

Water Quality 2015

7.1 Water Quality Objectives for EPCOR

2015

Parameter	Approval Requirement	EPCOR Internal Limit	EPCOR Target
Turbidity (NTU)			
Individual Filters	<0.3	<0.2 (3)	<0.08
Distribution (Routine Operation)	< 5 (4)	< 1 (2)	< 1
Distribution (After repairs)	< 5 (4)	< 3 (2)	< 1
Colour (TCU)	<15 (4)	<10 (2)	<3
pH (25°C)	6.5 - 8.5	7.3 - 8.3 (2)	7.5 - 8.0
Taste and Odour	Inoffensive	Inoffensive (2)	Inoffensive
E.coli (PA/100 mL)	absent	absent (2)	absent
Total Coliforms (PA/100 mL)	absent (1)	absent (2)	absent
Total Chlorine Residual (mg/L)			
Water Treatment Plant Effluent	>1.0	1.3 - 2.4 (3)	1.9 - 2.2
Reservoirs	>0.5	1.0 - 2.4 (2)	1.2 - 2.2
Distribution	>0.5 (5)	1.0 - 2.4 (2)	1.0 - 2.2
Fluoride: (mg/L)			
Reservoir Effluent	0.5 - 0.9	0.6 - 0.8 (2)	0.6 - 0.8
Trihalomethanes (mg/L)			
Reservoir Effluent	<0.100	<0.050 (2)	<0.040
Distribution System	<0.100	<0.050 (2)	<0.040
UV254 % Transmittance			
E.L. Smith	>88%	>89% (3)	>90%
Rossdale	>86%	>87% (3)	>88%
HAA (mg/L)			
Reservoir Effluent	< 0.080	< 0.040 (2)	<0.035
Distribution System	< 0.080	< 0.040 (2)	<0.035
NDMA (mg/L):			
Reservoir Effluent	< 0.000040	< 0.000010 (2)	<0.00005
Distribution System	< 0.000040	< 0.000010 (2)	<0.00005
Microorganism Log Removal at			
<i>Giardia</i>	≥5.5	≥6.0 (3)	>6.5
<i>Cryptosporidium</i>	≥5.5	≥5.5 (3)	>6.0
Virus	≥4.0	≥6.0 (3)	>8.0

(1) Two consecutive positive samples are a violation

(2) Limit based on City of Edmonton Performance Based Rate (PBR) agreement

(3) Limit based on EPCOR Action Level

(4) Aesthetic Objective

(5) in 75% of samples collected in a day

All values are expressed in units of mg/L unless otherwise stated.

Based on Dec 23, 2013 Summary of Epcor Edmonton Water Quality Standards.

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

2015

Parameter	Unit	MAC*	Average	Median	Min	Max	Count
Alkalinity, total	mg CaCO ₃ /L		125	115	90	139	730
Aluminum	mg/L	(0.1/0.2)	0.087	0.079	0.024	0.256	24
Arsenic	mg/L	0.01	0.0004	0.0003	<0.0002	0.0005	24
Bromate, dissolved	mg/L	0.01	<0.005	<0.005	<0.005	<0.005	154
Bromodichloromethane	ug/L		<0.5	<1.0	<1.0	1.6	730
Cadmium	mg/L	0.005	<0.0001	<0.0001	<0.0001	<0.0001	24
Chlorate, dissolved	mg/L	1	0.12	0.11	<0.10	0.21	154
Chloride, dissolved	mg/L		4.51	4.83	2.70	11.4	154
Chlorine, total	mg/L	3.0	2.04	2.00	1.84	2.22	730
Chlorite, dissolved	mg/L	1	<0.005	<0.200	<0.200	<0.200	154
Chromium	mg/L	0.05	<0.0002	<0.0002	<0.0002	0.0003	24
Colour	TCU	(15)	<1	<1	<1	2	730
Conductivity	uS/cm		368	367	333	405	116
Copper	mg/L	(1)	<0.002	<0.002	<0.002	0.002	24
Cryptosporidium	oocysts/100L		<0.1	<0.1	<0.1	0.1	25
Fluoride, dissolved	mg/L	1.5	0.67	0.68	0.59	0.78	730
Giardia	cysts/100L		<0.1	<0.1	<0.1	0.1	25
Haloacetic Acids, total (HAA5)	ug/L		14.6	16.6	11.3	33.3	26
Hardness, Calcium	mg CaCO ₃ /L		121	115	95	136	730
Hardness, total	mg CaCO ₃ /L		180	168	145	197	730
Iron	mg/L	(0.3)	<0.002	<0.002	<0.002	0.008	24
Lead	mg/L	0.01	<0.0001	<0.0001	<0.0001	<0.0001	24
Manganese	mg/L	(0.05)	<0.002	<0.002	<0.002	0.003	24
Mercury	mg/L	0.001	<0.0001	<0.0001	<0.0001	0.0002	24
NDMA	ng/L	40	1.2	1.3	<0.9	2.8	24
Nitrate (as N), dissolved	mg/L	10	0.08	0.03	<0.01	0.21	154
Nitrite (as N), dissolved	mg/L	1	<0.01	<0.01	<0.01	<0.01	154
pH	N/A	(6.5–8.5)	8.0	7.8	7.0	8.2	730
Potassium	mg/L		0.65	0.66	0.59	1.52	24
Sodium	mg/L	(200)	6.4	7.5	3.2	20.1	24
Sulphate, dissolved	mg/L		56.4	61.6	43.4	83.2	154
Total Dissolved Solids	mg/L		208	217	193	246	24
Total Organic Carbon	mg/L C		1.0	1.3	<0.5	2.6	116
Trihalomethanes	ug/L		8.3	10.4	2.2	47.7	730
Turbidity	NTU		0.08	0.07	0.05	0.15	730
Uranium	mg/L	0.02	<0.0005	<0.0005	<0.0005	0.0005	24
Zinc	mg/L	(5)	0.004	<0.002	<0.002	0.005	24

Bacteriological Data

Coliforms, total	PA/100 mL	62	Absent	Absent	Absent	730
E. coli	PA/100 mL	62	Absent	Absent	Absent	730

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

**7.3 Summary of Laboratory Analysis
Testing of the Edmonton Drinking Water**

2015

Regular Testing

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
Water Treatment Plant	# Tests	7,580	6,881	7,737	7,432	7,750	7,384	7,598	9,380	10,208	7,808	7,690	7,846	95,294
	# Samples	352	329	468	376	345	338	341	348	378	372	375	372	4,394
Field Reservoirs	# Tests	700	620	770	750	715	840	753	751	675	702	620	775	8,671
	# Samples	44	44	58	49	47	60	49	48	55	45	44	59	602
Routine Distribution System	# Tests	1,371	1,196	1,175	1,198	1,423	1,306	1,229	1,197	1,973	1,203	1,332	1,207	15,810
	# Samples	166	154	149	149	166	172	173	157	161	159	155	160	1,921
System Depressurization/Repair	# Tests	152	144	220	160	228	372	365	386	356	280	329	164	3,156
	# Samples	38	36	55	40	57	93	91	97	89	70	82	41	789
Customer Complaints	# Tests	129	7	238	120	136	178	193	505	296	336	1,240	734	4,112
	# Samples	6	1	8	4	6	4	5	13	14	14	22	17	114
Externally Contracted Analyses	# Tests	178	940	216	228	194	990	200	198	978	996	192	222	5,532
	# Samples	89	98	108	102	97	115	100	99	111	104	96	111	1,230
Total	# Tests	10,110	9,788	10,356	9,888	10,446	11,070	10,338	12,417	14,486	11,325	11,403	10,948	132,575
	# Samples	695	662	846	720	718	782	759	762	808	764	774	760	9,050

Extra Testing

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
New Watermain Testing	# Tests	100	75	100	40	40	65	40	115	155	140	235	290	1,395
	# Samples	20	15	20	8	8	13	8	23	31	28	47	58	279
Water Treatment Plant Waste Discharge	# Tests	12	12	12	15	15	12	15	14	12	9	13	10	151
	# Samples	4	4	4	5	5	4	5	5	4	5	6	5	56
Total	# Tests	112	87	112	55	55	77	55	129	167	149	248	300	1,546
	# Samples	24	19	24	13	13	17	13	28	35	33	53	63	335

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
Grand Total	# Tests	10,222	9,875	10,468	9,943	10,501	11,147	10,393	12,546	14,653	11,474	11,651	11,248	134,121
	# Samples	719	681	870	733	731	799	772	790	843	797	827	823	9,385

7.4 Bacteriological Data: Water Treatment Plants

2015

Treated Water Entering the Distribution System

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

Water Entering the Plant Reservoir

	# of +ve Samples		# of Samples		Limit	Required Frequency - Each Plant*	Unit
	Rossdale	E.L. Smith	Rossdale	E.L. Smith	GCDWQ or Approval		
Coliforms, total	0	0	365	365	N/A	[daily]	PA/100 mL
E. coli	0	0	365	365	N/A	[daily]	PA/100 mL
Heterotrophic Plate Count	6	6	365	365	N/A	[daily]	CFU/mL

Raw River Water Entering the Treatment Plants

	Rossdale			E.L. Smith			Rossdale	E.L. Smith	Limit	Required Frequency - Each Plant*	Unit
	Mean	Min	Max	Mean	Min	Max	# of Samples		GCDWQ or Approval		
Coliforms, total	966	19	24,000	346	23	3,200	365	52	N/A	[weekly]	PA/100 mL
E. coli	64	<1	1,300	25	<1	520	365	52	N/A	[weekly]	PA/100 mL
Heterotrophic Plate Count	221	86	570	161	45	400	8	8	N/A	[monthly]	CFU/mL

* Indicates EPCOR Operations Program.

