Lindane (alpha-BHC)	<0.003	<0.002	<0.005	4	<0.003	<0.002	<0.005	4		
Lindane (gamma-BHC)	<0.003	<0.002	<0.005	4	<0.003	<0.002	<0.005	4		
Linuron	<0.025	<0.020	<0.040	4	<0.025	<0.020	<0.040	4		
MCPB	<0.035	<0.020	<0.040	4	<0.035	<0.020	<0.040	4		
MCPP	<0.008	<0.005	<0.009	4	<0.008	<0.005	<0.009	4		
Meclofenamic acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Metalaxyl-M	<0.011	<0.004	<0.030	4	<0.011	<0.004	<0.030	4		
Metconazol	<0.005	<0.005	<0.005	3	<0.005	<0.005	<0.005	3		
Methamphetamine	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Methomyl	<0.2	<0.2	<0.2	6	<0.2	<0.2	<0.2	6		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.0	<0.5	372	<0.5	<0.0	<0.5	372		
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	368	<1.0	<1.0	<1.0	368		
Monobromoacetic acid	<1	<1	<1	12	<1	<1	<1	12		
Monochloroacetic acid	<7	<5	22	12	<6	<5	18	12		
Monuron	<0.004	<0.004	<0.004	5	<0.004	<0.004	<0.004	5		
N,N-diethyl-m-toluamide	<0.006	<0.005	0.009	4	<0.005	<0.005	<0.005	4		
Naphthalene	<0.09	<0.01	<0.20	12	<0.09	<0.01	<0.20	12		
Napropamide	<0.01	<0.01	<0.02	4	<0.01	<0.01	<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	<0.02	<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	<0.02	<0.01	<0.05	4	<0.02	<0.01	<0.05	4		
p, p' - Methoxychlor	<0.02	<0.01	<0.03	4	<0.02	<0.01	<0.03	4		
Parathion	<0.006	<0.005	<0.010	4	<0.006	<0.005	<0.010	4		
Pentoxifylline	<0.500	<0.500	<0.500	4	<0.500	<0.500	<0.500	4		
Perfluorobutane Sulfonate (PFBS)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Perfluorobutanoic acid	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Perfluorodecane Sulfonate	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		

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

2018

									Limits	
	ROSSDALE				E.L. SMITH				*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Organics (ug/L) ***										
Perfluorodecanoic Acid (PFDA)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Perfluorododecanoic Acid (PFDoA)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Perfluoroheptane sulfonate	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Perfluoroheptanoic Acid (PFHpA)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Perfluorohexane Sulfonate (PFHxS)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Perfluorohexanoic Acid (PFHxA)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Perfluorononanoic Acid (PFNA)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Perfluorooctane Sulfonamide	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Perfluoropentanoic Acid (PFPeA)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Perfluorotetradecanoic Acid	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Perfluorotridecanoic Acid	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Perfluoroundecanoic Acid (PFUnA)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Permethrin	<0.004	<0.004	<0.004	3	<0.004	<0.004	<0.004	3		
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		
Picoxystrobin	<0.005	<0.005	<0.005	3	<0.005	<0.005	<0.005	3		
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	<0.04	<0.04	<0.04	4		
Propiconazole	<0.020	<0.010	<0.050	4	<0.020	<0.010	<0.050	4		
Prothioconazole	<0.007	<0.007	<0.007	3	<0.007	<0.007	<0.007	3		
Pyraclostrobin	<0.004	<0.004	<0.004	3	<0.004	<0.004	<0.004	3		
Pyrene	<0.05	<0.01	<0.10	8	<0.05	<0.01	<0.10	8		
Pyridaben	<0.013	<0.010	<0.020	4	<0.013	<0.010	<0.020	4		
Quinclorac	<0.004	<0.003	<0.005	4	<0.004	<0.003	<0.005	4		
Quizalofop	<0.023	<0.020	<0.030	4	<0.023	<0.020	<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	<0.1	4	<0.1	<0.1	<0.1	4		
Styrene	<0.49	<0.02	<0.50	372	<0.49	<0.02	<0.50	372		
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		
Tebuconazole	<0.003	<0.003	<0.003	3	<0.003	<0.003	<0.003	3		
tert-Butylbenzene	<0.1	<0.1	<0.1	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	<0.1	<1.0	374	<1.0	<0.1	<1.0	374		
Thiamethoxam	<0.03	<0.02	<0.05	4	<0.03	<0.02	<0.05	4		
Tolfenamic acid	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Total Organic Carbon	1.8	<0.6	3.1	53	1.7	<0.6	6.8	53		

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

2018

									Limits	
	ROSSDALE				E.L. SMITH				*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Organics (ug/L) ***										
Total Volatile Organics (NonTHM)	<1.0	<1.0	<1.0	368	<1.0	<1.0	<1.0	368		
Total Volatile Organics (Unknown)	<1.0	<1.0	1.9	365	<1.0	<1.0	<1.0	365		
Triallate	<0.003	<0.002	<0.005	4	<0.003	<0.002	<0.005	4		
Trichloroacetic acid	8	5	11	12	7	4	12	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	0.7	376	<0.5	<0.1	0.7	376		
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	374	<0.5	<0.1	<0.5	374		
Trichloroethane (1,1,2)	<0.06	<0.06	<0.06	4	<0.06	<0.06	<0.06	4		
Trichlorofluoromethane	<0.09	<0.09	<0.09	4	<0.09	<0.09	<0.09	4		
Trichloropropane (1,2,3)	<0.12	<0.04	<0.20	4	<0.12	<0.04	<0.20	4		
Triclopyr	<0.004	<0.002	<0.010	4	<0.004	<0.002	<0.010	4		
Triclosan	<0.025	<0.025	<0.025	4	<0.025	<0.025	<0.025	4		
Trifloxystrobin	<0.004	<0.004	<0.004	3	<0.004	<0.004	<0.004	3		
Trimethoprim	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Trimethylbenzene (1,2,4)	0.10	<0.04	0.26	4	<0.04	<0.04	<0.04	4		
Trimethylbenzene (1,3,5)	<0.04	<0.04	<0.04	4	<0.04	<0.04	<0.04	4		
Triticonazole	<0.020	<0.020	<0.020	3	<0.020	<0.020	<0.020	3		
Vinclozolin	<0.012	<0.003	<0.040	4	<0.012	<0.003	<0.040	4		
Xylene (1,2)	<0.5	<0.5	<0.5	368	<0.5	<0.5	<0.5	368		
Xylene (1,4)	<0.5	<0.5	<0.5	368	<0.5	<0.5	<0.5	368		
Xylene (m,p)	0.3	<0.1	0.8	4	0.1	<0.1	0.3	4		
Xylene (o)	0.16	<0.02	0.52	4	<0.04	<0.02	<0.06	4		

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

2018

									Limits	
	ROSSDALE				E.L. SMITH				*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Physical										
Conductivity (uS/cm)				0	376	376	376	1	(<1)	<1
Turbidity (NTU)	0.05	0.03	0.17	364	0.05	0.03	0.15	365		0.3
UV 254 %T	94.6	90.3	97.6	364	94.6	90.5	97.8	365		
Primary Inorganics (mg/L) **										
Bromate Dissolved	<0.004	<0.003	<0.010	100	<0.004	<0.003	<0.010	101	0.01	
Chlorate Dissolved	0.107	<0.005	0.200	100	<0.076	<0.005	0.118	101	1	
Chlorite Dissolved	<0.072	<0.005	<0.200	100	<0.075	<0.005	<0.200	101	1	
Nitrate (as N) Dissolved	0.064	<0.005	0.525	100	0.061	<0.005	0.391	101	10	
Nitrite (as N) Dissolved	<0.005	<0.005	<0.010	100	<0.005	<0.005	<0.010	101	1	
Primary Organics (ug/L) **										
Benzene	<0.5	<0.5	<0.5	367	<0.5	<0.5	<0.5	368	5	
Carbon Tetrachloride	<1.0	<0.5	<1.0	369	<1.0	<0.5	<1.0	370	2	
Chlorobenzene	<0.50	<0.50	<0.50	367	<0.50	<0.50	<0.50	368	80 (30)	
Dichlorobenzene (1,2)	<0.50	<0.50	<0.50	367	<0.50	<0.50	<0.50	368	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.5	<0.5	367	<0.5	<0.5	<0.5	368	5 (1)	
Dichloroethane (1,2)	<0.5	<0.5	<0.5	3	<0.5	<0.5	<0.5	3	5	
Dichloroethylene (1,1)	<3.0	<0.5	<3.0	367	<3.0	<0.5	<3.0	368	14	
Ethylbenzene	<0.50	<0.50	<0.50	367	<0.50	<0.50	<0.50	368	140 (1.6)	
Methylene Chloride	<0.5	<0.5	<0.5	367	<0.5	<0.5	<0.5	368	50	
Tetrachloroethylene	<0.5	<0.5	<0.5	369	<0.5	<0.5	<0.5	370	10	
Toluene	<0.50	<0.50	<0.50	367	<0.50	<0.50	<0.50	368	60 (24)	
Trichloroethylene	<0.50	<0.50	<0.50	369	<0.50	<0.50	<0.50	370	5	
Trihalomethanes	11.5	2.9	26.0	369	9.5	2.6	26.0	370	100	50
Vinyl Chloride	<1.0	<1.0	<1.0	3	<1.0	<1.0	<1.0	3	2	
Secondary Inorganics (mg/L) ***										
Ammonia as N	0.13	0.11	0.14	4	0.15	0.12	0.20	4		
Ammonia as NH3	0.12	<0.05	0.20	84	0.17	0.06	0.31	85		
Bromide Dissolved	<0.021	<0.005	<0.050	100	<0.021	<0.005	<0.050	101		
Chloride Dissolved	6	3	30	100	6	3	12	101	(250)	
Sulphate Dissolved	65	54	117	100	67	51	116	101	(500)	

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

2018

									Limits	
	ROSSDALE				E.L. SMITH				*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Organics (ug/L) ***										
Bromodichloromethane	<0.5	<0.5	1.8	369	<0.5	<0.5	0.6	370	(15)	16
Bromoform	<1.0	<0.5	<1.0	369	<1.0	<0.5	<1.0	370		
Chloroform	11.5	2.9	26.0	369	9.5	2.6	26.0	370		
Dibromochloromethane	<0.50	<0.50	<0.50	369	<0.50	<0.50	<0.50	370		
Dichlorobenzene (1,3)	<0.50	<0.50	<0.50	367	<0.50	<0.50	<0.50	368		
Dichloroethylene, cis (1,2)	<0.50	<0.50	<0.50	367	<0.50	<0.50	<0.50	368		
Dichloroethylene, trans (1,2)	<0.50	<0.50	<0.50	367	<0.50	<0.50	<0.50	368		
Dichloropropane (1,2)	<0.5	<0.5	<0.5	367	<0.5	<0.5	<0.5	368		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.5	<0.5	367	<0.5	<0.5	<0.5	368		
MIBK	<1.0	<1.0	<1.0	367	<1.0	<1.0	<1.0	368		
Styrene	<0.50	<0.50	<0.50	367	<0.50	<0.50	<0.50	368		
Tetrachloroethane (1,1,2,2)	<1.0	<0.5	<1.0	369	<1.0	<0.5	<1.0	370		
Total Volatile Organics (NonTHM)	<1.0	<1.0	2.6	367	<1.0	<1.0	1.3	368		
Total Volatile Organics (Unknown)	<1.0	<1.0	2.4	364	<1.0	<1.0	<1.0	365		
Trichlorobenzene (1,2,4)	<0.5	<0.5	2.6	367	<0.5	<0.5	1.3	368		
Trichloroethane (1,1,1)	<0.5	<0.5	<0.5	369	<0.5	<0.5	<0.5	370		
Xylene (1,2)	<0.5	<0.5	<0.5	367	<0.5	<0.5	<0.5	368		
Xylene (1,4)	<0.5	<0.5	<0.5	367	<0.5	<0.5	<0.5	368		

7.9 Routine Distribution System

2018

- Schedule 4 compliance samples collected on Mar 5, May 7, Jul 9, Dec 20.
- Microcystin samples collected on Jan 9, May 7, Jul 9, Aug 13, Sept 4, Nov 20.
- All other samples collected at various times during the year.

	YTD				Limits	
					*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count		
Physical						
Colour (TCU)	<1	<1	1	5	(15)	10
pH (N/A)	7.8	7.3	8.1	112	(7.0-10.5)	7.3-8.3
Total Dissolved Solids (mg/L)	253	235	266	4	(500)	
Turbidity (NTU)	0.13	0.03	7.01	2085		1.0
UV 254 %T	92.0	90.3	93.8	4		
Primary Inorganics (mg/L) **						
Antimony	<0.0002	<0.0002	<0.0002	5	0.006	
Arsenic	<0.0002	<0.0002	<0.0002	5	0.01	
Barium	0.061	0.049	0.069	5	1	
Boron	0.009	0.008	0.012	5	5	
Bromate Dissolved	<0.005	<0.003	<0.010	115	0.01	
Cadmium	<0.0002	<0.0002	<0.0002	5	0.005	
Chlorate Dissolved	<0.084	<0.005	0.150	115	1	
Chlorine, total	<1.81	<0.25	2.47	2084	>0.5 and < 3.0	>1.0 and <2.4
Chlorite Dissolved	<0.085	<0.005	<0.200	115	1	
Chromium	<0.0002	<0.0002	<0.0002	5	0.05	
Cyanide Dissolved	<0.002	<0.002	<0.002	4		
Fluoride Dissolved	0.66	0.62	0.68	4		
Lead	<0.0002	<0.0002	0.0003	5	0.01	
Mercury	<0.0005	<0.0001	0.0020	9	0.001	
Nitrate (as N) Dissolved	0.069	0.010	0.213	115	10	
Nitrite (as N) Dissolved	<0.006	<0.005	0.102	115	1	
Selenium	0.0002	<0.0002	0.0003	5	0.05	
Uranium	<0.0005	<0.0005	0.0006	5	0.02	

7.9 Routine Distribution System

2018

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- All other samples collected at various times during the year.