7.5 Bacteriological Data: Distribution System

2015

	Coliforms, total			E. coli			HPC		
	Count	# +ve	% +ve	Count	# +ve	% +ve	Count	# +ve	% +ve
January									
FIELD DISTRIBUTION WATER	105	0	0.0	105	0	0.0	105	3	2.9
FIELD DISTRIBUTION WATER - PLPH	50	0	0.0	50	0	0.0	0		0.0
RESERVOIR WATER	44	0	0.0	44	0	0.0	44	0	0.0
RESERVOIR WATER - PLPH (duplicate-not counted)	39	0	0.0	39	0	0.0	0		0.0
Monthly	199	0	0.0	199	0	0.0	149	3	2.0
February									
FIELD DISTRIBUTION WATER	103	0	0.0	103	0	0.0	103	8	7.8
FIELD DISTRIBUTION WATER - PLPH	50	0	0.0	50	0	0.0	0		0.0
RESERVOIR WATER	44	0	0.0	44	0	0.0	44	0	0.0
RESERVOIR WATER - PLPH (duplicate-not counted)	44	0	0.0	44	0	0.0	0		0.0
Monthly	197	0	0.0	197	0	0.0	147	8	5.4
March									
FIELD DISTRIBUTION WATER	99	0	0.0	99	0	0.0	98	5	5.1
FIELD DISTRIBUTION WATER - PLPH	50	0	0.0	50	0	0.0	0		0.0
RESERVOIR WATER	58	0	0.0	58	0	0.0	58	3	5.2
RESERVOIR WATER - PLPH (duplicate-not counted)	58	0	0.0	58	0	0.0	0		0.0
Monthly	207	0	0.0	207	0	0.0	156	8	5.1
April									
FIELD DISTRIBUTION WATER	97	0	0.0	97	0	0.0	97	4	4.1
FIELD DISTRIBUTION WATER - PLPH	50	0	0.0	50	0	0.0	0		0.0
RESERVOIR WATER	48	0	0.0	48	0	0.0	48	1	2.1
RESERVOIR WATER - PLPH (duplicate-not counted)	48	0	0.0	48	0	0.0	0		0.0
Monthly	195	0	0.0	195	0	0.0	145	5	3.4
May									
FIELD DISTRIBUTION WATER	114	0	0.0	114	0	0.0	113	7	6.2
FIELD DISTRIBUTION WATER - PLPH	50	0	0.0	50	0	0.0	0		0.0
RESERVOIR WATER	47	0	0.0	47	0	0.0	47	0	0.0
RESERVOIR WATER - PLPH (duplicate-not counted)	47	0	0.0	47	0	0.0	0		0.0
Monthly	211	0	0.0	211	0	0.0	160	7	4.4
June									
FIELD DISTRIBUTION WATER	120	1	0.8	120	0	0.0	120	10	8.3
FIELD DISTRIBUTION WATER - PLPH	51	0	0.0	51	0	0.0	0		0.0
RESERVOIR WATER	60	0	0.0	60	0	0.0	60	6	10.0
RESERVOIR WATER - PLPH (duplicate-not counted)	60	0	0.0	60	0	0.0	0		0.0
Monthly	231	1	0.4	231	0	0.0	180	16	8.9

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

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

All Total Coliform positive events were investigated by re-sampling according to the ESRD Bacteriological Response protocol and were resolved.

7.5 Bacteriological Data: Distribution System

2015

	Coliforms, total			E. coli			HPC		
	Count	# +ve	% +ve	Count	# +ve	% +ve	Count	# +ve	% +ve
July									
FIELD DISTRIBUTION WATER	117	1	0.9	117	0	0.0	117	9	7.7
FIELD DISTRIBUTION WATER - PLPH	52	0	0.0	52	0	0.0	0		0.0
RESERVOIR WATER	48	0	0.0	48	0	0.0	48	2	4.2
RESERVOIR WATER - PLPH (duplicate-not counted)	48	0	0.0	48	0	0.0	0		0.0
Monthly	217	1	0.5	217	0	0.0	165	11	6.7
August									
FIELD DISTRIBUTION WATER	98	0	0.0	98	0	0.0	93	10	11
FIELD DISTRIBUTION WATER - PLPH	52	0	0.0	52	0	0.0	0		0.0
RESERVOIR WATER	48	0	0.0	48	0	0.0	48	1	2.1
RESERVOIR WATER - PLPH (duplicate-not counted)	47	0	0.0	47	0	0.0	0		0.0
Monthly	198	0	0.0	198	0	0.0	141	11	7.8
September									
FIELD DISTRIBUTION WATER	93	0	0.0	93	0	0.0	93	3	3.2
FIELD DISTRIBUTION WATER - PLPH	52	0	0.0	52	0	0.0	0		0.0
RESERVOIR WATER	55	0	0.0	55	0	0.0	55	1	1.8
RESERVOIR WATER - PLPH (duplicate-not counted)	55	0	0.0	55	0	0.0	0		0.0
Monthly	200	0	0.0	200	0	0.0	148	4	2.7
October									
FIELD DISTRIBUTION WATER	106	0	0.0	106	0	0.0	106	5	4.7
FIELD DISTRIBUTION WATER - PLPH	52	1	1.9	52	0	0.0	0		0.0
RESERVOIR WATER	44	0	0.0	44	0	0.0	44	1	2.3
RESERVOIR WATER - PLPH (duplicate-not counted)	44	0	0.0	44	0	0.0	0		0.0
Monthly	202	1	0.5	202	0	0.0	150	6	4.0
November									
FIELD DISTRIBUTION WATER	102	0	0.0	102	0	0.0	102	3	2.9
FIELD DISTRIBUTION WATER - PLPH	52	0	0.0	52	0	0.0	0		0.0
RESERVOIR WATER	44	0	0.0	44	0	0.0	44	0	0.0
RESERVOIR WATER - PLPH (duplicate-not counted)	44	0	0.0	44	0	0.0	0		0.0
Monthly	198	0	0.0	198	0	0.0	146	3	2.1
December									
FIELD DISTRIBUTION WATER	104	0	0.0	104	0	0.0	104	1	1.0
FIELD DISTRIBUTION WATER - PLPH	52	0	0.0	52	0	0.0	0		0.0
RESERVOIR WATER	59	0	0.0	59	0	0.0	59	0	0.0
RESERVOIR WATER - PLPH (duplicate-not counted)	59	0	0.0	59	0	0.0	0		0.0
Monthly	215	0	0.0	215	0	0.0	163	1	0.6
Year to Date	2,470	3	0.1	2,470	0	0.0	1,850	83	4.5

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All Total Coliform positive events were investigated by re-sampling according to the ESRD Bacteriological Response protocol and were resolved.

7.5 Bacteriological Data: Distribution System

2015

Samples from Depressurizations

	Coliforms, total			E. coli			Heterotrophic Plate Count		
	Count	# +ve	% +ve	Count	# +ve	% +ve	Count	# +ve	% +ve
January	38	0	0.0	38	0	0.0	0	0	0.0
February	36	0	0.0	36	0	0.0	0	0	0.0
March	55	0	0.0	55	0	0.0	0	0	0.0
April	40	0	0.0	40	0	0.0	0	0	0.0
May	57	0	0.0	57	0	0.0	0	0	0.0
June	93	0	0.0	93	0	0.0	0	0	0.0
July	91	1	1.1	91	0	0.0	1	0	0.0
August	96	1	1.0	96	0	0.0	0	0	0.0
September	89	1	1.1	89	0	0.0	0	0	0.0
October	69	1	1.4	69	0	0.0	0	0	0.0
November	82	1	1.2	82	0	0.0	1	0	0.0
December	41	0	0.0	41	0	0.0	0	0	0.0
YTD	787	5	0.6	787	0	0.0	2	0	0.0

Samples from Complaints

	Coliforms, total			E. coli			Heterotrophic Plate Count		
	Count	# +ve	% +ve	Count	# +ve	% +ve	Count	# +ve	% +ve
January	5	0	0.0	5	0	0.0	5	0	0.0
February	1	0	0.0	1	0	0.0	1	0	0.0
March	8	0	0.0	8	0	0.0	8	1	12.5
April	4	0	0.0	4	0	0.0	4	0	0.0
May	6	0	0.0	6	0	0.0	6	0	0.0
June	4	0	0.0	4	0	0.0	4	0	0.0
July	5	0	0.0	5	0	0.0	5	1	20.0
August	13	1	7.7	13	0	0.0	13	0	0.0
September	14	0	0.0	14	0	0.0	14	0	0.0
October	14	0	0.0	14	0	0.0	14	0	0.0
November	22	0	0.0	22	0	0.0	22	1	4.5
December	15	0	0.0	15	0	0.0	15	0	0.0
YTD	111	1	0.9	111	0	0.0	111	3	2.7

7.6 Giardia and Cryptosporidium

2015

Treated Water entering the distribution system

	<i>Cryptosporidium</i>		<i>Giardia</i>	
	oocysts/100L		cysts/100L	
	E.L. Smith	Rossdale	E.L. Smith	Rossdale
5 - Jan	<0.1	<0.1	<0.1	<0.1
2 - Feb	<0.1	<0.1	<0.1	<0.1
3 - Mar	<0.1	<0.1	<0.1	<0.1
7 - Apr	<0.1	<0.1	<0.1	<0.1
19 - May	<0.1	<0.1	<0.1	<0.1
8 - Jun	<0.1	<0.1	<0.1	<0.1
6 - Jul	<0.1	<0.1	<0.1	<0.1
5 - Aug		<0.1		<0.1
4 - Aug	<0.1		<0.1	
9 - Sep		<0.1		0.1
15 - Sep	0.1		<0.1	
22 - Sep	<0.1		<0.1	
5 - Oct	<0.1	<0.1	<0.1	<0.1
2 - Nov		<0.1		<0.1
3 - Nov	<0.1		<0.1	
7 - Dec	<0.1	<0.1	<0.1	<0.1

7.6 Giardia and Cryptosporidium

2015

Water entering plant reservoir

	<i>Cryptosporidium</i>		<i>Giardia</i>	
	oocysts/100L		cysts/100L	
	E.L. Smith	Rossdale	E.L. Smith	Rossdale
12 - Jan	<0.1	<0.1	<0.1	<0.1
26 - Jan	<0.1	<0.1	<0.1	<0.1
9 - Feb	<0.1	<0.1	<0.1	<0.1
24 - Feb	<0.1	<0.1	<0.1	<0.1
9 - Mar	<0.1	<0.1	<0.1	<0.1
1 - Sep		<0.1		<0.1
8 - Sep	<0.1		<0.1	
6 - Oct	<0.1 (2)		<0.1	
13 - Oct	<0.4 (1)		<0.4	
13 - Oct	<0.3 (4)		<0.3	
19 - Oct	0.5 (1)		<0.2	
19 - Oct	<0.3 (4)		<0.3	
20 - Oct	<0.1 (4)		<0.1	
26 - Oct	0.3 (1)		<0.1	
26 - Oct	<0.1		<0.1	
2 - Nov		<0.1		<0.1
2 - Nov		<0.1 (2)		<0.1
3 - Nov	<0.1		<0.1	
10 - Nov		<0.1		<0.1
10 - Nov		<0.1 (3)		<0.1
9 - Nov	<0.1		<0.1	
16 - Nov	0.1	<0.1	<0.1	<0.1
23 - Nov	<0.1	<0.1	<0.1	<0.1
30 - Nov	<0.1	<0.1	<0.1	<0.1
7 - Dec	<0.1	<0.1	<0.1	<0.1
14 - Dec	<0.1	<0.1	<0.1	<0.1
29 - Dec	<0.1	<0.1	<0.1	<0.1

Samples are combined filter effluent except:

- (1) Effluent of Stage 1 Filters
- (2) Effluent of Filter 4
- (3) Effluent of Filter 2
- (4) Effluent of Stage 2 Filters

7.6 Giardia and Cryptosporidium

2015

Raw Water

	<i>Cryptosporidium</i>		<i>Giardia</i>	
	oocysts/100L		cysts/100L	
	E.L. Smith	Rossdale	E.L. Smith	Rossdale
12 - Jan	<1.3	1.0	2.5	1.9
26 - Jan	<1.0	<0.9	2.0	<0.9
9 - Feb	0.8	1.2	3.1	4.4
24 - Feb	<1.0	<1.2	<1.0	4.7
9 - Mar	<1.0	2.3	1.0	3.5
23 - Mar	<1.7	<3.5	<1.7	<3.5
7 - Apr	<3.3	<4.7	3.3	14
27 - Apr	<2.7		34	
19 - May	<1.3	<1.6	2.5	24
8 - Jun	<5.7	<4.5	5.7	9.0
6 - Jul	<3.7	<13	3.7	<13
5 - Aug		2.0		10
4 - Aug	<1.3		14	
11 - Aug	1.0	0.8	20	7.7
17 - Aug	<0.9	<0.9	7.2	8.5
25 - Aug		4.4		27
24 - Aug	<1.1		12	
1 - Sep		5.8		56
31 - Aug	2.2		29	
10 - Sep		<1.3		48
8 - Sep	5.2		94	
15 - Sep	11	1.2	98	49
22 - Sep	<1.8	<1.8	79	59
29 - Sep		31		120
30 - Sep	<1.4		61	
5 - Oct	4.3	2.3	93	35
13 - Oct	7.9	5.8	81	130
19 - Oct	6.5	1.0	110	170
26 - Oct	1.2	6.4	25	49
2 - Nov		12		120
3 - Nov	12		75	
10 - Nov		5.0		53
9 - Nov	<0.9		37	
16 - Nov	0.9	2.0	50	55
23 - Nov	1.5	<1.0	10	16
30 - Nov	<1.1	<1.0	26	4.8
7 - Dec	<1.0	0.8	4.0	0.8
14 - Dec	<1.1	<3.9	1.1	<3.9
29 - Dec	<0.8	<3.4	0.8	17

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

2015

									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	365	<1	<1	2	365	(15)	10
Conductivity (uS/cm)	363	333	390	58	368	341	405	58		
FPA-Intensity (N/A)	0.68	0.38	2.00	78	0.70	0.31	2.12	78		
pH (N/A)	7.8	7.3	8.2	365	7.8	7.0	8.2	365	(6.5–8.5)	7.3-8.3
Total Dissolved Solids (mg/L)	214	193	229	12	217	200	246	12	(500)	
Turbidity (NTU)	0.07	0.05	0.11	365	0.07	0.05	0.15	365		1
UV 254 %T	96	92	98	365	96	93	98	365		
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	0.0005	12	0.0003	<0.0002	0.0004	12	0.01	
Barium	0.059	0.054	0.064	12	0.058	0.055	0.064	12	1	
Boron	0.008	0.005	0.016	12	0.007	0.004	0.013	12	5	
Bromate, dissolved	<0.005	<0.003	<0.005	78	<0.005	<0.003	<0.005	76	0.01	
Cadmium	<0.0001	<0.0001	<0.0001	12	<0.0001	<0.0001	<0.0001	12	0.005	
Chlorate, dissolved	<0.099	<0.005	0.200	78	0.122	0.027	0.210	76	1	
Chlorine, total	2.01	1.85	2.22	365	2.00	1.84	2.22	365	0.5 - 3.0	1.0 -2.4
Chlorite, dissolved	<0.028	<0.005	<0.200	78	<0.028	<0.005	<0.200	76	1	
Chromium	<0.0002	<0.0002	0.0003	12	<0.0002	<0.0002	0.0003	12	0.05	
Cyanide, dissolved	<0.002	<0.002	<0.002	10	<0.002	<0.002	<0.002	10	0.2	
Fluoride, dissolved	0.69	0.59	0.78	365	0.68	0.59	0.78	365	0.5-0.9	0.6–0.8
Lead	<0.0001	<0.0001	<0.0001	12	<0.0001	<0.0001	<0.0001	12	0.01	
Mercury	<0.0001	<0.0001	0.0002	12	<0.0001	<0.0001	<0.0001	12	0.001	
Nitrate (as N), dissolved	0.05	<0.01	0.21	78	0.05	<0.01	0.17	76	10	
Nitrite (as N), dissolved	<0.005	<0.005	<0.010	78	<0.005	<0.005	<0.010	76	1	
Selenium	0.0002	<0.0002	0.0003	12	0.0003	<0.0002	0.0004	12	0.01	
Uranium	<0.0005	<0.0005	0.0005	12	<0.0005	<0.0005	0.0005	12	0.02	