	YTD				Limits	
	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Primary Organics (ug/L) **						
2,4-D	0.010	<0.005	0.021	4	100	
Atrazine	<0.003	<0.002	<0.005	4	5	
Benzene	<0.49	<0.05	<0.50	161	5	
Benzo(a)pyrene	<0.005	<0.005	<0.005	4	0.04	
Bromoxynil	<0.021	<0.005	<0.026	4	5	
Carbon Tetrachloride	<0.98	<0.07	<1.00	161	2	
Chlorobenzene	<0.49	<0.03	<0.50	161	80 (30)	
Chlorpyrifos	<0.003	<0.002	<0.005	4	90	
Cyanazine	<0.024	<0.012	<0.060	4	10	
Diazinon	<0.004	<0.004	<0.005	4	20	
Dicamba	<0.003	<0.002	<0.005	4	120	
Dichlorobenzene (1,2)	<0.49	<0.03	<0.50	161	200 (3)	
Dichlorobenzene (1,4)	<0.49	<0.05	<0.50	161	5 (1)	
Dichloroethane (1,2)	<0.05	<0.05	<0.05	4	5	
Dichloroethylene (1,1)	<3.0	<3.0	<3.0	157	14	
Dichlorophenol (2,4)	<0.10	<0.10	<0.10	4	900 (0.3)	
Diclofop-methyl	<0.01	<0.01	<0.02	4	9	
Dimethoate	<0.005	<0.005	<0.005	4	20	
Diuron	<0.2	<0.2	<0.2	4	150	
Ethylbenzene	<0.49	<0.02	<0.50	161	140 (1.6)	
Glyphosate	<0.1	<0.1	<0.1	4	280	
Malathion	<0.035	<0.030	<0.050	4	190	
MCPA	<0.009	<0.005	<0.010	4	100	
Methylene Chloride	<0.5	<0.1	0.9	161	50	
Metolachlor	<0.008	<0.007	<0.012	4	50	
Metribuzin	<0.004	<0.002	<0.010	4	80	
Microcystin	<0.10	<0.10	<0.10	1	1.5	
Microcystin Total	<0.11	<0.10	0.13	5		
NTA (mg/L)	<0.11	<0.05	<0.30	4	0.4	
Pentachlorophenol	<0.6	<0.6	<0.6	4	60 (30)	
Perfluoro-n-Octanoic Acid (PFOA)	<0.02	<0.02	<0.02	4		
Perfluorooctane Sulfonate (PFOS)	<0.02	<0.02	<0.02	4		
Picloram	<0.015	<0.012	<0.022	4	190	
Simazine	<0.006	<0.004	<0.010	4	10	
Terbufos	<0.02	<0.01	<0.03	4	1	
Tetrachloroethylene	<0.49	<0.06	<0.50	161	10	

7.9 Routine Distribution System

2018

- Schedule 4 compliance samples collected on Mar 5, May 7, Jul 9, Dec 20.
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- All other samples collected at various times during the year.

	YTD				Limits	
					*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count		
Primary Organics (ug/L) **						
Tetrachlorophenol (2,3,4,6)	<0.4	<0.4	<0.4	4	100 (1)	
Toluene	<0.49	<0.03	<0.50	161	60 (24)	
Trichloroethylene	<0.49	<0.03	<0.50	161	5	
Trichlorophenol (2,4,6)	<0.7	<0.7	<0.7	4	5 (2)	
Trifluralin	<0.003	<0.002	<0.005	4	45	
Vinyl Chloride	<0.1	<0.1	<0.1	4	2	
Xylenes	<0.04	<0.02	<0.06	4	90 (20)	

7.9 Routine Distribution System

2018

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- All other samples collected at various times during the year.

	YTD				Limits	
					*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count		
Secondary Inorganics (mg/L) ***						
Alkalinity Total (mg CaCO3/L)	142	114	194	4		
Alkalinity, PHP (mg CaCO3/L)	<1	<1	<1	4		
Aluminum	0.046	0.023	0.079	5	(0.1/0.2)	0.1/0.2
Ammonia as N	0.15	0.09	0.23	109		
Beryllium	<0.0002	<0.0002	<0.0002	5		
Bromide Dissolved	<0.024	<0.005	<0.050	115		
Calcium	45.9	42.4	52.7	4		
Chloride Dissolved	5.6	<0.2	9.2	115	(250)	
Chlorine Free	<0.030	<0.030	<0.030	4		
Cobalt	<0.0002	<0.0002	<0.0002	5		
Copper	0.009	<0.005	0.018	5	(1)	
Hardness, Total (mg CaCO3/L)	167	156	188	4		
Iron	0.009	<0.005	0.025	5	(0.3)	0.3
Lithium	0.0031	0.0026	0.0039	5		
Magnesium	13.1	11.6	15.3	4		
Manganese	<0.002	<0.002	0.004	5	(0.05)	
Molybdenum	0.0007	0.0005	0.0008	5		
Nickel	<0.0005	<0.0005	0.0006	5		
Phosphorus	<0.02	<0.02	0.03	4		
Potassium	0.89	0.70	1.37	4		
Silicon	2.12	1.88	2.34	4		
Silver	<0.0002	<0.0002	<0.0002	5		
Sodium	17.7	7.0	30.4	4	(200)	
Strontium	0.377	0.324	0.459	5		
Sulphate Dissolved	68	54	111	115	(500)	
Sulphide, dissolved	<0.002	<0.002	<0.002	4		
Thallium	<0.0005	<0.0005	<0.0005	5		
Tin	<0.0005	<0.0005	<0.0005	5		
Titanium	<0.0005	<0.0005	<0.0005	5		
Total Kjeldahl Nitrogen	0.47	0.27	0.59	4		
Vanadium	<0.0005	<0.0005	<0.0005	5		
Zinc	<0.005	<0.005	<0.005	5	(5)	
Zirconium	<0.0005	<0.0005	0.0005	5		

7.9 Routine Distribution System

2018

- Schedule 4 compliance samples collected on Mar 5, May 7, Jul 9, Dec 20.
- Microcystin samples collected on Jan 9, May 7, Jul 9, Aug 13, Sept 4, Nov 20.
- All other samples collected at various times during the year.

	YTD				Limits	
					*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count		
Secondary Organics (ug/L) ***						
Bromochloroacetic acid	<1	<1	<1	63		
Bromodichloromethane	<0.5	<0.5	<0.5	157		16
Bromoform	<1.0	<1.0	<1.0	157		
Chloroform	17.1	5.9	32.1	157		
Desethyl Atrazine	<0.027	<0.019	<0.050	4		
Desisopropyl Atrazine	<0.034	<0.018	<0.080	4		
Dibromoacetic acid	<1	<1	<1	63		
Dibromochloromethane	<0.50	<0.50	<0.50	157		
Dichloroacetic acid	8	4	14	63		
Dichlorobenzene (1,3)	<0.50	<0.50	<0.50	157		
Dichloroethylene, cis (1,2)	<0.50	<0.50	<0.50	157		
Dichloroethylene, trans (1,2)	<0.50	<0.50	<0.50	157		
Dichloropropane (1,2)	<0.5	<0.5	<0.5	157		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.5	<0.5	157	(15)	
MIBK	<1.0	<1.0	<1.0	157		
Monobromoacetic acid	<1	<1	<1	63		
Monochloroacetic acid	<6	<5	22	63		
p, p' - Methoxychlor	<0.02	<0.01	<0.03	4		
Perfluorobutane Sulfonate (PFBS)	<0.02	<0.02	<0.02	4		
Perfluorobutanoic acid	<0.02	<0.02	<0.02	4		
Perfluorodecane Sulfonate	<0.02	<0.02	<0.02	4		
Perfluorodecanoic Acid (PFDA)	<0.02	<0.02	<0.02	4		
Perfluorododecanoic Acid (PFDoA)	<0.02	<0.02	<0.02	4		
Perfluoroheptane sulfonate	<0.02	<0.02	<0.02	4		
Perfluoroheptanoic Acid (PFHpA)	<0.02	<0.02	<0.02	4		
Perfluorohexane Sulfonate (PFHxS)	<0.02	<0.02	<0.02	4		
Perfluorohexanoic Acid (PFHxA)	<0.02	<0.02	<0.02	4		
Perfluorononanoic Acid (PFNA)	<0.02	<0.02	<0.02	4		
Perfluorooctane Sulfonamide	<0.02	<0.02	<0.02	4		
Perfluoropentanoic Acid (PFPeA)	<0.02	<0.02	<0.02	4		
Perfluorotetradecanoic Acid	<0.02	<0.02	<0.02	4		
Perfluorotridecanoic Acid	<0.02	<0.02	<0.02	4		
Perfluoroundecanoic Acid (PFUnA)	<0.02	<0.02	<0.02	4		
Styrene	<0.50	<0.50	<0.50	157		
Tetrachloroethane (1,1,2,2)	<1.0	<1.0	<1.0	157		
Total Organic Carbon	2.4	1.8	3.1	4		

7.9 Routine Distribution System

2018

- Schedule 4 compliance samples collected on Mar 5, May 7, Jul 9, Dec 20.
- Microcystin samples collected on Jan 9, May 7, Jul 9, Aug 13, Sept 4, Nov 20.
- All other samples collected at various times during the year.

	YTD				Limits	
					*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count		
Secondary Organics (ug/L) ***						
Total Volatile Organics (NonTHM)	<1.0	<1.0	<1.0	157		
Total Volatile Organics (Unknown)	<1.0	<1.0	<1.0	157		
Triallate	<0.003	<0.002	<0.005	4		
Trichloroacetic acid	8	5	11	63		
Trichlorobenzene (1,2,4)	<0.5	<0.5	<0.5	157		
Trichloroethane (1,1,1)	<0.5	<0.5	<0.5	157		
Xylene (1,2)	<0.5	<0.5	<0.5	157		
Xylene (1,4)	<0.5	<0.5	<0.5	157		
Xylene (m,p)	<0.1	<0.1	<0.1	4		
Xylene (o)	<0.04	<0.02	<0.06	4		

Oct 31, 2018 - Chlorine, total - One low chlorine result (<0.5 mg/L) in the distribution system was followed by 3 resamples upstream and downstream all within AEP guidelines of >0.5 mg/L.

**7.10 Castledowns, Clareview and Kaskitayo Reservoirs
2018**

Parameter	Castledowns				Clareview				Kaskitayo				Limits	
	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	7	<1	<1	1	7	<1	<1	1	7	(15)	10
Conductivity (uS/cm)	381	359	411	7	379	339	395	7	367	353	375	7	(7.0-10.5)	7.3-8.3
pH (N/A)	7.9	7.8	8.1	7	7.9	7.8	8.1	7	7.7	7.6	7.8	7		1.0
Turbidity (NTU)	0.06	0.04	0.20	52	0.11	0.05	0.22	53	0.06	0.04	0.13	53		
Primary Inorganics (mg/L) **														
Antimony	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	0.006	
Arsenic	<0.0002	<0.0002	0.0003	7	<0.0002	<0.0002	0.0003	7	<0.0002	<0.0002	0.0003	7	0.01	
Barium	0.058	0.050	0.067	7	0.062	0.055	0.077	7	0.057	0.054	0.061	7	1	
Boron	0.009	0.008	0.011	7	0.012	0.006	0.028	7	0.010	0.009	0.013	7	5	
Bromate Dissolved	<0.004	<0.003	<0.005	7	<0.004	<0.003	<0.005	7	<0.004	<0.003	<0.005	7	0.01	
Cadmium	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	0.005	
Chlorate Dissolved	<0.082	<0.055	<0.100	7	<0.102	<0.090	0.112	7	<0.086	<0.055	0.103	7	1	
Chlorite Dissolved	<0.089	<0.005	<0.200	7	<0.089	<0.005	<0.200	7	<0.070	<0.005	<0.200	7	1	
Chromium	<0.0003	<0.0002	0.0007	7	<0.0002	<0.0002	<0.0002	7	<0.0003	<0.0002	<0.0005	7	0.05	
Fluoride	0.66	0.65	0.67	2	0.69	0.69	0.69	1	0.70	0.70	0.70	1		
Fluoride Dissolved	0.64	0.62	0.66	5	0.67	0.61	0.71	6	0.67	0.64	0.70	6	0.5-0.9 (1.5)	0.6-0.8
Lead	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	0.01	
Mercury	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	0.001	
Nitrate (as N) Dissolved	0.059	0.020	0.100	7	0.087	0.020	0.240	7	0.035	0.012	0.060	7	10	
Nitrite (as N) Dissolved	<0.005	<0.005	<0.005	7	<0.005	<0.005	<0.005	7	<0.005	<0.005	<0.005	7	1	
Selenium	<0.0002	<0.0002	0.0003	7	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	0.05	
Total Chlorine	1.90	1.64	2.32	52	1.80	1.50	2.10	53	1.93	1.66	2.33	53	>0.5 and < 3.0	>1.0 and <2.4
Uranium	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7	0.02	
Primary Organics (ug/L) **														
Benzene	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	5	
Carbon Tetrachloride	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7	2	
Chlorobenzene	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	80 (30)	
Dichlorobenzene (1,2)	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	5 (1)	
Dichloroethylene (1,1)	<3.0	<3.0	<3.0	7	<3.0	<3.0	<3.0	7	<3.0	<3.0	<3.0	7	14	
Ethylbenzene	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	140 (1.6)	
Methylene Chloride	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	50	
Tetrachloroethylene	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	10	
Toluene	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	60 (24)	
Trichloroethylene	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	5	
Secondary Inorganics (mg/L) ***														
Alkalinity Total (mg CaCO3/L)	120	113	136	7	115	84	136	7	116	110	123	7		