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

2015

									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	<0.005	<0.005	0.005	4	<0.005	<0.005	<0.005	4	100	
Atrazine	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	5	
Benzene	<0.5	<0.5	<1.0	367	<0.5	<0.5	<1.0	366	5	
Benzo(a)pyrene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4	0.01	
Bromoxynil	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	5	
Carbon Tetrachloride	<1.0	<0.5	<1.0	367	<1.0	<0.5	<1.0	367	2	
Chlorobenzene	<0.5	<0.5	<1.0	367	<0.5	<0.5	<1.0	367	80 (30)	
Chlorpyrifos	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	90	
Diazinon	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	20	
Dicamba	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	120	
Dichlorobenzene (1,2)	<0.5	<0.5	<1.0	367	<0.5	<0.5	<1.0	367	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.5	<1.0	367	<0.5	<0.5	<1.0	367	5 (1)	
Dichloroethane (1,2)	<0.8	<0.1	<1.0	21	<0.8	<0.1	<1.0	21	5	
Dichloroethylene (1,1)	<2.9	<0.5	<3.0	367	<2.9	<0.5	<3.0	367	14	
Dichlorophenol (2,4)	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4	900 (0.3)	
Diclofop-methyl	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4	9	
Dimethoate	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4	20	
Diuron	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4	150	
Ethylbenzene	<0.5	<0.5	<1.0	367	<0.5	<0.5	<1.0	367	(2.4)	
Glyphosate	<0.1	<0.1	<0.1	2	<0.1	<0.1	<0.1	2	280	
Haloacetic Acids, (HAA5)	18.2	11.9	33.3	13	17.6	11.3	29.7	13	80	40
Malathion	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4	190	
MCPA	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	100	
Methylene Chloride	<0.7	<0.5	<5.0	367	<0.7	<0.5	<5.0	367	50	
Metolachlor	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	50	
Metribuzin	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4	80	
Microcystin LR	<0.080	<0.010	<0.150	4	<0.080	<0.010	<0.150	4	1.5	
NDMA (ng/L)	1.79	<0.90	2.80	12	<1.00	<0.09	2.00	12	40	10
NTA (mg/L)	<0.3	<0.1	<0.5	2	<0.3	<0.1	<0.5	2	0.4	
Pentachlorophenol	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4	60 (30)	
Phorate	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	2	
Picloram	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	190	
Simazine	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4	10	
Terbufos	<0.03	<0.03	<0.03	4	<0.03	<0.03	<0.03	4	1	
Tetrachloroethylene	<0.5	<0.5	<1.0	367	<0.5	<0.5	<1.0	367	10	
Tetrachlorophenol (2,3,4,6)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4	100 (1)	
Toluene	<0.5	<0.5	<1.0	367	<0.5	<0.5	<1.0	367	(24)	
Trichloroethylene	<0.5	<0.5	<1.0	367	<0.5	<0.5	<1.0	366	5	
Trichlorophenol (2,4,6)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4	5 (2)	
Trifluralin	<0.005	<0.005	0.006	4	<0.005	<0.005	0.006	4	45	
Trihalomethanes	12.2	2.2	47.7	367	10.7	3.0	22.0	367	100	50
Vinyl Chloride	<1.8	<0.1	<2.0	18	<1.8	<0.1	<2.0	18	2	
Xylenes	<0.87	<0.20	<1.00	18	<0.87	<0.20	<1.00	18	90 (20)	

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

2015

									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	<0.15	<0.10	<0.20	2	<0.20	<0.20	<0.20	2	10	
Gross Alpha	<0.15	<0.12	<0.18	2	<0.15	<0.12	<0.18	2	(0.5)	
Gross Beta	<0.09	<0.08	<0.10	2	<0.09	<0.08	<0.10	2	(1.0)	
Iodine-131	<0.35	<0.30	<0.40	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	0.5	
Strontium-90	<0.1	<0.1	<0.1	2	<0.1	<0.1	<0.1	2	5	
Tritium	<15	<15	<15	2	<15	<15	<15	2	7000	
Secondary Inorganics (mg/L) ***										
Alkalinity, PHP (mg CaCO3/L)	<1	<1	<1	3	<1	<1	<1	3		
Alkalinity, total (mg CaCO3/L)	116	90	134	365	117	97	139	365		
Aluminum	0.087	0.031	0.256	12	0.074	0.024	0.112	12	(0.1/0.2)	0.1/0.2
Ammonia as N	0.14	<0.05	0.24	65	0.14	0.09	0.20	62		
Beryllium	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12		
Bromide, dissolved	<0.007	<0.005	0.020	78	<0.007	<0.005	<0.020	76		
Calcium	44.8	39.9	49.3	12	44.6	39.4	48.2	12		
Chloride, dissolved	4.9	2.8	11.4	78	5.0	2.7	9.4	76	(250)	
Chlorine, free	<0.03	<0.03	<0.03	96	<0.03	<0.03	<0.03	97		
Cobalt	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	0.0002	12		
Copper	<0.002	<0.002	0.002	12	<0.002	<0.002	<0.002	12	(1)	
Hardness, Ca (mg CaCO3/L)	115	98	135	365	115	95	136	365		
Hardness, total (mg CaCO3/L)	169	145	197	365	169	148	192	365		
Iron	0.003	<0.002	0.008	12	<0.002	<0.002	0.002	12	(0.3)	0.3
Lithium	0.0036	0.0030	0.0042	12	0.0033	0.0028	0.0038	12		
Magnesium	12.8	11.0	14.0	12	12.7	11.1	13.9	12		
Manganese	<0.002	<0.002	<0.002	12	<0.002	<0.002	0.003	12	(0.05)	
Molybdenum	0.0008	0.0007	0.0010	12	0.0008	0.0006	0.0009	12		
Nickel	0.0005	0.0002	0.0020	12	0.0006	0.0002	0.0020	12		
Phosphate, Ortho (as P)	<0.02	<0.02	<0.02	12	<0.02	<0.02	<0.02	12		
Phosphorus	0.02	0.02	0.03	12	0.02	0.01	0.04	12		
Potassium	0.73	0.61	1.52	12	0.70	0.59	1.23	12		
Silicon	1.62	1.27	1.99	12	1.60	1.25	1.98	12		
Silver	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12		
Sodium	7.5	3.2	14.6	12	8.7	5.6	20.1	12	(200)	
Strontium	0.409	0.343	0.474	12	0.406	0.340	0.461	12		
Sulphate, dissolved	60.7	48.0	74	78	61.8	43.4	83	76	(500)	
Sulphide	<0.002	<0.002	<0.002	10	<0.002	<0.002	<0.002	10	(0.05)	
Thallium	<0.0001	<0.0001	0.0002	12	<0.0001	<0.0001	0.0001	12		
Tin	<0.0002	<0.0002	0.0003	12	<0.0002	<0.0002	<0.0002	12		
Titanium	<0.0005	<0.0005	0.0005	12	<0.0005	<0.0005	<0.0005	12		
Total Kjeldahl Nitrogen (TKN)	0.52	0.52	0.52	1	0.50	0.50	0.50	1		
Vanadium	0.0006	0.0004	0.0010	12	0.0006	0.0004	0.0010	12		
Zinc	<0.002	<0.002	0.005	12	<0.002	<0.002	0.005	12	(5)	
Zirconium	0.0003	<0.0002	0.0006	12	0.0003	<0.0002	0.0003	12		

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

2015

	ROSSDALE				E.L. SMITH				Limits	
	Mean	Min	Max	Count	Mean	Min	Max	Count	Approval or GCDWQ MAC, (AO or OG)	EPCOR
Secondary Organics (ug/L) ***										
1,1,1,2-Tetrachloroethane	<1	<1	<1	15	<1	<1	<1	15		
1,1,2-Trichloroethane	<1	<1	<1	15	<1	<1	<1	15		
1,1-Dichloroethane	<1	<1	<1	15	<1	<1	<1	15		
1,1-Dichloropropene	<1	<1	<1	15	<1	<1	<1	15		
1,2,3-Trichlorobenzene	<1	<1	<1	15	<1	<1	<1	15		
1,2,3-Trichloropropane	<1	<1	<1	15	<1	<1	<1	15		
1,2,4-Trimethylbenzene	<1	<1	<1	15	<1	<1	<1	15		
1,2-Dibromo-3-Chloropropane	<1	<1	<1	15	<1	<1	<1	15		
1,2-Dibromoethane	<1	<1	<1	15	<1	<1	<1	15		
1,3,5-Trimethylbenzene	<1	<1	<1	15	<1	<1	<1	15		
1,3-Dichloropropane	<1	<1	<1	15	<1	<1	<1	15		
1,3-Dichloropropene(cis)	<1	<1	<1	15	<1	<1	<1	15		
1,3-Dichloropropene(trans)	<1	<1	<1	15	<1	<1	<1	15		
1,4-Dichloro-2-Butene(cis)	<25	<25	<25	15	<25	<25	<25	15		
1,4-Dichloro-2-Butene(trans)	<25	<25	<25	15	<25	<25	<25	15		
2,2-Dichloropropane	<10	<10	<10	15	<10	<10	<10	15		
2,4-DB	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
2,4-DP	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
2-Butanone (MEK)	<25	<25	<25	15	<25	<25	<25	15		
2-Chloroethyl Vinyl Ether	<1	<1	<1	15	<1	<1	<1	15		
2-Chlorotoluene	<1	<1	<1	15	<1	<1	<1	15		
2-Hexanone	<25	<25	<25	15	<25	<25	<25	15		
3-Methylchloranthrene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
4-Chlorotoluene	<1	<1	<1	15	<1	<1	<1	15		
7,12-Dimethylbenz(a)anthracene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Acenaphthene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Acenaphthylene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Acetaminophen	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Acetone	<25	<25	<25	15	<25	<25	<25	15		
Acetonitrile	<25	<25	<25	15	<25	<25	<25	15		
Acetylsalicylic acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Acridine	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Acrylonitrile	<25	<25	<25	15	<25	<25	<25	15		
Aldicarb	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Aldicarb Sulfone	<5	<5	<5	4	<5	<5	<5	4		
Aldicarb Sulfoxide	<3	<2	<5	4	<2	<2	<2	4		
Aldrin	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Allyl Chloride	<25	<25	<25	15	<25	<25	<25	15		
alpha-Endosulfan	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Aminopyralid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Anthracene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Azinphos-methyl	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Bentazon	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Benzidine	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Benzo(a)anthracene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Benzo(b)fluoranthene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Benzo(b,j,k)fluoranthene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Benzo(c)phenanthrene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Benzo(e)pyrene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Benzo(ghi)perylene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		

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

2015

									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) ***										
Benzo(k)fluoranthene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Benzoylecgonine	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Bezafibrate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Bis(2-chloroethoxy)methane	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Bis(2-chloroethyl)ether	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Bis(2-chloroisopropyl)ether	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Bis(2-ethylhexyl)phthalate	0.5	<0.1	1.5	4	0.4	<0.1	0.8	4		
Bromacil	<0.030	<0.030	<0.030	4	<0.030	<0.030	<0.030	4		
Bromobenzene	<1	<1	<1	15	<1	<1	<1	15		
Bromochloroacetic acid	<2	<2	<2	13	<2	<2	<2	13		
Bromochloromethane	<1	<1	<1	15	<1	<1	<1	15		
Bromodichloromethane	<0.8	<0.5	1.6	367	<0.7	<0.5	1.1	367		16
Bromoform	<1.0	<0.5	<1.0	367	<1.0	<0.5	<1.0	367		
Bromomethane	<10	<10	<10	15	<10	<10	<10	15		
Bromophenyl phenyl ether (4)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	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	<25	<25	<25	4	<25	<25	<25	4		
Carbathiin	<0.100	<0.100	<0.100	4	<0.100	<0.100	<0.100	4		
Chloramphenicol	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Chloro-2-MethylPhenol (4)	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Chloro-3-methylphenol (4)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Chloroethane	<10	<10	<10	15	<10	<10	<10	15		
Chloroform	11.5	2.2	46.2	367	10.1	3.0	21.0	367		
Chloromethane	<10	<10	<10	15	<10	<10	<10	15		
Chloronaphthalene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Chlorophenol (2)	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Chlorophenyl phenyl ether (4)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Chlorothalonil	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Chrysene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
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	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Clodinafop-propargyl	<0.040	<0.040	<0.040	4	<0.040	<0.040	<0.040	4		
Clofibrilic Acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Clopyralid	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Codeine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Cotinine	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Cyanazine	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Desethyl Atrazine	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Desisopropyl Atrazine	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Dibenzo(a,h)pyrene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Dibenzo(a,i)pyrene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Dibenzo(a,l)pyrene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Dibenzo(ah)anthracene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Dibromoacetic acid	<2	<2	<2	13	<2	<2	<2	13		
Dibromochloromethane	<0.5	<0.5	<1.0	367	<0.5	<0.5	<1.0	367		
Dibromomethane	<1	<1	<1	15	<1	<1	<1	15		
Dichloroacetic acid	9	7	11	13	9	7	12	13		

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

2015

									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) ***										
Dichlorobenzene (1,3)	<0.5	<0.5	<1.0	367	<0.5	<0.5	<1.0	367		
Dichlorodifluoromethane	<10	<10	<10	15	<10	<10	<10	15		
Dichloroethylene, cis (1,2)	<0.5	<0.5	<1.0	367	<0.5	<0.5	<1.0	367		
Dichloroethylene, trans (1,2)	<0.5	<0.5	<1.0	367	<0.5	<0.5	<1.0	367		
Dichloropropane (1,2)	<0.5	<0.5	<1.0	367	<0.5	<0.5	<1.0	367		
Diclofenac	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Dieldrin	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Diethyl phthalate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Dimethyl phthalate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Dimethylphenol (2,4)	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Di-n-butylphthalate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Dinitrophenol (2,4)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Dinitrotoluene (2,4)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Dinitrotoluene (2,6)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Di-n-octyl phthalate	0.3	<0.1	0.9	4	<0.1	<0.1	<0.1	4		
Diphenylhydrazine (1,2)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Disulfoton	<0.200	<0.200	<0.200	4	<0.200	<0.200	<0.200	4		
Enrofloxacin	<0.02	<0.02	<0.02	4	0.03	<0.02	0.07	4		
Erythromycin	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Ethalfuralin	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Ethion	<0.10	<0.10	<0.10	4	<0.10	<0.10	<0.10	4		
Ethofumesate	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Ethyl Methacrylate	<25	<25	<25	15	<25	<25	<25	15		
Fenopropfen	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Fenoxaprop-p-ethyl	<0.040	<0.040	<0.040	4	<0.040	<0.040	<0.040	4		
Fluazifop	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Fluoranthene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Fluorene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Fluoxetine	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Fluroxypyr	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Gemfibrozil	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Hexachlorobenzene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Hexachlorobutadiene	<0.9	<0.5	<1.0	19	<0.9	<0.5	<1.0	19		
Hexachlorocyclopentadiene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Hexachloroethane	<0.9	<0.5	<1.0	19	<0.9	<0.5	<1.0	19		
Hexaconazole	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Hydroxy Carbofuran (3)	<25	<25	<25	4	<25	<25	<25	4		
Ibuprofen	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Imazamethabenz-methyl	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Imazamox	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Imazethapyr	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Indeno(1,2,3-cd)pyrene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Indomethacin	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Iodomethane	<1	<1	<1	15	<1	<1	<1	15		
Iprodione	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Isophorone	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
iso-Propylbenzene	<1	<1	<1	15	<1	<1	<1	15		
Ketoprofen	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Lincomycin	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Lindane (alpha-BHC)	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		

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

2015

									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) ***										
Lindane (gamma-BHC)	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	(15)	
Linuron	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
MCPB	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
MCPP	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Meclofenamic acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Metalaxyl-M	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Methacrylonitrile	<25	<25	<25	15	<25	<25	<25	15		
Methamphetamine	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Methomyl	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Methyl Methacrylate	<25	<25	<25	15	<25	<25	<25	15		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.5	<1.0	367	<0.5	<0.5	<1.0	367		
Methyl Triclosan	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Methyl-4,6-dinitrophenol (2)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
MIBK	<2.0	<1.0	<25.0	367	<2.0	<1.0	<25.0	367		
Microcystin LA	<0.010	<0.010	<0.010	2	<0.010	<0.010	<0.010	2		
Microcystin RR	<0.010	<0.010	<0.010	2	<0.010	<0.010	<0.010	2		
Microcystin YR	<0.010	<0.010	<0.010	2	<0.010	<0.010	<0.010	2		
Monobromoacetic acid	<3	<2	9	13	<2	<2	6	13		
Monochloroacetic acid	<2	<2	6	13	<2	<2	4	13		
N,N-diethyl-m-toluamide (DEET)	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Naphthalene	<3.95	<0.01	<5.00	19	<3.95	<0.01	<5.00	19		
Napropamide	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Naproxen	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
n-Butylbenzene	<1	<1	<1	15	<1	<1	<1	15		
Nitrobenzene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Nitrophenol (2)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	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	<1	<1	<1	15	<1	<1	<1	15		
Ofloxacin	<0.02	<0.02	<0.02	4	0.03	<0.02	0.05	4		
Oxolinic acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Oxycarboxin	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
p, p' - Methoxychlor	<0.03	<0.03	<0.03	4	<0.03	<0.03	<0.03	4		
Parathion	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Pentachloroethane	<1	<1	<1	15	<1	<1	<1	15		
Pentoxifylline	<0.500	<0.500	<0.500	4	<0.500	<0.500	<0.500	4		
Perylene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Phenanthrene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Phenol	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Pipemidic acid	<0.5	<0.5	<0.5	4	<0.5	<0.5	<0.5	4		
p-Isopropyltoluene	<5	<5	<5	15	<5	<5	<5	15		
Propiconazole	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Propionitrile	<25	<25	<25	15	<25	<25	<25	15		
Pyrene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Pyridaben	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Quinclorac	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Quizalofop	<0.030	<0.030	<0.030	4	<0.030	<0.030	<0.030	4		