**7.10 Castledowns, Clareview and Kaskitayo Reservoirs
2018**

Parameter													Limits	
	Castledowns				Clareview				Kaskitayo				*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count		
Aluminum	0.047	0.024	0.073	7	0.055	0.028	0.090	7	0.056	0.025	0.080	7	(0.1/0.2)	0.1/0.2
Beryllium	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7		
Bromide Dissolved	<0.024	<0.005	<0.050	7	<0.024	<0.005	<0.050	7	<0.020	<0.005	<0.050	7		
Calcium	43.7	39.7	48.0	7	43.0	35.8	49.7	7	41.8	39.7	43.2	7		
Chloride Dissolved	5.7	3.9	7.9	7	6.0	4.3	10.5	7	5.7	4.5	7.3	7	(250)	
Cobalt	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7		
Copper	<0.005	<0.005	<0.005	7	<0.005	<0.005	<0.005	7	<0.005	<0.005	<0.005	7	(1)	
Hardness, Ca (mg CaCO3/L)	111	104	122	7	109	90	122	7	109	104	112	7		
Hardness, Total (mg CaCO3/L)	168	159	180	7	163	130	182	7	166	160	169	7		
Iron	<0.006	<0.005	0.013	7	0.014	0.011	0.017	7	0.005	0.005	0.005	7	(0.3)	0.3
Lithium	0.0030	0.0028	0.0031	7	0.0029	0.0020	0.0035	7	0.0031	0.0028	0.0034	7		
Magnesium	12.7	11.6	13.6	7	12.5	9.2	14.8	7	12.9	12.0	13.6	7		
Manganese	<0.002	<0.002	<0.002	7	0.003	<0.002	0.010	7	0.002	<0.002	0.002	7	(0.05)	
Molybdenum	0.0007	0.0006	0.0009	7	0.0007	0.0007	0.0008	7	0.0007	0.0007	0.0008	7		
Nickel	0.0008	<0.0005	0.0020	7	0.0010	<0.0005	0.0038	7	0.0013	<0.0005	0.0029	7		
Phosphorus	0.04	<0.02	0.05	7	0.03	<0.02	0.04	7	0.03	<0.03	0.03	7		
Potassium	0.70	0.60	0.80	7	1.21	0.60	4.17	7	0.63	0.60	0.70	7		
Silicon	1.83	1.61	2.41	7	1.81	1.61	1.98	7	1.64	1.54	1.76	7		
Silver	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7		
Sodium	11.8	6.1	21.7	7	12.0	6.2	26.6	7	9.9	8.8	11.2	7	(200)	
Strontium	0.388	0.344	0.428	7	0.393	0.300	0.451	7	0.395	0.371	0.431	7		
Sulphate Dissolved	66	55	86	7	66	50	92	7	63	60	65	7	(500)	
Thallium	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7		
Tin	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7		
Titanium	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7		
Vanadium	<0.0006	<0.0005	0.0007	7	<0.0006	<0.0005	0.0008	7	<0.0008	<0.0007	0.0009	7		
Zinc	<0.005	<0.005	<0.005	7	<0.005	<0.005	<0.005	7	<0.005	<0.005	<0.005	7	(5)	
Zirconium	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7		
Secondary Organics (ug/L) ***														
Bromodichloromethane	<0.5	<0.5	<0.5	7	<0.6	<0.5	1.4	7	<0.5	<0.5	0.5	7		16
Bromoform	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7		
Chloroform	16.9	6.7	27.7	7	17.7	12.2	28.2	7	15.3	9.2	21.3	7		
Dibromochloromethane	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7		
Dichlorobenzene (1,3)	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7		
Dichloroethylene, cis (1,2)	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7		
Dichloroethylene, trans (1,2)	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7		
Dichloropropane (1,2)	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	(15)	
MIBK	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7		

**7.10 Castledowns, Clareview and Kaskitayo Reservoirs
2018**

Parameter	Castledowns				Clareview				Kaskitayo				Limits	
	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Styrene	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7		
Tetrachloroethane (1,1,2,2)	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7		
Total Organic Carbon	1.6	1.1	2.0	6	1.3	<0.6	1.8	6	1.6	<1.4	1.7	6		
Total Volatile Organics (NonTHM)	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7		
Total Volatile Organics (Unknown)	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7		
Trichlorobenzene (1,2,4)	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7		
Trichloroethane (1,1,1)	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7		
Xylene (1,2)	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7		
Xylene (1,4)	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7		

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

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

*** Secondary Parameters do not have health based limits in Health Canada's Guidelines for Canadian Drinking Water Quality (GCDWQ).

**7.11 Londonderry, Millwoods and North Jasper Place Reservoirs
2018**

Parameter	Londonderry				Millwoods				North Jasper Place				Limits	
	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	7	<1	<1	1	7	(15)	10
Conductivity (uS/cm)	374	357	385	6	378	364	396	7	381	355	400	7		
pH (N/A)	7.9	7.8	8.0	6	7.7	7.3	7.9	7	7.9	7.7	8.2	7	(7.0-10.5)	7.3-8.3
Turbidity (NTU)	0.08	0.05	0.25	52	0.06	0.04	0.16	53	0.07	0.04	0.16	53		1.0
Primary Inorganics (mg/L) **														
Antimony	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	0.006	
Arsenic	0.0003	<0.0002	0.0003	6	<0.0002	<0.0002	0.0003	7	<0.0002	<0.0002	0.0003	7	0.01	
Barium	0.057	0.052	0.062	6	0.057	0.049	0.063	7	0.063	0.055	0.072	7	1	
Boron	0.009	0.008	0.010	6	0.010	0.008	0.013	7	0.013	0.006	0.032	7	5	
Bromate Dissolved	<0.004	<0.003	<0.005	6	<0.004	<0.003	<0.005	7	<0.004	<0.003	<0.005	7	0.01	
Cadmium	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	0.005	
Chlorate Dissolved	<0.099	<0.086	0.118	6	<0.088	<0.059	0.100	7	<0.089	<0.056	0.111	7	1	
Chlorite Dissolved	<0.103	<0.005	<0.200	6	<0.116	<0.005	<0.200	7	<0.070	<0.005	<0.200	7	1	
Chromium	<0.0002	<0.0002	0.0003	6	<0.0002	<0.0002	0.0003	7	<0.0002	<0.0002	0.0003	7	0.05	
Fluoride	0.67	0.66	0.68	2	0.67	0.67	0.67	2						
Fluoride Dissolved	0.68	0.66	0.70	4	0.65	0.64	0.67	5	0.66	0.59	0.73	5	0.5-0.9 (1.5)	0.6-0.8
Lead	0.0004	<0.0002	0.0016	6	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	0.01	
Mercury	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	0.001	
Nitrate (as N) Dissolved	0.066	0.020	0.100	6	0.062	0.010	0.110	7	0.095	0.023	0.239	7	10	
Nitrite (as N) Dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	7	<0.005	<0.005	<0.005	7	1	
Selenium	<0.0002	<0.0002	0.0003	6	<0.0002	<0.0002	0.0003	7	<0.0002	<0.0002	0.0003	7	0.05	
Total Chlorine	1.85	1.52	2.11	52	1.94	1.73	2.23	53	1.64	1.19	2.08	53	>0.5 and < 3.0	>1.0 and <2.4
Uranium	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7	0.02	
Primary Organics (ug/L) **														
Benzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	5	
Carbon Tetrachloride	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7	2	
Chlorobenzene	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	80 (30)	
Dichlorobenzene (1,2)	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	5 (1)	
Dichloroethylene (1,1)	<3.0	<3.0	<3.0	6	<3.0	<3.0	<3.0	7	<3.0	<3.0	<3.0	7	14	
Ethylbenzene	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	140 (1.6)	
Methylene Chloride	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	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	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	60 (24)	
Trichloroethylene	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	5	
Secondary Inorganics (mg/L) ***														
Alkalinity Total (mg CaCO3/L)	120	113	134	6	136	115	227	7	118	99	132	7		

**7.11 Londonderry, Millwoods and North Jasper Place Reservoirs
2018**

Parameter													Limits	
	Londonderry				Millwoods				North Jasper Place				*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count		
Aluminum	0.062	0.028	0.137	6	0.055	0.023	0.078	7	0.061	0.048	0.078	7	(0.1/0.2)	0.1/0.2
Beryllium	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7		
Bromide Dissolved	<0.028	<0.005	<0.050	6	<0.031	<0.005	<0.050	7	<0.020	<0.005	<0.050	7		
Calcium	43.2	39.6	46.7	6	43.2	40.6	47.0	7	43.6	37.6	48.3	7		
Chloride Dissolved	5.8	4.2	8.8	6	5.4	3.8	7.1	7	6.1	4.3	8.8	7	(250)	
Cobalt	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7		
Copper	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	7	<0.005	<0.005	<0.005	7	(1)	
Hardness, Ca (mg CaCO3/L)	111	105	122	6	112	107	122	7	110	93	120	7		
Hardness, Total (mg CaCO3/L)	168	159	180	6	168	159	183	7	166	140	182	7		
Iron	0.014	<0.005	0.052	6	<0.005	<0.005	<0.005	7	<0.005	<0.005	<0.007	7	(0.3)	0.3
Lithium	0.0032	0.0030	0.0033	6	0.0031	0.0029	0.0033	7	0.0028	0.0019	0.0034	7		
Magnesium	12.8	11.8	13.4	6	12.9	12.1	13.7	7	12.8	10.6	14.2	7		
Manganese	<0.002	<0.002	<0.002	6	<0.002	<0.002	<0.002	7	<0.004	<0.002	<0.013	7	(0.05)	
Molybdenum	0.0007	0.0006	0.0009	6	0.0008	0.0007	0.0009	7	0.0007	0.0007	0.0008	7		
Nickel	<0.0005	<0.0005	0.0006	6	<0.0005	<0.0005	0.0008	7	<0.0009	<0.0005	0.0026	7		
Phosphorus	0.04	<0.02	0.05	6	0.04	<0.02	0.05	7	0.03	<0.02	0.05	7		
Potassium	0.72	0.60	0.80	6	0.70	0.60	0.80	7	1.14	0.60	3.36	7		
Silicon	1.76	1.67	1.86	6	1.76	1.64	1.89	7	1.83	1.64	2.16	7		
Silver	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7		
Sodium	9.2	5.9	11.3	6	10.6	6.3	17.1	7	12.4	6.3	25.4	7	(200)	
Strontium	0.396	0.345	0.432	6	0.397	0.352	0.430	7	0.396	0.345	0.435	7		
Sulphate Dissolved	61	56	66	6	64	55	73	7	67	55	87	7	(500)	
Thallium	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7		
Tin	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7		
Titanium	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7		
Vanadium	<0.0006	<0.0005	0.0006	6	<0.0006	<0.0005	0.0006	7	<0.0006	<0.0005	0.0009	7		
Zinc	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	7	<0.005	<0.005	<0.005	7	(5)	
Zirconium	0.0012	<0.0005	0.0047	6	<0.0005	<0.0005	<0.0005	7	<0.0006	<0.0005	<0.0008	7		
Secondary Organics (ug/L) ***														
Bromodichloromethane	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	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	16.7	10.3	26.4	6	17.4	6.3	27.5	7	19.3	11.9	29.9	7		
Dibromochloromethane	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7		
Dichlorobenzene (1,3)	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7		
Dichloroethylene, cis (1,2)	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7		
Dichloroethylene, trans (1,2)	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7		
Dichloropropane (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	(15)	
MIBK	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7		

**7.11 Londonderry, Millwoods and North Jasper Place Reservoirs
2018**

Parameter													Limits	
	Londonderry				Millwoods				North Jasper Place				*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count		
Styrene	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7		
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	1.6	1.0	1.9	6	1.6	1.2	2.1	6	1.1	0.6	1.9	6		
Total Volatile Organics (NonTHM)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7		
Total Volatile Organics (Unknown)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7		
Trichlorobenzene (1,2,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7		
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	7	<0.5	<0.5	<0.5	7		
Xylene (1,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7		

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

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

*** Secondary Parameters do not have health based limits in Health Canada's Guidelines for Canadian Drinking Water Quality (GCDWQ).

**7.12 Ormsby, Papaschase 1 and Papaschase 2 Reservoirs
2018**

Parameter	Ormsby				Papaschase 1				Papaschase 2				Limits	
	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	7	<1	<1	1	7	<1	<1	2	7	(15)	10
Conductivity (uS/cm)	381	366	395	7	377	362	399	7	384	342	417	7	(7.0-10.5)	7.3-8.3
pH (N/A)	7.8	7.7	8.0	7	7.8	7.7	8.0	7	7.8	7.7	8.0	7		1.0
Turbidity (NTU)	0.07	0.03	0.20	53	0.11	0.07	0.24	53	0.08	0.04	0.22	53		
Primary Inorganics (mg/L) **														
Antimony	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	0.006	
Arsenic	0.0002	<0.0002	0.0003	7	<0.0002	<0.0002	0.0003	7	<0.0003	<0.0002	0.0003	7	0.01	
Barium	0.058	0.050	0.065	7	0.058	0.052	0.062	7	0.062	0.053	0.082	7	1	
Boron	0.009	0.008	0.011	7	0.010	0.008	0.012	7	0.010	0.006	0.015	7	5	
Bromate Dissolved	<0.004	<0.003	<0.005	7	<0.004	<0.003	<0.005	7	<0.005	<0.003	<0.010	7	0.01	
Cadmium	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	0.005	
Chlorate Dissolved	<0.086	<0.060	0.100	7	<0.094	<0.072	0.112	7	<0.086	<0.054	0.105	7	1	
Chlorite Dissolved	<0.089	<0.005	<0.200	7	<0.116	<0.005	<0.200	7	<0.072	<0.005	<0.200	7	1	
Chromium	<0.0002	<0.0002	0.0003	7	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0003	7	0.05	
Fluoride	0.67	0.66	0.67	2	0.68	0.67	0.68	2	0.70	0.70	0.70	2		
Fluoride Dissolved	0.62	0.57	0.65	5	0.64	0.57	0.68	5	0.66	0.60	0.70	5	0.5-0.9 (1.5)	0.6-0.8
Lead	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	0.01	
Mercury	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	0.001	
Nitrate (as N) Dissolved	0.060	0.010	0.100	7	0.062	0.020	0.100	7	0.066	0.013	0.110	7	10	
Nitrite (as N) Dissolved	<0.005	<0.005	<0.005	7	<0.005	<0.005	<0.005	7	<0.006	<0.005	<0.010	7	1	
Selenium	<0.0002	<0.0002	0.0003	7	<0.0002	<0.0002	0.0003	7	<0.0002	<0.0002	0.0003	7	0.05	
Total Chlorine	1.85	1.52	2.06	53	1.79	1.13	2.21	53	1.90	1.60	2.12	53	>0.5 and < 3.0	>1.0 and <2.4
Uranium	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0006	7	0.02	
Primary Organics (ug/L) **														
Benzene	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	5	
Carbon Tetrachloride	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7	2	
Chlorobenzene	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	80 (30)	
Dichlorobenzene (1,2)	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	5 (1)	
Dichloroethylene (1,1)	<3.0	<3.0	<3.0	7	<3.0	<3.0	<3.0	7	<3.0	<3.0	<3.0	7	14	
Ethylbenzene	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	140 (1.6)	
Methylene Chloride	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	50	
Tetrachloroethylene	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	10	
Toluene	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	60 (24)	
Trichloroethylene	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	5	
Secondary Inorganics (mg/L) ***														
Alkalinity Total (mg CaCO3/L)	120	115	133	7	117	107	133	7	122	97	154	7		

**7.12 Ormsby, Papaschase 1 and Papaschase 2 Reservoirs
2018**

Parameter													Limits	
	Ormsby				Papaschase 1				Papaschase 2				*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count		
Aluminum	0.054	0.023	0.079	7	0.054	0.026	0.087	7	0.059	0.024	0.078	7	(0.1/0.2)	0.1/0.2
Beryllium	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7		
Bromide Dissolved	<0.024	<0.005	<0.050	7	<0.031	<0.005	<0.050	7	<0.021	<0.005	<0.050	7		
Calcium	43.6	40.5	47.3	7	42.9	40.0	46.3	7	43.4	38.5	52.6	7		
Chloride Dissolved	5.6	3.9	7.5	7	5.4	4.0	6.3	7	4.3	0.1	6.8	7	(250)	
Cobalt	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7		
Copper	<0.005	<0.005	<0.005	7	<0.005	<0.005	<0.005	7	<0.005	<0.005	<0.005	7	(1)	
Hardness, Ca (mg CaCO3/L)	112	108	122	7	112	107	122	7	113	98	132	7		
Hardness, Total (mg CaCO3/L)	168	158	184	7	168	160	182	7	169	137	202	7		
Iron	<0.005	<0.005	<0.005	7	0.018	0.011	0.045	7	0.007	0.005	0.015	7	(0.3)	0.3
Lithium	0.0031	0.0030	0.0035	7	0.0032	0.0031	0.0036	7	0.0028	0.0019	0.0034	7		
Magnesium	12.8	12.1	13.8	7	12.8	12.1	13.7	7	12.7	9.6	16.1	7		
Manganese	<0.002	<0.002	<0.002	7	<0.002	<0.002	<0.002	7	<0.006	<0.002	<0.023	7	(0.05)	
Molybdenum	0.0007	0.0006	0.0009	7	0.0007	0.0006	0.0009	7	0.0007	0.0006	0.0008	7		
Nickel	<0.0005	<0.0005	0.0006	7	<0.0005	<0.0005	0.0006	7	<0.0010	<0.0005	0.0026	7		
Phosphorus	0.04	<0.02	0.06	7	0.03	<0.02	0.05	7	0.03	<0.02	0.04	7		
Potassium	0.70	0.60	0.80	7	0.71	0.60	0.80	7	0.94	0.60	2.45	7		
Silicon	1.80	1.60	2.21	7	1.75	1.62	1.92	7	1.75	1.59	1.97	7		
Silver	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	7		
Sodium	11.0	6.1	16.9	7	10.3	6.2	18.9	7	11.7	6.0	31.0	7	(200)	
Strontium	0.387	0.344	0.435	7	0.396	0.366	0.434	7	0.400	0.294	0.488	7		
Sulphate Dissolved	65	54	72	7	64	56	81	7	68	54	103	7	(500)	
Thallium	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7		
Tin	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7		
Titanium	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7		
Vanadium	<0.0006	<0.0005	0.0007	7	<0.0006	<0.0005	0.0007	7	<0.0006	<0.0005	0.0009	7		
Zinc	<0.005	<0.005	<0.005	7	<0.005	<0.005	<0.005	7	<0.005	<0.005	<0.005	7	(5)	
Zirconium	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	7		
Secondary Organics (ug/L) ***														
Bromodichloromethane	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7		16
Bromoform	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7		
Chloroform	18.3	6.9	30.1	7	19.0	9.7	29.9	7	13.6	9.2	22.6	7		
Dibromochloromethane	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7		
Dichlorobenzene (1,3)	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7		
Dichloroethylene, cis (1,2)	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7		
Dichloroethylene, trans (1,2)	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7		
Dichloropropane (1,2)	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	(15)	
MIBK	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7		

**7.12 Ormsby, Papaschase 1 and Papaschase 2 Reservoirs
2018**

Parameter	Ormsby				Papaschase 1				Papaschase 2				Limits	
	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count	*Approval or GCDWQ MAC, (AO or OG)	EPCOR
Styrene	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	7		
Tetrachloroethane (1,1,2,2)	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7		
Total Organic Carbon	1.6	1.2	1.9	6	1.5	1.2	1.8	6	1.5	0.6	2.0	6		
Total Volatile Organics (NonTHM)	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7		
Total Volatile Organics (Unknown)	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	7		
Trichlorobenzene (1,2,4)	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7		
Trichloroethane (1,1,1)	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7		
Xylene (1,2)	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7		
Xylene (1,4)	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	7		

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

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

*** Secondary Parameters do not have health based limits in Health Canada's Guidelines for Canadian Drinking Water Quality (GCDWQ).

**7.13 Rosslyn 1, Rosslyn 2 and Thorncliff Reservoirs
2018**

Parameter	Rosslyn 1				Rosslyn 2				Thorncliff				Limits	
	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	7	<1	<1	<1	6	<1	<1	<1	6	(15)	10
Conductivity (uS/cm)	377	360	388	7	378	340	403	6	379	348	403	6		
pH (N/A)	7.9	7.8	8.1	7	7.9	7.8	8.1	6	7.8	7.6	8.0	6	(7.0-10.5)	7.3-8.3
Turbidity (NTU)	0.09	0.05	0.24	52	0.08	0.04	0.24	52	0.07	0.04	0.15	52		1.0
Primary Inorganics (mg/L) **														
Antimony	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	0.006	
Arsenic	0.0003	<0.0002	0.0003	7	<0.0002	<0.0002	0.0003	6	<0.0002	<0.0002	0.0003	6	0.01	
Barium	0.059	0.053	0.066	7	0.062	0.055	0.075	6	0.061	0.054	0.074	6	1	
Boron	0.010	0.008	0.013	7	0.013	0.006	0.033	6	0.012	0.006	0.027	6	5	
Bromate Dissolved	<0.004	<0.003	<0.005	7	<0.004	<0.003	<0.005	6	<0.005	<0.003	<0.010	6	0.01	
Cadmium	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	0.005	
Chlorate Dissolved	<0.094	<0.077	0.102	7	0.101	<0.094	0.111	6	0.085	<0.042	0.114	6	1	
Chlorite Dissolved	<0.116	<0.005	<0.200	7	<0.070	<0.005	<0.200	6	<0.061	<0.005	<0.200	6	1	
Chromium	<0.0002	<0.0002	0.0003	7	<0.0003	<0.0002	0.0005	6	<0.0003	<0.0002	0.0004	6	0.05	
Fluoride	0.68	0.67	0.69	2	0.69	0.69	0.69	1	0.70	0.70	0.70	1		
Fluoride Dissolved	0.67	0.65	0.69	5	0.66	0.61	0.70	5	0.66	0.61	0.71	5	0.5-0.9 (1.5)	0.6-0.8
Lead	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	0.01	
Mercury	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	0.001	
Nitrate (as N) Dissolved	0.066	0.020	0.110	7	0.106	0.018	0.325	6	0.072	0.019	0.179	6	10	
Nitrite (as N) Dissolved	<0.005	<0.005	<0.005	7	<0.005	<0.005	<0.005	6	<0.006	<0.005	<0.010	6	1	
Selenium	<0.0002	<0.0002	0.0003	7	<0.0002	<0.0002	0.0003	6	<0.0002	<0.0002	0.0003	6	0.05	
Total Chlorine	1.61	0.93	1.96	52	1.72	1.34	2.11	52	1.72	1.26	2.07	52	>0.5 and < 3.0	>1.0 and <2.4
Uranium	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	6	0.02	
Primary Organics (ug/L) **														
Benzene	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	5	
Carbon Tetrachloride	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	2	
Chlorobenzene	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	6	80 (30)	
Dichlorobenzene (1,2)	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	6	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.5	<0.5	7	<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	7	<3.0	<3.0	<3.0	6	<3.0	<3.0	<3.0	6	14	
Ethylbenzene	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	6	140 (1.6)	
Methylene Chloride	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	50	
Tetrachloroethylene	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	10	
Toluene	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	6	60 (24)	
Trichloroethylene	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	6	5	
Secondary Inorganics (mg/L) ***														
Alkalinity Total (mg CaCO3/L)	135	112	225	7	116	91	132	6	119	98	141	6		

**7.13 Rosslyn 1, Rosslyn 2 and Thorncliff Reservoirs
2018**

Parameter													Limits	
	Rosslyn 1				Rosslyn 2				Thorncliff				*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count		
Aluminum	0.054	0.028	0.072	7	0.062	0.028	0.091	6	0.060	0.023	0.086	6	(0.1/0.2)	0.1/0.2
Beryllium	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6		
Bromide Dissolved	<0.031	<0.005	<0.050	7	<0.020	<0.005	<0.050	6	<0.019	<0.005	<0.050	6		
Calcium	43.6	39.6	46.6	7	42.6	37.2	48.4	6	42.8	37.7	47.1	6		
Chloride Dissolved	6.0	4.4	9.4	7	6.1	4.4	11.4	6	5.0	0.1	8.0	6	(250)	
Cobalt	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6		
Copper	<0.005	<0.005	<0.005	7	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	(1)	
Hardness, Ca (mg CaCO3/L)	111	104	122	7	110	94	120	6	109	95	123	6		
Hardness, Total (mg CaCO3/L)	169	160	183	7	165	137	180	6	165	138	185	6		
Iron	0.009	0.006	0.014	7	0.006	<0.005	0.008	6	0.005	<0.005	0.005	6	(0.3)	0.3
Lithium	0.0033	0.0031	0.0036	7	0.0029	0.0020	0.0035	6	0.0028	0.0020	0.0034	6		
Magnesium	13.1	12.0	14.2	7	12.7	10.4	14.6	6	12.8	10.3	14.4	6		
Manganese	<0.002	<0.002	<0.002	7	0.004	<0.002	0.011	6	0.004	<0.002	0.017	6	(0.05)	
Molybdenum	0.0008	0.0007	0.0008	7	0.0008	0.0007	0.0008	6	0.0007	0.0007	0.0008	6		
Nickel	<0.0005	<0.0005	0.0006	7	0.0010	<0.0005	0.0032	6	0.0008	<0.0005	0.0019	6		
Phosphorus	0.04	<0.02	0.05	7	0.03	<0.02	0.04	6	0.03	<0.02	0.05	6		
Potassium	0.74	0.60	0.90	7	1.25	0.60	4.12	6	0.99	0.60	2.94	6		
Silicon	1.74	1.53	1.90	7	1.80	1.60	1.94	6	1.81	1.57	2.20	6		
Silver	<0.0002	<0.0002	<0.0002	7	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6		
Sodium	10.2	6.3	14.5	7	11.2	6.0	25.6	6	12.4	6.6	29.2	6	(200)	
Strontium	0.398	0.369	0.432	7	0.396	0.339	0.434	6	0.386	0.323	0.429	6		
Sulphate Dissolved	63	55	70	7	64	49	90	6	67	54	94	6	(500)	
Thallium	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	6		
Tin	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	6		
Titanium	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	6		
Vanadium	<0.0006	<0.0005	0.0007	7	<0.0006	<0.0005	0.0009	6	<0.0006	<0.0005	0.0009	6		
Zinc	<0.005	<0.005	<0.005	7	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	(5)	
Zirconium	<0.0005	<0.0005	<0.0005	7	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0006	6		
Secondary Organics (ug/L) ***														
Bromodichloromethane	<0.5	<0.5	<0.5	7	<0.7	<0.5	1.4	6	<0.5	<0.5	0.5	6		16
Bromoform	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Chloroform	19.6	10.3	29.8	7	16.3	10.0	26.8	6	16.1	10.0	29.6	6		
Dibromochloromethane	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	6		
Dichlorobenzene (1,3)	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	6		
Dichloroethylene, cis (1,2)	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	6		
Dichloroethylene, trans (1,2)	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	6		
Dichloropropane (1,2)	<0.5	<0.5	<0.5	7	<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	7	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	(15)	
MIBK	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		

**7.13 Rosslyn 1, Rosslyn 2 and Thorncliff Reservoirs
2018**

Parameter													Limits	
	Rosslyn 1				Rosslyn 2				Thorncliff				*Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max	Count		
Styrene	<0.50	<0.50	<0.50	7	<0.50	<0.50	<0.50	6	<0.50	<0.50	<0.50	6		
Tetrachloroethane (1,1,2,2)	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Total Organic Carbon	1.5	0.9	2.0	6	1.3	<0.6	1.9	6	1.4	<0.6	1.9	6		
Total Volatile Organics (NonTHM)	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Total Volatile Organics (Unknown)	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Trichlorobenzene (1,2,4)	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Trichloroethane (1,1,1)	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Xylene (1,2)	<0.5	<0.5	<0.5	7	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Xylene (1,4)	<0.5	<0.5	<0.5	7	<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 Parks (AEP) Approval Limit. Limits in brackets indicate aesthetic objective or operational guidelines.