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

2015

									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) ***										
Retene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Salicylic acid	<0.025	<0.025	<0.025	4	<0.025	<0.025	<0.025	4		
sec-Butylbenzene	<1	<1	<1	15	<1	<1	<1	15		
Styrene	<0.5	<0.5	<1.0	367	<0.5	<0.5	<1.0	367		
Sulfabenzamide	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfadimethoxine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfadoxine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfamerazine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfamethazine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfamethoxazole	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfapyridine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfaquinoxaline	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfathiazole	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
tert-Butylbenzene	<1	<1	<1	15	<1	<1	<1	15		
Tetrachloroethane (1,1,2,2)	<1.0	<0.5	<1.0	367	<1.0	<0.5	<1.0	367		
Thiamethoxam	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Tolfenamic acid	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Total Organic Carbon	1.2	<0.5	2.5	58	1.3	0.5	2.6	58		
Total Volatile Organics (NonTHM)	<1.0	<1.0	<1.0	352	<1.0	<1.0	<1.0	352		
Total Volatile Organics (Unknown)	<1.0	<1.0	<1.0	350	<1.0	<1.0	1.1	350		
Triallate	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Trichloroacetic acid	8	5	11	13	8	5	11	13		
Trichlorobenzene (1,2,4)	<0.5	<0.1	<1.0	371	<0.5	<0.1	<1.0	371		
Trichlorocarbanilide (3,4,4)	<0.025	<0.025	<0.025	4	<0.025	<0.025	<0.025	4		
Trichloroethane (1,1,1)	<0.5	<0.5	<1.0	367	<0.5	<0.5	<1.0	367		
Trichlorofluoromethane	<1	<1	<1	15	<1	<1	<1	15		
Triclopyr	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Triclosan	<0.025	<0.025	<0.025	4	<0.025	<0.025	<0.025	4		
Trimethoprim	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Vinclozolin	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Xylene (1,2)	<0.5	<0.5	<0.5	352	<0.5	<0.5	<0.5	352		
Xylene (1,4)	<0.5	<0.5	<0.5	352	<0.5	<0.5	<0.5	352		
Xylene (m,p)	<0.20	<0.20	<0.20	3	<0.20	<0.20	<0.20	3		
Xylene (o)	<0.02	<0.02	<0.02	3	<0.02	<0.02	<0.02	3		

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

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

2015

									Limits	
	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Physical										
Turbidity (NTU)	0.07	0.04	0.13	365	0.07	0.05	0.14	365		
UV 254 %T	96.0	91.5	98.4	365	96.0	93.1	98.2	365		
Primary Inorganics (mg/L) **										
Bromate, dissolved	<0.005	<0.003	<0.005	72	<0.005	<0.003	<0.005	70	0.01	
Chlorate, dissolved	0.10	<0.01	0.30	72	0.12	<0.03	0.21	70	1	
Chlorite, dissolved	<0.028	<0.005	0.300	72	<0.025	<0.005	<0.200	70	1	
Nitrate (as N), dissolved	0.04	<0.01	0.21	72	0.04	<0.01	0.17	70	10	
Nitrite (as N), dissolved	<0.005	<0.005	<0.010	72	<0.005	<0.005	<0.010	70	1	
Primary Organics (ug/L) **										
1,2-Dichloroethane	<1	<1	<1	15	<1	<1	<1	15	5	
Benzene	<0.5	<0.5	<1.0	365	<0.5	<0.5	<1.0	364	5	
Carbon Tetrachloride	<1.0	<1.0	<1.0	365	<1.0	<1.0	<1.0	364	2	
Chlorobenzene	<0.5	<0.5	<1.0	365	<0.5	<0.5	<1.0	364	80 (30)	
Dichlorobenzene (1,2)	<0.5	<0.5	<1.0	365	<0.5	<0.5	<1.0	364	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.5	<1.0	365	<0.5	<0.5	<1.0	364	5 (1)	
Dichloroethylene (1,1)	<2.9	<1.0	<3.0	365	<2.9	<1.0	<3.0	364	14	
Ethylbenzene	<0.5	<0.5	<1.0	365	<0.5	<0.5	<1.0	364	140 (1.6)	
Methylene Chloride	<0.7	<0.5	<5.0	365	<0.7	<0.5	<5.0	364	50	
Tetrachloroethylene	<0.5	<0.5	<1.0	365	<0.5	<0.5	<1.0	364	30	
Toluene	<0.5	<0.5	<1.0	365	<0.5	<0.5	<1.0	364	60 (24)	
Total Xylenes (m,p,o)	<1	<1	<1	15	<1	<1	<1	15	90 (20)	
Trichloroethylene	<0.5	<0.5	<1.0	365	<0.5	<0.5	<1.0	364	5	
Trihalomethanes	10.2	2.1	40.8	365	8.4	2.4	19.8	364	100	
Vinyl Chloride	<2.0	<2.0	<2.0	15	<2.0	<2.0	<2.0	15	2	
Secondary Inorganics (mg/L) ***										
Ammonia as N	0.14	<0.05	0.26	65	0.14	0.06	0.24	62		
Bromide, dissolved	<0.007	<0.005	<0.020	72	<0.007	<0.005	<0.020	70		
Chloride, dissolved	5.1	2.8	18.0	72	4.9	2.7	8.5	70	(250)	
Sulphate, dissolved	61.3	48.0	72.6	72	61.5	19.9	79.6	70	(500)	

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

2015

									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) ***										
1,1,1,2-Tetrachloroethane	<1	<1	<1	15	<1	<1	<1	15		
1,1,2-Trichloroethane	<1	<1	<1	15	<1	<1	<1	15		
1,1-Dichloroethane	<1	<1	<1	15	<1	<1	<1	15		
1,1-Dichloropropene	<1	<1	<1	15	<1	<1	<1	15		
1,2,3-Trichlorobenzene	<1	<1	<1	15	<1	<1	<1	15		
1,2,3-Trichloropropane	<1	<1	<1	15	<1	<1	<1	15		
1,2,4-Trimethylbenzene	<1	<1	<1	15	<1	<1	<1	15		
1,2-Dibromo-3-Chloropropane	<1	<1	<1	15	<1	<1	<1	15		
1,2-Dibromoethane	<1	<1	<1	15	<1	<1	<1	15		
1,3,5-Trimethylbenzene	<1	<1	<1	15	<1	<1	<1	15		
1,3-Dichloropropane	<1	<1	<1	15	<1	<1	<1	15		
1,3-Dichloropropene(cis)	<1	<1	<1	15	<1	<1	<1	15		
1,3-Dichloropropene(trans)	<1	<1	<1	15	<1	<1	<1	15		
1,4-Dichloro-2-Butene(cis)	<25	<25	<25	15	<25	<25	<25	15		
1,4-Dichloro-2-Butene(trans)	<25	<25	<25	15	<25	<25	<25	15		
2,2-Dichloropropane	<10	<10	<10	15	<10	<10	<10	15		
2-Butanone (MEK)	<25	<25	<25	15	<25	<25	<25	15		
2-Chloroethyl Vinyl Ether	<1	<1	<1	15	<1	<1	<1	15		
2-Chlorotoluene	<1	<1	<1	15	<1	<1	<1	15		
2-Hexanone	<25	<25	<25	15	<25	<25	<25	15		
4-Chlorotoluene	<1	<1	<1	15	<1	<1	<1	15		
Acetone	<25	<25	<25	15	<25	<25	<25	15		
Acetonitrile	<25	<25	<25	15	<25	<25	<25	15		
Acrylonitrile	<25	<25	<25	15	<25	<25	<25	15		
Allyl Chloride	<25	<25	<25	15	<25	<25	<25	15		
Bromobenzene	<1	<1	<1	15	<1	<1	<1	15		
Bromochloromethane	<1	<1	<1	15	<1	<1	<1	15		
Bromodichloromethane	<0.7	<0.5	1.4	365	<0.6	<0.5	1.8	364		
Bromoform	<1.0	<1.0	<1.0	365	<1.0	<1.0	<1.0	364		
Bromomethane	<10	<10	<10	15	<10	<10	<10	15		
Chloroethane	<10	<10	<10	15	<10	<10	<10	15		
Chloroform	9.6	2.1	39.4	365	8.0	2.4	18.9	364		
Chloromethane	<10	<10	<10	15	<10	<10	<10	15		
Dibromochloromethane	<0.5	<0.5	<1.0	365	<0.5	<0.5	<1.0	364		
Dibromomethane	<1	<1	<1	15	<1	<1	<1	15		
Dichlorobenzene (1,3)	<0.5	<0.5	<1.0	365	<0.5	<0.5	<1.0	364		
Dichlorodifluoromethane	<10	<10	<10	15	<10	<10	<10	15		
Dichloroethylene, cis (1,2)	<0.5	<0.5	<1.0	365	<0.5	<0.5	<1.0	364		
Dichloroethylene, trans (1,2)	<0.5	<0.5	<1.0	365	<0.5	<0.5	<1.0	364		
Dichloropropane (1,2)	<0.5	<0.5	<1.0	365	<0.5	<0.5	<1.0	364		
Ethyl Methacrylate	<25	<25	<25	15	<25	<25	<25	15		
Hexachlorobutadiene	<1.0	<1.0	<1.0	15	<1.0	<1.0	<1.0	15		
Hexachloroethane	<1.0	<1.0	<1.0	15	<1.0	<1.0	<1.0	15		
Iodomethane	<1	<1	<1	15	<1	<1	<1	15		
iso-Propylbenzene	<1	<1	<1	15	<1	<1	<1	15		
Methacrylonitrile	<25	<25	<25	15	<25	<25	<25	15		
Methyl Methacrylate	<25	<25	<25	15	<25	<25	<25	15		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.5	<1.0	365	<0.5	<0.5	<1.0	364	(15)	