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

*** Secondary Parameters do not have health based limits in Health Canada's Guidelines for Canadian Drinking Water Quality (GCDWQ).

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

2018

RESULT

Parameter or Location	12 months running				Limits	
	Mean	Min	Max	Count	GCDWQ or Approval or MAC* or (AO or OG) 12 month running	EPCOR single result
Trihalomethanes (ug/L)					100	50
01-RI	17.1	7.0	28.4	12		
01-SR	18.0	10.9	28.6	5		
02-SR	18.9	11.1	26.7	2		
03-SR	11.8	5.0	20.3	3		
04-SR	20.4	12.6	28.9	5		
05-SR	11.3	11.3	11.3	1		
07-SR	17.4	8.2	26.6	2		
08-SR	14.0	6.0	21.1	11		
09-SR	12.4	12.4	12.4	1		
10-DE	16.2	8.0	28.4	13		
11-DE	18.1	11.7	30.1	11		
12-SR	18.0	18.0	18.0	1		
13-OF	27.1	27.1	27.1	1		
13-RI	17.7	11.0	27.3	8		
15-RF	8.0	8.0	8.0	1		
16-DE	13.9	6.0	26.0	12		
18-DE	18.6	10.8	32.1	12		
19 RI	12.3	12.3	12.3	1		
19-R1	22.5	22.5	22.5	1		
19-RI	17.3	10.0	28.1	10		
19-SR	17.0	16.0	18.0	2		
22-SR	16.8	11.0	27.5	3		
24-RI	18.1	10.9	26.5	11		
25-RI	17.4	11.0	25.8	12		
25-SR	17.2	10.0	26.8	5		
26-SR	14.4	13.0	15.7	2		
28-DE	16.2	7.0	28.4	12		
28-SR	13.1	11.7	14.4	2		
29-SR	15.3	9.0	27.5	5		
Total Count				167		

Mean	16.4	11.4	23.3
Min	8.0	5.0	8.0
Max	27.1	27.1	32.1

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

2018

RESULT

Parameter or Location	12 months running				Limits	
	Mean	Min	Max	Count	GCDWQ or Approval or MAC* or (AO or OG) 12 month running	EPCOR single result
HAA (ug/L)					80	40
01-SR	20.6	12.4	31.9	5		
02-SR	24.5	11.4	37.5	2		
03-SR	15.7	10.0	24.9	3		
04-SR	22.2	11.3	42.6	5		
05-SR	13.5	13.5	13.5	1		
07-SR	25.7	9.8	41.6	2		
08-SR	15.3	8.4	25.3	11		
09-SR	13.2	13.2	13.2	1		
12-SR	17.0	17.0	17.0	1		
13-RI	14.9	14.9	14.9	1		
19 RI	12.2	12.2	12.2	1		
19-R1	20.4	20.4	20.4	1		
19-RI	17.3	9.7	28.2	10		
19-SR	18.5	18.0	19.0	2		
22-SR	22.5	13.7	39.8	3		
24-RI	18.3	10.4	32.6	11		
25-SR	16.5	10.0	21.5	5		
26-SR	15.5	15.0	15.9	2		
28-SR	12.9	11.1	14.7	2		
29-SR	14.2	9.5	22.4	5		
Total Count				74		

Mean	17.5	12.6	24.5
Min	12.2	8.4	12.2
Max	25.7	20.4	42.6

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

2018

RESULT

Parameter or Location	12 months running				Limits	
	Mean	Min	Max	Count	GCDWQ or Approval or MAC* or (AO or OG) 12 month running	EPCOR single result
NDMA (ng/L)					40	10
01-SR	2.0	<1.4	2.8	3		
03-SR	1.6	<1.5	<1.7	2		
04-SR	4.9	<1.4	8.4	2		
07-SR	4.2	4.2	4.2	1		
08-SR	2.3	<0.5	5.7	4		
09-SR	2.1	2.1	2.1	1		
12-SR	2.5	2.5	2.5	1		
19-RI	1.9	<1.9	<1.9	1		
19-SR	1.2	<1.2	<1.2	1		
24-RI	4.4	<1.2	8.4	11		
25-SR	5.5	3.1	6.8	3		
26-SR	1.4	<1.4	<1.4	1		
28-SR	2.2	2.2	2.2	1		
29-SR	3.0	<1.6	4.5	4		
Total Count				36		

Mean	2.8	1.9	3.8
Min	1.2	0.5	1.2
Max	5.5	4.2	8.4

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

2018

RESULT

Parameter or Location	12 months running				Limits	
	Mean	Min	Max	Count	GCDWQ or Approval or MAC* or (AO or OG) 12 month running	EPCOR single result
Trihalomethanes (ug/L)					100	50
Castledowns Reservoir	17.0	7.0	27.7	7		
Clareview Reservoir	17.9	12.2	28.2	7		
Kaskitayo Reservoir	15.2	9.0	21.3	3		
Londonderry Reservoir	16.6	10.0	26.4	6		
Millwoods Reservoir	17.4	6.0	27.5	7		
North Jasper Place Reservoir	18.8	11.9	29.9	7		
Ormsby Reservoir	18.3	7.0	30.1	7		
Papaschase Reservoir 1	18.9	9.7	29.9	7		
Papaschase Reservoir 2	13.6	9.0	22.6	6		
Rosslyn Reservoir 1	19.7	10.3	29.8	7		
Rosslyn Reservoir 2	16.4	10.0	26.8	6		
Thornclyff Reservoir	16.1	10.0	29.6	8		
				78		

Mean	17.2	9.3	27.5
Min	13.6	6.0	21.3
Max	19.7	12.2	30.1

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

- DE - Dead End
- FS - Firestation
- OF - Other Facilities (stores / Restaurant)
- PF - Plant First Customer (Guardhouse)
- PR - Private Residence (Non-Staff)
- RI - Regional Influent
- SR - Staff Residence

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

2018

	ROSSDALE				E.L. SMITH			
	Mean	Min	Max	Count	Mean	Min	Max	Count
Physical								
Colour (TCU)	11	3	94	364	11	<1	85	365
Conductivity (uS/cm)	344	258	412	52	339	246	409	52
FPA-Intensity (N/A)	0.66	0.25	1.75	83	0.64	0.31	1.75	83
pH (N/A)	8.2	8.0	8.5	12	8.2	8.0	8.5	12
Total Dissolved Solids (mg/L)	200	166	231	12	197	165	227	12
Total Suspended Solids	43	<5	444	12	92	<5	1,020	12
Turbidity (NTU)	24.57	1.10	1,940	364	19.53	1.03	466	365
Primary Inorganics (mg/L) **								
Antimony	<0.0004	<0.0002	<0.0021	12	<0.0004	<0.0002	<0.0021	12
Antimony Dissolved	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12
Arsenic	<0.0008	<0.0002	0.0056	12	<0.0010	<0.0003	0.0080	12
Arsenic Dissolved	0.0003	<0.0002	0.0005	12	0.0003	<0.0002	0.0005	12
Barium	0.077	0.058	0.223	12	0.089	0.058	0.368	12
Barium Dissolved	0.061	0.055	0.069	12	0.061	0.056	0.068	12
Boron	<0.014	<0.007	<0.053	12	<0.013	<0.007	<0.053	12
Boron Dissolved	0.010	0.008	0.013	12	0.009	0.007	0.013	12
Bromate Dissolved	<0.004	<0.003	<0.005	100	<0.004	<0.003	<0.005	100
Cadmium	<0.0004	<0.0002	<0.0021	12	<0.0004	<0.0002	<0.0021	12
Cadmium Dissolved	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12
Chlorate Dissolved	<0.038	<0.005	<0.100	100	<0.038	<0.005	<0.100	100
Chlorite Dissolved	<0.073	<0.005	0.200	100	<0.073	<0.005	<0.200	100
Chromium	<0.0016	<0.0002	0.0138	12	0.0029	<0.0002	0.0295	12
Chromium Dissolved	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12
Cyanide Dissolved	<0.002	<0.002	<0.002	12	<0.002	<0.002	<0.002	12
Fluoride	0.12	0.11	0.14	13	0.12	0.10	0.14	13
Fluoride Dissolved	0.13	0.11	0.15	39	0.12	0.10	0.14	39
Lead	<0.0009	<0.0002	0.0085	12	<0.0013	<0.0002	0.0117	12
Lead Dissolved	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12
Mercury	<0.0004	<0.0002	<0.0021	12	<0.0004	<0.0002	<0.0021	12
Mercury Dissolved	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12
Nitrate (as N) Dissolved	0.063	<0.008	0.485	100	0.059	<0.007	0.378	100
Nitrite (as N) Dissolved	0.007	<0.005	0.035	100	0.007	<0.005	0.026	100
Selenium	<0.0004	<0.0002	<0.0021	12	<0.0004	<0.0002	<0.0021	12
Selenium Dissolved	0.0003	<0.0002	0.0003	12	0.0003	<0.0002	0.0003	12
Total Chlorine	<0.03	<0.03	<0.03	12	<0.03	<0.03	<0.03	12
Uranium	<0.0009	<0.0005	<0.0053	12	<0.0009	<0.0005	<0.0053	12
Uranium Dissolved	<0.0005	<0.0005	0.0006	12	<0.0005	<0.0005	0.0006	12

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

2018

	ROSSDALE				E.L. SMITH			
	Mean	Min	Max	Count	Mean	Min	Max	Count
Primary Organics (ug/L) **								
2,4-D	<0.007	<0.005	<0.007	4	<0.007	<0.005	<0.007	4
2,4-Dichlorophenol	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4
Atrazine	<0.003	<0.002	<0.005	4	<0.003	<0.002	<0.005	4
Benzene	<0.5	<0.1	<0.5	368	<0.5	<0.1	<0.5	372
Benzo(a)pyrene	<0.06	<0.01	<0.10	7	<0.05	<0.01	<0.10	8
Bromoxynil	<0.024	<0.005	<0.030	4	<0.024	<0.005	<0.030	4
Carbon Tetrachloride	<1.0	<0.1	<1.0	370	<1.0	<0.1	<1.0	374
Chlorobenzene	<0.49	<0.03	<0.50	368	<0.49	<0.03	<0.50	372
Chlorpyrifos	<0.003	<0.002	<0.005	4	<0.003	<0.002	<0.005	4
Cyanazine	<0.023	<0.010	<0.060	4	<0.023	<0.010	<0.060	4
Diazinon	<0.004	<0.004	<0.005	4	<0.004	<0.004	<0.005	4
Dicamba	<0.003	<0.002	<0.005	4	<0.003	<0.002	<0.005	4
Dichlorobenzene (1,2)	<0.49	<0.03	<0.50	368	<0.49	<0.03	<0.50	372
Dichlorobenzene (1,4)	<0.5	<0.1	<0.5	368	<0.5	<0.1	<0.5	372
Dichloroethane (1,2)	<0.2	<0.1	<0.5	7	<0.2	<0.1	<0.5	7
Dichloroethylene (1,1)	<3.0	<0.1	<3.0	368	<3.0	<0.1	<3.0	372
Dichlorophenol (2,4)	<0.10	<0.10	<0.10	4	<0.10	<0.10	<0.10	4
Diclofop-methyl	<0.01	<0.01	<0.02	4	<0.01	<0.01	<0.02	4
Dimethoate	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4
Diuron	<0.2	<0.2	<0.2	6	<0.2	<0.2	<0.2	6
Ethylbenzene	<0.50	<0.02	<0.50	367	<0.50	<0.02	<0.50	371
Glyphosate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4
Malathion	<0.035	<0.030	<0.050	4	<0.035	<0.030	<0.050	4
MCPA	<0.009	<0.005	<0.010	4	<0.009	<0.005	<0.010	4
Methylene Chloride	<0.5	<0.1	<0.5	368	<0.5	<0.1	<0.5	372
Metolachlor	<0.008	<0.007	<0.012	4	<0.008	<0.007	<0.012	4
Metribuzin	<0.004	<0.002	<0.010	4	<0.004	<0.002	<0.010	4
Microcystin	<0.10	<0.10	<0.10	3	<0.11	<0.10	0.14	3
Microcystin Total	<0.12	<0.10	0.17	9	<0.11	<0.10	0.14	9
NTA (mg/L)	<0.24	<0.05	<0.30	4	<0.24	<0.05	<0.30	4
Pentachlorophenol	<0.6	<0.6	<0.6	4	<0.6	<0.6	<0.6	4
Perfluoro-n-Octanoic Acid (PFOA)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4
Perfluorooctane Sulfonate (PFOS)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4
Phorate	<0.004	<0.003	<0.005	4	<0.004	<0.003	<0.005	4
Picloram	<0.013	<0.010	<0.022	4	<0.013	<0.010	<0.022	4
Simazine	<0.006	<0.004	<0.010	4	<0.006	<0.004	<0.010	4
Terbufos	<0.02	<0.01	<0.03	4	<0.02	<0.01	<0.03	4
Tetrachloroethylene	<0.5	<0.1	<0.5	370	<0.5	<0.1	<0.5	374
Tetrachlorophenol (2,3,4,6)	<0.4	<0.4	<0.4	4	<0.4	<0.4	<0.4	4
Toluene	<0.49	<0.03	<0.50	368	<0.49	<0.03	<0.50	372
Trichloroethylene	<0.50	<0.03	<0.50	370	<0.50	<0.03	<0.50	374
Trichlorophenol (2,4,6)	<0.7	<0.7	<0.7	4	<0.7	<0.7	<0.7	4
Trifluralin	<0.003	<0.002	<0.005	4	<0.003	<0.002	<0.005	4
Trihalomethanes	<1.0	<1.0	<1.0	366	<1.0	<1.0	<1.0	370
Vinyl Chloride	<0.5	<0.1	<1.0	7	<0.5	<0.1	<1.0	7

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

2018

		ROSSDALE				E.L. SMITH			
		Mean	Min	Max	Count	Mean	Min	Max	Count
Radionuclides Bq/L)									
	Cesium-137	<0.20	<0.20	<0.20	2	<0.15	<0.10	<0.20	2
	Gross Alpha	<0.12	<0.12	<0.12	2	<0.12	<0.11	<0.12	2
	Gross Beta	<0.08	<0.06	<0.10	2	<0.09	<0.06	0.11	2
	Iodine-131	<0.25	<0.20	<0.30	2	<0.35	<0.30	<0.40	2
	Lead-210	<0.02	<0.02	<0.02	2	<0.02	<0.02	<0.02	2
	Radium-226	0.01	<0.01	0.01	2	0.02	<0.01	0.03	2
	Strontium-90	<0.1	<0.1	<0.1	2	<0.1	<0.1	<0.1	2
	Tritium	<15	<15	<15	2	<18	<15	20	2

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

2018

	ROSSDALE				E.L. SMITH			
	Mean	Min	Max	Count	Mean	Min	Max	Count
Secondary Inorganics (mg/L) ***								
Alkalinity Total (mg CaCO3/L)	129	92	154	52	128	91	152	52
Alkalinity, PHP (mg CaCO3/L)	<1	<1	<1	12	<1	<1	<1	12
Aluminum	1.112	<0.040	10.700	12	2.074	0.056	22.500	12
Aluminum Dissolved	0.034	<0.005	0.136	12	0.008	<0.005	0.042	12
Ammonia as N	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4
Ammonia as NH3	0.07	<0.05	0.31	84	<0.07	<0.05	0.29	84
Beryllium	<0.0004	<0.0002	<0.0021	12	<0.0004	<0.0002	<0.0021	12
Beryllium Dissolved	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12
Bromide Dissolved	<0.021	<0.005	<0.050	100	<0.021	<0.005	<0.050	100
Calcium	43.8	38.8	54.2	12	46.7	39.6	78.2	12
Calcium Dissolved	45.14	31.40	55.30	12	45.25	32.80	56.30	12
Chloride Dissolved	1.95	0.48	13.40	100	0.81	0.39	3.76	100
Chlorine Free	<0.030	<0.030	<0.030	12	<0.030	<0.030	<0.030	12
Cobalt	<0.0007	<0.0002	0.0066	12	<0.0010	<0.0002	0.0100	12
Cobalt Dissolved	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12
Copper	<0.009	<0.005	<0.053	12	<0.009	<0.005	<0.053	12
Copper Dissolved	<0.005	<0.005	0.006	12	<0.005	<0.005	<0.005	12
Hardness, Ca (mg CaCO3/L)	110	53	139	52	109	48	137	52
Hardness, Total (mg CaCO3/L)	168	100	213	52	168	110	205	52
Iron	1.471	<0.028	15.700	12	2.296	<0.005	25.400	12
Iron Dissolved	0.007	<0.005	0.029	12	0.017	<0.005	0.124	12
Lithium	0.0042	0.0029	0.0125	12	0.0046	0.0023	0.0190	12
Lithium Dissolved	0.0034	0.0028	0.0044	12	0.0032	0.0026	0.0036	12
Magnesium	13.4	12.4	16.5	12	14.3	12.1	25.1	12
Magnesium Dissolved	13.4	8.7	16.9	12	13.4	9.2	17.4	12
Manganese	0.033	<0.002	0.329	12	0.054	<0.002	0.566	12
Manganese Dissolved	<0.002	<0.002	0.002	12	0.004	<0.002	0.023	12
Molybdenum	<0.0009	<0.0006	<0.0021	12	<0.0008	<0.0006	<0.0021	12
Molybdenum Dissolved	0.0007	0.0006	0.0009	12	0.0007	0.0006	0.0009	12
Nickel	<0.0025	<0.0005	0.0206	12	<0.0036	<0.0005	0.0296	12
Nickel Dissolved	<0.0006	<0.0005	0.0013	12	<0.0006	<0.0005	0.0012	12
Phosphate, Ortho (as P)	<0.02	<0.01	0.05	12	<0.02	<0.01	0.04	12
Phosphorus	0.06	<0.02	0.35	12	0.09	<0.02	0.70	12
Phosphorus Dissolved	0.03	<0.02	0.06	12	0.03	<0.02	0.05	12
Potassium	1.08	0.50	4.98	12	1.22	0.60	6.46	12
Potassium Dissolved	0.83	0.60	2.21	12	0.79	0.60	1.86	12
Silicon	4.31	1.62	28.40	12	5.45	1.68	42.20	12
Silicon Dissolved	1.83	1.61	2.12	12	1.84	1.59	2.10	12
Silver	<0.0004	<0.0002	<0.0021	12	<0.0004	<0.0002	<0.0021	12
Silver Dissolved	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12
Sodium	4.2	3.3	7.0	12	4.3	3.1	9.5	12
Sodium Dissolved	4.2	3.3	6.1	12	3.8	3.1	5.1	12
Strontium	0.405	0.308	0.510	12	0.409	0.333	0.502	12
Strontium Dissolved	0.397	0.254	0.520	12	0.398	0.263	0.502	12
Sulphate Dissolved	48.1	30.6	61.5	100	47.4	29.0	60.8	100
Sulphide	<0.002	<0.002	0.003	12	<0.002	<0.002	<0.002	12
Thallium	<0.0009	<0.0005	<0.0053	12	<0.0009	<0.0005	<0.0053	12
Thallium Dissolved	<0.0005	<0.0005	<0.0005	12	<0.0005	<0.0005	<0.0005	12

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

2018

	ROSSDALE				E.L. SMITH			
	Mean	Min	Max	Count	Mean	Min	Max	Count
Secondary Inorganics (mg/L) ***								
Tin	<0.0009	<0.0005	<0.0053	12	<0.0009	<0.0005	<0.0053	12
Tin Dissolved	<0.0005	<0.0005	<0.0005	12	<0.0005	<0.0005	<0.0005	12
Titanium	0.0134	<0.0005	0.1145	12	0.0230	<0.0005	0.2355	12
Titanium Dissolved	<0.0005	<0.0005	<0.0005	12	<0.0005	<0.0005	0.0006	12
Total Kjeldahl Nitrogen (TKN)	0.23	<0.03	1.36	12	0.25	<0.03	1.74	12
Vanadium	<0.0029	<0.0005	0.0237	12	0.0054	<0.0006	0.0521	12
Vanadium Dissolved	<0.0005	<0.0005	<0.0005	12	<0.0005	<0.0005	0.0010	12
Zinc	<0.009	<0.005	<0.053	12	<0.016	<0.005	0.135	12
Zinc Dissolved	<0.005	<0.005	<0.005	12	<0.005	<0.005	<0.005	12
Zirconium	<0.0011	<0.0005	0.0079	12	<0.0009	<0.0005	0.0055	12
Zirconium Dissolved	<0.0005	<0.0005	0.0005	12	<0.0005	<0.0005	<0.0005	12

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

2018

	ROSSDALE				E.L. SMITH			
	Mean	Min	Max	Count	Mean	Min	Max	Count
Secondary Organics (ug/L) ***								
2,4-DB	<0.008	<0.005	<0.009	4	<0.008	<0.005	<0.009	4
2,4-DP	<0.004	<0.003	<0.005	4	<0.004	<0.003	<0.005	4
Acenaphthene	<0.12	<0.01	<0.20	7	<0.10	<0.01	<0.20	8
Acenaphthylene	<0.06	<0.01	<0.10	7	<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	3	<0.01	<0.01	<0.01	4
Aldicarb	<0.1	<0.1	<0.1	6	<0.1	<0.1	<0.1	6
Aldicarb sulfone	<0.20	<0.20	<0.20	5	<0.20	<0.20	<0.20	5
Aldicarb sulfoxide	<0.10	<0.10	<0.10	5	<0.10	<0.10	<0.10	5
Aldrin	<0.005	<0.004	<0.009	4	<0.005	<0.004	<0.009	4
alpha-Endosulfan	<0.004	<0.003	<0.005	4	<0.004	<0.003	<0.005	4
Aminocarb	<0.020	<0.020	<0.020	5	<0.020	<0.020	<0.020	5
Aminomethyl Phosphonic Acid	<0.3	<0.3	<0.3	4	<0.3	<0.3	<0.3	4
Aminopyralid	<0.05	<0.03	<0.05	4	<0.05	<0.03	<0.05	4
Anthracene	<0.12	<0.01	<0.20	7	<0.10	<0.01	<0.20	8
Azinphos-methyl	<0.1	<0.1	<0.2	4	<0.1	<0.1	<0.2	4
Azoxystrobin	<0.005	<0.005	<0.005	3	<0.005	<0.005	<0.005	3
Benomyl	<0.010	<0.010	<0.010	5	<0.010	<0.010	<0.010	5
Bentazon	<0.005	<0.005	<0.006	4	<0.005	<0.005	<0.006	4
Benzidine	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4
Benzo(a)anthracene	<0.06	<0.01	<0.10	7	<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	3	<0.02	<0.02	<0.02	4
Benzo(c)phenanthrene	<0.01	<0.01	<0.01	3	<0.01	<0.01	<0.01	4
Benzo(e)pyrene	<0.01	<0.01	<0.01	3	<0.01	<0.01	<0.01	4
Benzo(ghi)perylene	<0.06	<0.01	<0.10	7	<0.05	<0.01	<0.10	8
Benzo(k)fluoranthene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4
Benzoylcegonine	<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	<0.053	<0.030	<0.060	4	<0.053	<0.030	<0.060	4
Bromobenzene	<0.03	<0.03	<0.03	4	<0.03	<0.03	<0.03	4
Bromodichloromethane	<0.5	<0.0	<0.5	370	<0.5	<0.0	<0.5	374
Bromoform	<1.0	<0.1	<1.0	370	<1.0	<0.1	<1.0	374
Bromomethane	<0.1	<0.1	<0.2	4	<0.1	<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	<0.005	<0.005	<0.005	5	<0.005	<0.005	<0.005	5
Carbathiin	<0.200	<0.200	<0.200	4	<0.200	<0.200	<0.200	4
Carbofuran	<0.005	<0.005	<0.005	5	<0.005	<0.005	<0.005	5
Chloramphenicol	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4
Chloro-2-MethylPhenol (4)	<0.004	<0.002	<0.010	4	<0.004	<0.002	<0.010	4