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

2015

									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) ***										
MIBK	<2.0	<1.0	<25.0	365	<2.0	<1.0	<25.0	364		
Naphthalene	<5.00	<5.00	<5.00	15	<5.00	<5.00	<5.00	15		
n-Butylbenzene	<1	<1	<1	15	<1	<1	<1	15		
n-Propylbenzene	<1	<1	<1	15	<1	<1	<1	15		
Pentachloroethane	<1	<1	<1	15	<1	<1	<1	15		
p-Isopropyltoluene	<5	<5	<5	15	<5	<5	<5	15		
Propionitrile	<25	<25	<25	15	<25	<25	<25	15		
sec-Butylbenzene	<1	<1	<1	15	<1	<1	<1	15		
Styrene	<0.5	<0.5	<1.0	365	<0.5	<0.5	<1.0	364		
tert-Butylbenzene	<1	<1	<1	15	<1	<1	<1	15		
Tetrachloroethane (1,1,2,2)	<1.0	<1.0	<1.0	365	<1.0	<1.0	<1.0	364		
Total Volatile Organics (NonTHM)	<1.0	<1.0	1.0	350	<1.0	<1.0	<1.0	349		
Total Volatile Organics (Unknown)	<1.0	<1.0	1.2	350	<1.0	<1.0	1.2	349		
Trichlorobenzene (1,2,4)	<0.5	<0.5	<1.0	365	<0.5	<0.5	<1.0	364		
Trichloroethane (1,1,1)	<0.5	<0.5	<1.0	365	<0.5	<0.5	<1.0	364		
Trichlorofluoromethane	<1	<1	<1	15	<1	<1	<1	15		
Xylene (1,2)	<0.5	<0.5	<0.5	350	<0.5	<0.5	<0.5	349		
Xylene (1,4)	<0.5	<0.5	1.0	350	<0.5	<0.5	<0.5	349		

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

7.9 Routine Distribution System

2015

Parameter	Mean	Min	Max	Count	Limits	
					GCDWQ or Approval or MAC* or (AO or OG)	EPCOR
Physical						
Colour (TCU)	<1	<1	2	73	(15)	10
Conductivity (uS/cm)	367	346	418	69		
Odour	Inoff	0	Inoff	72	(Inoffensive)	Inoffensive
pH (N/A)	7.8	7.6	8.2	191	(6.5 – 8.5)	7.3-8.3
Pipe Lubricant	Inoff	0	Inoff	3		
Total Dissolved Solids (mg/L)	217	211	223	4	(500)	
UV 254 %T	94	93	95	4		
Primary Inorganics (mg/L) **						
Antimony	<0.0002	<0.0002	0.0002	73	0.006	
Arsenic	0.0003	<0.0002	0.0004	73	0.01	
Barium	0.058	0.050	0.066	73	1	
Boron	0.007	0.005	0.018	73	5	
Bromate, dissolved	<0.005	<0.003	<0.005	183	0.01	
Cadmium	<0.0001	<0.0001	<0.0001	73	0.005	
Chlorate, dissolved	0.12	<0.01	0.20	183	1	
Chlorite, dissolved	<0.014	<0.005	<0.200	183	1	
Chromium	<0.0002	<0.0002	0.0002	73	0.05	
Cyanide, dissolved	<0.002	<0.002	<0.002	4	0.2	
Fluoride, dissolved	0.69	0.64	0.76	73	0.5-0.9	0.6-0.8
Lead	<0.0001	<0.0001	0.0001	73	0.01	
Mercury	<0.0001	<0.0001	0.0001	73	0.001	
Nitrate (as N), dissolved	0.06	<0.01	0.23	188	10	
Nitrite (as N), dissolved	<0.01	<0.01	0.01	183	1	
Selenium	0.0002	<0.0002	0.0003	73	0.01	
Uranium	<0.0005	<0.0005	0.0005	73	0.02	

7.9 Routine Distribution System

2015

Parameter	Mean	Min	Max	Count	Limits	
					GCDWQ or Approval or MAC* or (AO or OG)	EPCOR
Primary Organics (ug/L) **						
1,2-Dichloroethane	<1	<1	<1	14	5	
2,4-D	<0.005	<0.005	<0.005	5	100	
Atrazine	<0.005	<0.005	<0.005	5	5	
Benzene	<0.5	<0.1	<1.0	251	5	
Benzo(a)pyrene	<0.004	<0.003	<0.005	5	0.01	
Bromoxynil	<0.005	<0.005	<0.005	5	5	
Carbon Tetrachloride	<1.0	<0.0	<1.0	251	5	
Chlorobenzene	<0.5	<0.0	<1.0	251	80	
Chlorpyrifos	<0.005	<0.005	<0.005	5	90	
Cyanazine	<0.054	<0.050	<0.060	5	10	
Diazinon	<0.005	<0.005	<0.005	5	20	
Dicamba	<0.005	<0.005	<0.005	5	120	
Dichlorobenzene (1,2)	<0.5	<0.0	<1.0	251	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.1	<1.0	251	5 (1)	
Dichloroethane (1,2)	<0.3	<0.1	<0.5	9	5	
Dichloroethylene (1,1)	<2.8	<0.5	<3.0	246	14	
Dichlorophenol (2,4)	<0.10	<0.10	<0.10	5	900 (0.3)	
Diclofop-methyl	<0.02	<0.02	<0.02	5	9	
Dimethoate	<0.005	<0.005	<0.005	5	20	
Diuron	<0.2	<0.2	<0.2	5	150	
Ethylbenzene	<0.5	<0.0	<1.0	251	(2.4)	
Glyphosate	<0.1	<0.1	<0.1	5	280	
Malathion	<0.050	<0.050	<0.050	5	190	
MCPA	<0.005	<0.005	<0.005	5	0.1	
Methylene Chloride	<0.8	<0.4	<5.0	251	50	
Metolachlor	<0.008	<0.005	<0.012	5	50	
Metribuzin	<0.010	<0.010	<0.010	5	80	
Microcystin LR	<0.050	<0.050	<0.050	5	1.5	
Microcystins (as LR)	<0.16	<0.15	0.20	6		
Nitritotriacetic acid	<0.1	<0.1	<0.1	4	0.4	
NTA (mg/L)	<0.200	<0.200	<0.200	5	0.4	
Pentachlorophenol	<0.4	<0.1	<0.6	5	60 (30)	
Picloram	<0.012	<0.005	<0.022	5	190	
Simazine	<0.010	<0.010	<0.010	5	10	
Terbufos	<0.03	<0.03	<0.03	5	1	
Tetrachloroethylene	<0.5	<0.1	<1.0	251	10	
Tetrachlorophenol (2,3,4,6)	<0.3	<0.1	<0.4	5	100 (1)	
Toluene	<0.5	<0.0	<1.0	251	(24)	
Total Xylenes (m,p,o)	<1	<1	<1	14		
Trichloroethylene	<0.5	<0.1	<1.0	251	5	
Trichlorophenol (2,4,6)	<0.5	<0.1	<0.7	5	5 (2)	
Trifluralin	<0.005	<0.005	<0.005	5	45	
Vinyl Chloride	<1.4	<0.1	<2.0	23	2	
Xylenes	<0.120	<0.100	0.200	5	90 (20)	