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

2018

	ROSSDALE				E.L. SMITH			
	Mean	Min	Max	Count	Mean	Min	Max	Count
Secondary Organics (ug/L) ***								
Chloro-3-methylphenol (4)	<0.8	<0.8	<0.8	4	<0.8	<0.8	<0.8	4
Chloroethane	<0.1	<0.1	<0.2	4	<0.1	<0.1	<0.2	4
Chloroethoxyethylene (2)	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4
Chloroform	<0.5	<0.1	<0.5	370	<0.5	<0.1	<0.5	374
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	<0.024	<0.005	<0.030	4	<0.024	<0.005	<0.030	4
Chlorotoluene (2)	<0.05	<0.05	<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	<0.116	<0.004	<0.200	7	<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	<0.025	<0.010	<0.070	4	<0.025	<0.010	<0.070	4
Clodinafop-propargyl	<0.018	<0.010	<0.040	4	<0.018	<0.010	<0.040	4
Clofibric Acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4
Clopyralid	<0.050	<0.020	<0.060	4	<0.050	<0.020	<0.060	4
Clothianidin	<0.005	<0.005	<0.005	3	<0.005	<0.005	<0.005	3
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
Deltamethrin	<0.007	<0.007	<0.007	3	<0.007	<0.007	<0.007	3
Desethyl Atrazine	<0.028	<0.020	<0.050	4	<0.028	<0.020	<0.050	4
Desisopropyl Atrazine	<0.035	<0.020	<0.080	4	<0.035	<0.020	<0.080	4
Dibenzo(a,h)pyrene	<0.01	<0.01	<0.01	3	<0.01	<0.01	<0.01	4
Dibenzo(a,i)pyrene	<0.01	<0.01	<0.01	3	<0.01	<0.01	<0.01	4
Dibenzo(a,l)pyrene	<0.01	<0.01	<0.01	3	<0.01	<0.01	<0.01	4
Dibenzo(ah)anthracene	<0.06	<0.01	<0.10	7	<0.05	<0.01	<0.10	8
Dibromo-3-chloropropane (1,2)	<1.5	<0.8	<2.1	4	<1.5	<0.8	<2.1	4
Dibromochloromethane	<0.50	<0.04	<0.50	370	<0.50	<0.04	<0.50	374
Dibromoethane (1,2)	<0.07	<0.07	<0.07	4	<0.07	<0.07	<0.07	4
Dibromomethane	<0.03	<0.03	<0.03	4	<0.03	<0.03	<0.03	4
Dichlorobenzene (1,3)	<0.49	<0.03	<0.50	368	<0.49	<0.03	<0.50	372
Dichloroethane (1,1)	<0.05	<0.02	<0.07	4	<0.05	<0.02	<0.07	4
Dichloroethylene, cis (1,2)	<0.50	<0.04	<0.50	368	<0.50	<0.04	<0.50	372
Dichloroethylene, trans (1,2)	<0.50	<0.04	<0.50	368	<0.50	<0.04	<0.50	372
Dichloropropane (1,2)	<0.5	<0.1	<0.5	368	<0.5	<0.1	<0.5	372
Dichloropropane (1,3)	<0.04	<0.04	<0.04	4	<0.04	<0.04	<0.04	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	<0.06	<0.06	4
Dichloropropylene cis (1,3)	<0.03	<0.03	<0.03	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	<0.007	<0.005	<0.008	4	<0.007	<0.005	<0.008	4
Diethyl phthalate	<0.1	<0.1	0.1	4	<0.1	<0.1	<0.1	4
Difenoconazol	<0.004	<0.004	<0.004	3	<0.004	<0.004	<0.004	3
Dimethyl phthalate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4

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

2018

	ROSSDALE				E.L. SMITH			
	Mean	Min	Max	Count	Mean	Min	Max	Count
Secondary Organics (ug/L) ***								
Dimethylbenz(a)anthracene (7,12)	<0.008	<0.008	<0.008	3	<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	<0.125	<0.100	<0.200	4	<0.125	<0.100	<0.200	4
Enrofloxacin	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4
EPTC	<0.006	<0.006	<0.006	5	<0.006	<0.006	<0.006	5
Erythromycin	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4
Ethalfuralin	<0.024	<0.005	<0.030	4	<0.024	<0.005	<0.030	4
Ethion	<0.09	<0.09	<0.10	4	<0.09	<0.09	<0.10	4
Ethofumesate	<0.003	<0.002	<0.005	4	<0.003	<0.002	<0.005	4
Fenoprofen	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4
Fenoxaprop-p-ethyl	<0.018	<0.010	<0.040	4	<0.018	<0.010	<0.040	4
Fluazifop	<0.013	<0.004	<0.040	4	<0.013	<0.004	<0.040	4
Fluoranthene	<0.06	<0.01	<0.10	7	<0.05	<0.01	<0.10	8
Fluorene	<0.06	<0.01	<0.10	7	<0.05	<0.01	<0.10	8
Fluoxetine	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4
Fluroxypyr	<0.004	<0.002	<0.010	4	<0.004	<0.002	<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	<0.2	<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	<0.010	<0.009	<0.010	4	<0.010	<0.009	<0.010	4
Hydroxy Carbofuran (3)	<0.020	<0.020	<0.020	5	<0.020	<0.020	<0.020	5
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	<0.008	<0.007	<0.009	4	<0.008	<0.007	<0.009	4
Imazethapyr	<0.013	<0.010	<0.020	4	<0.018	<0.010	0.030	4
Imidacloprid	<0.005	<0.005	<0.005	3	<0.005	<0.005	<0.005	3
Indeno(1,2,3-cd)pyrene	<0.12	<0.01	<0.20	7	<0.10	<0.01	<0.20	8
Indomethacin	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4
Iprodione	<0.013	<0.010	<0.020	4	<0.013	<0.010	<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	<0.03	<0.03	<0.03	4
Ketoprofen	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4
Lambda-Cyhalothrin	<0.020	<0.020	<0.020	3	<0.020	<0.020	<0.020	3
Lincomycin	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4
Lindane (alpha-BHC)	<0.003	<0.002	<0.005	4	<0.003	<0.002	<0.005	4
Lindane (gamma-BHC)	<0.003	<0.002	<0.005	4	<0.003	<0.002	<0.005	4
Linuron	<0.025	<0.020	<0.040	4	<0.025	<0.020	<0.040	4
MCPB	<0.035	<0.020	<0.040	4	<0.035	<0.020	<0.040	4
MCPB	<0.008	<0.005	<0.009	4	<0.008	<0.005	<0.009	4

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

2018

	ROSSDALE				E.L. SMITH			
	Mean	Min	Max	Count	Mean	Min	Max	Count
Secondary Organics (ug/L) ***								
Meclofenamic acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4
Metaxyl-M	<0.011	<0.004	<0.030	4	<0.011	<0.004	<0.030	4
Metconazol	<0.005	<0.005	<0.005	3	<0.005	<0.005	<0.005	3
Methamphetamine	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4
Methomyl	<0.2	<0.2	<0.2	6	<0.2	<0.2	<0.2	6
Methyl t-Butyl Ether (MTBE)	<0.5	<0.0	<0.5	368	<0.5	<0.0	<0.5	372
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	3	<0.007	<0.007	<0.007	4
Methylnaphthalene (1)	<0.006	<0.006	<0.006	3	<0.006	<0.006	<0.006	4
Methylnaphthalene (2)	<0.006	<0.006	<0.006	3	<0.006	<0.006	<0.006	4
MIBK	<1.0	<1.0	<1.0	364	<1.0	<1.0	<1.0	368
Monuron	<0.004	<0.004	<0.004	5	<0.004	<0.004	<0.004	5
N,N-diethyl-m-toluamide	<0.007	<0.005	0.011	4	<0.005	<0.005	<0.005	4
Naphthalene	<0.10	<0.01	<0.20	11	<0.09	<0.01	<0.20	12
Napropamide	<0.01	<0.01	<0.02	4	<0.01	<0.01	<0.02	4
Naproxen	<0.007	<0.005	0.011	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	<0.02	<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	<0.02	<0.01	<0.05	4	<0.02	<0.01	<0.05	4
p, p' - Methoxychlor	<0.02	<0.01	<0.03	4	<0.02	<0.01	<0.03	4
Parathion	<0.006	<0.005	<0.010	4	<0.006	<0.005	<0.010	4
Pentoxifylline	<0.500	<0.500	<0.500	4	<0.500	<0.500	<0.500	4
Perfluorobutane Sulfonate (PFBS)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4
Perfluorobutanoic acid	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4
Perfluorodecane Sulfonate	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4
Perfluorodecanoic Acid (PFDA)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4
Perfluorododecanoic Acid (PFDoA)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4
Perfluoroheptane sulfonate	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4
Perfluoroheptanoic Acid (PFHpA)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4
Perfluorohexane Sulfonate (PFHxS)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4
Perfluorohexanoic Acid (PFHxA)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4
Perfluorononanoic Acid (PFNA)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4
Perfluorooctane Sulfonamide	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4
Perfluoropentanoic Acid (PFPeA)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4
Perfluorotetradecanoic Acid	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4
Perfluorotridecanoic Acid	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4
Perfluoroundecanoic Acid (PFUnA)	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4
Permethrin	<0.004	<0.004	<0.004	3	<0.004	<0.004	<0.004	3

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

2018

	ROSSDALE				E.L. SMITH			
	Mean	Min	Max	Count	Mean	Min	Max	Count
Secondary Organics (ug/L) ***								
Perylene	<0.01	<0.01	<0.01	3	<0.01	<0.01	<0.01	4
Phenanthrene	<0.12	<0.01	<0.20	7	<0.10	<0.01	<0.20	8
Phenol	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4
Picoxystrobin	<0.005	<0.005	<0.005	3	<0.005	<0.005	<0.005	3
Pipemicid acid	<0.5	<0.5	<0.5	4	<0.5	<0.5	<0.5	4
p-Isopropyltoluene	<0.04	<0.04	<0.04	4	<0.04	<0.04	<0.04	4
Propiconazole	<0.020	<0.010	<0.050	4	<0.020	<0.010	<0.050	4
Prothioconazole	<0.007	<0.007	<0.007	3	<0.007	<0.007	<0.007	3
Pyraclostrobin	<0.004	<0.004	<0.004	3	<0.004	<0.004	<0.004	3
Pyrene	<0.06	<0.01	<0.10	7	<0.05	<0.01	<0.10	8
Pyridaben	<0.013	<0.010	<0.020	4	<0.013	<0.010	<0.020	4
Quinclorac	<0.004	<0.003	<0.005	4	<0.004	<0.003	<0.005	4
Quizalofop	<0.023	<0.020	<0.030	4	<0.023	<0.020	<0.030	4
Retene	<0.01	<0.01	<0.01	3	<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	<0.1	4	<0.1	<0.1	<0.1	4
Styrene	<0.49	<0.02	<0.50	368	<0.49	<0.02	<0.50	372
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
Tebuconazole	<0.003	<0.003	<0.003	3	<0.003	<0.003	<0.003	3
tert-Butylbenzene	<0.1	<0.1	<0.1	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	<0.1	<1.0	370	<1.0	<0.1	<1.0	374
Thiamethoxam	<0.03	<0.02	<0.05	4	<0.03	<0.02	<0.05	4
Tolfenamic acid	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4
Total Organic Carbon	2.9	<0.6	8.0	53	2.7	<0.6	7.8	53
Total Volatile Organics (NonTHM)	<1.0	<1.0	2.2	364	<1.0	<1.0	<1.0	368
Total Volatile Organics (Unknown)	<1.0	<1.0	2.1	361	<1.0	<1.0	<1.0	365
Triallate	<0.003	<0.002	<0.005	4	<0.003	<0.002	<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	2.2	372	<0.5	<0.1	<0.5	376
Trichlorocarbaniide (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	370	<0.5	<0.1	<0.5	374
Trichloroethane (1,1,2)	<0.06	<0.06	<0.06	4	<0.06	<0.06	<0.06	4
Trichlorofluoromethane	<0.09	<0.09	<0.09	4	<0.09	<0.09	<0.09	4
Trichloropropane (1,2,3)	<0.12	<0.04	<0.20	4	<0.12	<0.04	<0.20	4
Triclopyr	<0.005	<0.002	<0.010	4	<0.004	<0.002	<0.010	4
Triclosan	<0.025	<0.025	<0.025	4	<0.025	<0.025	<0.025	4
Trifloxystrobin	<0.004	<0.004	<0.004	3	<0.004	<0.004	<0.004	3
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	<0.04	<0.04	<0.04	4

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

2018

	ROSSDALE				E.L. SMITH			
	Mean	Min	Max	Count	Mean	Min	Max	Count
Secondary Organics (ug/L) ***								
Trimethylbenzene (1,3,5)	<0.04	<0.04	<0.04	4	<0.04	<0.04	<0.04	4
Triconazole	<0.020	<0.020	<0.020	3	<0.020	<0.020	<0.020	3
Vinclozolin	<0.012	<0.003	<0.040	4	<0.012	<0.003	<0.040	4
Xylene (1,2)	<0.5	<0.5	<0.5	364	<0.5	<0.5	<0.5	368
Xylene (1,4)	<0.5	<0.5	<0.5	364	<0.5	<0.5	<0.5	368
Xylene (m,p)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4
Xylene (o)	<0.04	<0.02	<0.06	4	<0.04	<0.02	<0.06	4

**7.16 Statistics on Water Quality Complaint Samples
Submitted for Laboratory Testing 2018**

MONTH	INCIDENT RELATED STATISTICS													SAMPLE RELATED STATISTICS			TOTAL TESTS
	TOTAL INCIDENTS	# VALID (3)	VIOLATION INCIDENTS (2)	AESTHETIC OBJECTIVE	# SATISFIED	PERCENT SATISFIED	COMPLAINT TYPES (1)							# SAMPLES	PBR VARIANCES	VIOLATING TESTS	
							H	C	T	S	TO	TO-PL	O				
JAN	7	0	0	0	7	100%	0	0	3	2	2	0	0	7	0	0	401
FEB	5	0	0	0	5	100%	0	2	2	0	1	0	0	5	0	0	234
MAR	6	1	0	0	6	100%	0	0	1	3	2	0	0	6	1	0	368
APR	3	0	0	0	3	100%	0	0	1	0	2	0	0	3	0	0	166
MAY	4	1	0	0	4	100%	0	0	2	0	2	0	0	4	2	0	200
JUN	5	0	0	0	5	100%	0	0	1	1	1	0	2	5	0	0	233
JUL	4	1	0	0	4	100%	0	1	1	1	1	0	0	4	1	0	204
AUG	11	3	0	0	11	100%	0	1	5	2	2	0	1	11	6	0	598
SEP	5	0	0	0	5	100%	0	0	1	0	3	0	1	5	0	0	297
OCT	5	1	0	0	5	100%	0	2	0	0	3	0	0	5	0	0	279
NOV	11	3	0	0	11	100%	0	2	1	0	7	0	1	11	0	0	680
DEC	12	3	0	0	12	100%	0	3	5	0	4	0	0	12	3	0	657
YTD	78	13	0	0	78	100%	0	11	23	9	30	0	5	78	13	0	4317

(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 REPORTABLE DETECTION LIMITS

Analyte	RDL	Unit
Alkalinity phenolphthalein	1	mg CaCO ₃ /L
Alkalinity Total	1	mg CaCO ₃ /L
Aluminum	0.005	mg/L
Aluminum Dissolved	0.005	mg/L
Ammonia as N	0.05	mg/L
Ammonia as NH ₃	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	µg/L
Beryllium	0.0002	mg/L
Beryllium Dissolved	0.0002	mg/L
Boron	0.005	mg/L
Boron Dissolved	0.005	mg/L
Bromate Dissolved	0.005	mg/L
Bromide Dissolved	0.005	mg/L
Bromochloroacetic acid	1.0	ug/L
Bromodichloromethane	0.5	µg/L
Bromoform	1.0	µg/L
Cadmium	0.0002	mg/L
Cadmium Dissolved	0.0002	mg/L
Calcium	0.1	mg/L
Calcium Dissolved	0.1	mg/L
Calcium Hardness	2	mg CaCO ₃ /L
Carbon Tetrachloride	1.0	µg/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	µg/L
Chloroform	0.5	µg/L
Chromium	0.0002	mg/L
Chromium Dissolved	0.0002	mg/L
Cobalt	0.0002	mg/L
Cobalt Dissolved	0.0002	mg/L
Coliforms, total	1.0	MPN/100 mL
Colour	0.5	TCU
Conductivity	1	µS/cm
Copper	0.005	mg/L
Copper Dissolved	0.005	mg/L
Cryptosporidium	0	oocysts/100L
Cyanide, dissolved	0.002	mg/L
Dibromoacetic acid	1.0	ug/L
Dibromochloromethane	0.5	µg/L
Dichloramine	0	mg/L
Dichloroacetic acid	2.0	ug/L

7.17 REPORTABLE DETECTION LIMITS

Analyte	RDL	Unit
Dichlorobenzene (1,2)	0.5	µg/L
Dichlorobenzene (1,3)	0.5	µg/L
Dichlorobenzene (1,4)	0.5	µg/L
Dichloroethylene (1,1)	3.0	µg/L
Dichloroethylene, cis (1,2)	0.5	µg/L
Dichloroethylene, trans (1,2)	0.5	µg/L
Dichloropropane (1,2)	0.5	µg/L
E. coli	1.0	MPN/100 mL
Ethylbenzene	0.5	µg/L
Fluoride	0.05	mg/L
Giardia	0	cysts/100L
Haloacetic Acids, total (HAA5)	5.0	ug/L
Haloacetic Acids, total (HAA6)	5.0	ug/L
Hardness, Total	2	mg CaCO3/L
Heterotrophic Plate Count	10	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
Methyl t-Butyl Ether (MTBE)	0.5	µg/L
Methylene Chloride	0.5	µg/L
MIBK	1.0	µg/L
Microcystin	0.10	µg/L
Molybdenum	0.0002	mg/L
Molybdenum Dissolved	0.0002	mg/L
Monobromoacetic acid	1.0	ug/L
Monochloramine	0.03	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
Nitrite (as N) Dissolved	0.005	mg/L
Ortho_P	0.01	mg/L
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

7.17 REPORTABLE DETECTION LIMITS

Analyte	RDL	Unit
Sodium Dissolved	0.1	mg/L
Strontium	0.002	mg/L
Strontium Dissolved	0.002	mg/L
Styrene	0.5	µg/L
Sulphate Dissolved	0.05	mg/L
Sulphide, dissolved	0.002	mg/L
Tetrachloroethane (1,1,2,2)	1.0	µg/L
Tetrachloroethylene	0.5	µg/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	µg/L
Total Dissolved Solids	5	mg/L
Total Kjeldahl Nitrogen	0.03	mg N/L
Total Organic Carbon	0.6	mg/L
Total Suspended Solids	5	mg/L
Total Volatile Organics (NonTHM)	1.0	µg/L
Total Volatile Organics (Unknown)	1.0	µg/L
Trichloroacetic acid	3.0	ug/L
Trichlorobenzene (1,2,4)	0.5	µg/L
Trichloroethane (1,1,1)	0.5	µg/L
Trichloroethylene	0.5	µg/L
Trihalomethanes	1.0	µg/L
Turbidity	0.02	NTU
Uranium	0.0005	mg/L
Uranium Dissolved	0.0005	mg/L
UV 254 % Transmittance	0.003	%T/cm
Vanadium	0.0005	mg/L
Vanadium Dissolved	0.0005	mg/L
Xylene (1,2)	0.5	µg/L
Xylene (1,4)	0.5	µg/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	0.007	ug/L
2,4-DB	0.009	ug/L
2,4-Dichlorophenol	0.008	ug/L
2,4-DP	0.003	ug/L
Acenaphthene	0.007	ug/L
Acenaphthylene	0.01	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

7.17 REPORTABLE DETECTION LIMITS

Analyte	RDL	Unit
Aldrin	0.004	ug/L
alpha-Endosulfan	0.003	ug/L
Aminocarb	0.02	ug/L
Aminomethyl Phosphonic Acid	0.3	ug/L
Aminopyralid	0.05	ug/L
Anthracene	0.007	ug/L
Atrazine	0.002	ug/L
Azinphos-methyl	0.06	ug/L
Azoxystrobin	0.005	ug/L
Benomyl	0.01	ug/L
Bentazon	0.005	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
Benzoyllecgonine	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)phtalate	0.3	ug/L
Bromacil	0.06	ug/L
Bromate Dissolved	0.003	mg/L
Bromide Dissolved	0.05	mg/L
Bromobenzene	0.03	ug/L
Bromodichloromethane	0.03	ug/L
Bromoform	0.06	ug/L
Bromomethane	0.08	ug/L
Bromophenyl phenyl ether (4)	0.2	ug/L
Bromoxynil	0.03	ug/L
Butylbenzylphtalate	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
Chloramphenicol	0.01	ug/L
Chlorate Dissolved	0.1	mg/L
Chloride Dissolved	0.05	mg/L
Chlorite Dissolved	0.2	mg/L
Chloro-2-MethylPhenol (4)	0.002	ug/L
Chloro-3-methylphenol (4)	0.8	ug/L
Chlorobenzene	0.03	ug/L
Chloroethane	0.06	ug/L
Chloroethoxyethylene (2)	0.05	ug/L

7.17 REPORTABLE DETECTION LIMITS

Analyte	RDL	Unit
Chloroform	0.2	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	0.03	ug/L
Chlorotoluene (2)	0.05	ug/L
Chlorotoluene (4)	0.05	ug/L
Chlorpyrifos	0.002	ug/L
Chrysene	0.004	ug/L
Ciprofloxacin	0.02	ug/L
Clindamycin	0.01	ug/L
Clodinafop acid metabolite	0.01	ug/L
Clodinafop-propargyl	0.01	ug/L
Clofibric Acid	0.01	ug/L
Clopyralid	0.06	ug/L
Clothianidin	0.005	ug/L
Cocaine	0.01	ug/L
Codeine	0.05	ug/L
Cotinine	0.01	ug/L
Cyanazine	0.01	ug/L
Deltamethrin	0.007	ug/L
Desethyl Atrazine	0.02	ug/L
Desisopropyl Atrazine	0.02	ug/L
Diazinon	0.004	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	0.008	ug/L
Dibromo-3-chloropropane (1,2)	2.1	ug/L
Dibromochloromethane	0.04	ug/L
Dibromoethane (1,2)	0.07	ug/L
Dibromomethane	0.03	ug/L
Dicamba	0.002	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)	0.02	ug/L
Dichloroethane (1,2)	0.05	ug/L
Dichloroethylene (1,1)	0.05	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	0.01	ug/L
Dieldrin	0.008	ug/L

7.17 REPORTABLE DETECTION LIMITS

Analyte	RDL	Unit
Diethyl phthalate	0.1	ug/L
Difenoconazol	0.004	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
Disulfoton	0.1	ug/L
Diuron	0.2	ug/L
Enrofloxacin	0.02	ug/L
EPTC	0.006	ug/L
Erythromycin	0.01	ug/L
Ethalfuralin	0.03	ug/L
Ethion	0.09	ug/L
Ethofumesate	0.002	ug/L
Ethylbenzene	0.02	ug/L
Fenoprofen	0.005	ug/L
Fenoxaprop-p-ethyl	0.01	ug/L
Fluazifop	0.004	ug/L
Fluoranthene	0.008	ug/L
Fluorene	0.006	ug/L
Fluoxetine	0.01	ug/L
Fluroxypyr	0.002	ug/L
Gemfibrozil	0.005	ug/L
Glufosinate	0.4	ug/L
Glyphosate	0.1	ug/L
Hexachlorobenzene	0.1	ug/L
Hexachlorobutadiene	0.1	ug/L
Hexachlorocyclopentadiene	0.1	ug/L
Hexachloroethane	0.3	ug/L
Hexaconazole	0.01	ug/L
Hydroxy Carbofuran (3)	0.02	ug/L
Ibuprofen	0.005	ug/L
Imazamethabenz-methyl	0.05	ug/L
Imazamox	0.007	ug/L
Imazethapyr	0.01	ug/L
Imidacloprid	0.005	ug/L
Indeno(1,2,3-cd)pyrene	0.008	ug/L
Indomethacin	0.05	ug/L
Iprodione	0.01	ug/L
Isophorone	0.2	ug/L
Isopropylbenzene	0.03	ug/L
Ketoprofen	0.01	ug/L
Lambda-Cyhalothrin	0.02	ug/L
Lincomycin	0.05	ug/L
Lindane (alpha-BHC)	0.002	ug/L
Lindane (gamma-BHC)	0.002	ug/L

7.17 REPORTABLE DETECTION LIMITS

Analyte	RDL	Unit
Linuron	0.02	ug/L
Malathion	0.03	ug/L
MCPA	0.01	ug/L
MCPB	0.04	ug/L
MCPP	0.009	ug/L
Meclofenamic acid	0.01	ug/L
Metaxyl-M	0.004	ug/L
Metconazol	0.005	ug/L
Methamphetamine	0.02	ug/L
Methomyl	0.2	ug/L
Methyl t-Butyl Ether (MTBE)	0.05	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	0.1	ug/L
Methylnaphthalene (1)	0.006	ug/L
Methylnaphthalene (2)	0.006	ug/L
Metolachlor	0.007	ug/L
Metribuzin	0.002	ug/L
Monuron	0.004	ug/L
N,N-diethyl-m-toluamide	0.005	ug/L
Naphthalene	0.007	ug/L
Napropamide	0.01	ug/L
Naproxen	0.005	ug/L
n-Butylbenzene	0.1	ug/L
NDMA	0.50	ng/L
Nitrate (as N) Dissolved	0.01	mg/L
Nitrite (as N) Dissolved	0.005	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	0.01	ug/L
p, p' - Methoxychlor	0.01	ug/L
Parathion	0.005	ug/L
Pentachlorophenol	0.6	ug/L
Pentoxifylline	0.5	ug/L
Permethrin	0.004	ug/L
Perylene	0.006	ug/L
Phenanthrene	0.007	ug/L
Phenol	0.1	ug/L
Phorate	0.003	ug/L
Picloram	0.01	ug/L
Picoxystrobin	0.005	ug/L
Pipemidic acid	0.5	ug/L
p-Isopropyltoluene	0.04	ug/L

7.17 REPORTABLE DETECTION LIMITS

Analyte	RDL	Unit
Propiconazole	0.01	ug/L
Prothioconazole	0.007	ug/L
Pyraclostrobin	0.004	ug/L
Pyrene	0.007	ug/L
Pyridaben	0.01	ug/L
Quinclorac	0.003	ug/L
Quizalofop	0.02	ug/L
Retene	0.007	ug/L
Salicylic acid	0.025	ug/L
sec-Butylbenzene	0.05	ug/L
Simazine	0.004	ug/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
Sulphate Dissolved	0.2	mg/L
Tebuconazole	0.003	ug/L
Terbufos	0.01	ug/L
tert-Butylbenzene	0.08	ug/L
Tetrachloroethane (1,1,1,2)	0.05	ug/L
Tetrachloroethane (1,1,2,2)	0.05	ug/L
Tetrachloroethylene	0.06	ug/L
Tetrachlorophenol (2,3,4,6)	0.4	ug/L
Thiamethoxam	0.02	ug/L
Tolfenamic acid	0.005	ug/L
Toluene	0.03	ug/L
Triallate	0.002	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	0.03	ug/L
Trichlorofluoromethane	0.09	ug/L
Trichlorophenol (2,4,6)	0.7	ug/L
Trichloropropane (1,2,3)	0.04	ug/L
Triclopyr	0.002	ug/L
Triclosan	0.025	ug/L
Trifloxystrobin	0.004	ug/L
Trifluralin	0.002	ug/L
Trimethoprim	0.02	ug/L
Trimethylbenzene (1,2,4)	0.04	ug/L
Trimethylbenzene (1,3,5)	0.04	ug/L
Triticonazole	0.02	ug/L
Vinclozolin	0.003	ug/L
Vinyl Chloride	0.06	ug/L

7.17 REPORTABLE DETECTION LIMITS

Analyte	RDL	Unit
Xylene (m,p)	0.07	ug/L
Xylene (o)	0.06	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 CaCO₃/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
RDL	= Reportable Detection Limit
TCU	= True Colour Units
TDS	= Total Dissolved Solids
TOC	= Total Organic Carbon
WL	= Water Laboratory
WTP	= Water Treatment Plant