7.9 Routine Distribution System

2015

Parameter	Mean	Min	Max	Count	Limits	
					GCDWQ or Approval or MAC* or (AO or OG)	EPCOR
Secondary Inorganics (mg/L) ***						
Alkalinity, PHP (mg CaCO3/L)	<1	<1	<1	4		
Alkalinity, total (mg CaCO3/L)	118	106	145	73		
Aluminum	0.067	0.023	0.167	73	(0.1/0.2)	0.1/0.2
Ammonia as N	0.18	0.06	0.34	249		
Beryllium	<0.0002	<0.0002	<0.0002	73		
Bromide, dissolved	<0.01	<0.01	<0.02	183		
Calcium	44.7	39.0	50.6	73		
Chloride, dissolved	5.2	0.5	10.6	183	(250)	
Chlorine, free	<0.03	<0.03	<0.03	7		
Cobalt	<0.0002	<0.0002	<0.0002	73		
Copper	<0.002	<0.002	0.011	73	(1)	
Hardness, Ca (mg CaCO3/L)	115	104	125	69		
Hardness, total (mg CaCO3/L)	170	153	184	73		
Iron	0.005	<0.002	0.022	73	(0.3)	0.3
Lithium	0.0033	0.0027	0.0040	73		
Magnesium	12.6	10.6	14.0	73		
Manganese	<0.002	<0.002	0.003	73	(0.05)	
Molybdenum	0.0007	0.0006	0.0010	73		
Nickel	0.0004	<0.0002	0.0010	73		
Phosphorus	0.02	0.01	0.03	73		
Potassium	0.74	0.59	1.68	73		
Silicon	1.60	1.31	2.08	73		
Silver	<0.00020	<0.00020	0.00030	73		
Sodium	8.5	3.4	19.0	73	(200)	
Strontium	0.405	0.338	0.467	73		
Sulphate, dissolved	62.4	48.5	81.5	183	(500)	
Sulphide	<0.002	<0.002	0.003	4	(0.05)	
Thallium	<0.0001	<0.0001	0.0007	73		
Tin	<0.0002	<0.0002	0.0004	73		
Titanium	<0.0005	<0.0005	0.0010	73		
Total Kjeldahl Nitrogen (TKN)	0.88	0.43	2.09	4		
Vanadium	0.0006	<0.0002	0.0010	73		
Zinc	0.003	<0.002	0.011	73	(5)	
Zirconium	<0.0002	<0.0002	0.0006	73		

7.9 Routine Distribution System

2015

Parameter	Mean	Min	Max	Count	Limits	
					GCDWQ or Approval or MAC* or (AO or OG)	EPCOR
Secondary Organics (ug/L) ***						
1,1,1,2-Tetrachloroethane	<1	<1	<1	14		
1,1,2-Trichloroethane	<1	<1	<1	14		
1,1-Dichloroethane	<1	<1	<1	14		
1,1-Dichloropropene	<1	<1	<1	14		
1,2,3-Trichlorobenzene	<1	<1	<1	14		
1,2,3-Trichloropropane	<1	<1	<1	14		
1,2,4-Trimethylbenzene	<1	<1	<1	14		
1,2-Dibromo-3-Chloropropane	<1	<1	<1	14		
1,2-Dibromoethane	<1	<1	<1	14		
1,3,5-Trimethylbenzene	<1	<1	<1	14		
1,3-Dichloropropane	<1	<1	<1	14		
1,3-Dichloropropene(cis)	<1	<1	<1	14		
1,3-Dichloropropene(trans)	<1	<1	<1	14		
1,4-Dichloro-2-Butene(cis)	<25	<25	<25	14		
1,4-Dichloro-2-Butene(trans)	<25	<25	<25	14		
2,2-Dichloropropane	<10	<10	<10	14		
2-Butanone (MEK)	<25	<25	<25	14		
2-Chloroethyl Vinyl Ether	<1	<1	<1	14		
2-Chlorotoluene	<1	<1	<1	14		
2-Hexanone	<25	<25	<25	14		
4-Chlorotoluene	<1	<1	<1	14		
Acetone	<25	<25	<25	14		
Acetonitrile	<25	<25	<25	14		
Acrylonitrile	<25	<25	<25	14		
Allyl Chloride	<25	<25	<25	14		
Bromobenzene	<1	<1	<1	14		
Bromochloroacetic acid	<2	<2	<2	81		
Bromochloromethane	<1	<1	<1	14		
Bromodichloromethane	<0.8	<0.5	1.4	251		16
Bromoform	<1.0	<0.5	<1.0	246		
Bromomethane	<10	<10	<10	14		
Chloroethane	<10	<10	<10	14		
Chloroform	13.6	4.5	34.3	246		
Chloromethane	<10	<10	<10	14		
Desethyl Atrazine	<0.050	<0.050	<0.050	5		
Desisopropyl Atrazine	<0.062	<0.050	<0.080	5		
Dibromoacetic acid	<2	<2	<2	81		
Dibromochloromethane	<0.5	<0.5	<1.0	246		
Dibromomethane	<1	<1	<1	14		
Dichloroacetic acid	10	7	18	81		
Dichlorobenzene (1,3)	<0.5	<0.5	<1.0	246		
Dichlorodifluoromethane	<10	<10	<10	14		
Dichloroethylene, cis (1,2)	<0.5	<0.5	<1.0	246		
Dichloroethylene, trans (1,2)	<0.5	<0.5	<1.0	246		

7.9 Routine Distribution System

2015

Parameter	Mean	Min	Max	Count	Limits	
					GCDWQ or Approval or MAC* or (AO or OG)	EPCOR
Secondary Organics (ug/L) ***						
Dichloropropane (1,2)	<0.5	<0.5	<1.0	246	(15)	
Ethyl Methacrylate	<25	<25	<25	14		
Hexachlorobutadiene	<1.0	<1.0	<1.0	14		
Hexachloroethane	<1.0	<1.0	<1.0	14		
Iodomethane	<1	<1	<1	14		
iso-Propylbenzene	<1	<1	<1	14		
Methacrylonitrile	<25	<25	<25	14		
Methyl Methacrylate	<25	<25	<25	14		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.5	<1.0	246		
MIBK	<2.4	<1.0	<25.0	246		
Microcystin RR	<0.050	<0.050	<0.050	5		
Microcystin Total	<0.280	<0.250	<0.300	5		
Microcystin YR	<0.050	<0.050	<0.050	5		
Monobromoacetic acid	<2	<2	2	81		
Monochloroacetic acid	<2	<2	6	81		
Naphthalene	<5.00	<5.00	<5.00	14		
n-Butylbenzene	<1	<1	<1	14		
n-Propylbenzene	<1	<1	<1	14		
p, p' - Methoxychlor	<0.03	<0.03	<0.03	5		
Pentachloroethane	<1	<1	<1	14		
p-Isopropyltoluene	<5	<5	<5	14		
Propionitrile	<25	<25	<25	14		
sec-Butylbenzene	<1	<1	<1	14		
Styrene	<0.5	<0.5	<1.0	246		
tert-Butylbenzene	<1	<1	<1	14		
Tetrachloroethane (1,1,2,2)	<1.0	<0.5	<1.0	246		
Total Organic Carbon	1.4	0.5	2.7	73		
Total Volatile Organics (NonTHM)	<1.1	<1.0	9.4	232		
Total Volatile Organics (Unknown)	<1.0	<1.0	<1.0	228		
Triallate	<0.005	<0.005	<0.005	5		
Trichloroacetic acid	8	4	13	81		
Trichlorobenzene (1,2,4)	<0.5	<0.5	<1.0	246		
Trichloroethane (1,1,1)	<0.5	<0.5	<1.0	246		
Trichlorofluoromethane	<1	<1	<1	14		
Xylene (1,2)	<0.5	<0.5	<0.5	232		
Xylene (1,4)	<0.5	<0.5	2.3	232		
Xylene (m,p)	<0.180	<0.100	0.200	5		
Xylene (o)	<0.052	<0.020	<0.100	5		

7.10 Castledowns, Clareview and Kaskitayo Reservoir

2015

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	5	<1	<1	<1	6	<1	<1	<1	6	(15)	10
Conductivity (uS/cm)	372	352	390	5	357	346	373	6	363	348	377	6		
Odour	Inoff	Inoff	Inoff	5	Inoff	Inoff	Inoff	6	Inoff	Inoff	Inoff	6	(Inoffensive)	Inoffensive
pH (N/A)	7.8	7.7	8.0	5	8.0	7.8	8.2	6	7.8	7.7	8.0	6	(6.5 – 8.5)	7.3-8.3
Turbidity (NTU)	0.08	0.05	0.17	42	0.18	0.07	1.23	53	0.09	0.06	0.24	52		1.0/3.0
Primary Inorganics (mg/L) **														
Antimony	<0.0002	<0.0002	<0.0002	5	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	0.006	
Arsenic	0.0003	<0.0002	0.0003	5	0.0003	0.0003	0.0004	6	0.0003	0.0002	0.0004	6	0.01	
Barium	0.058	0.056	0.060	5	0.059	0.053	0.066	6	0.058	0.052	0.063	6	1	
Boron	0.007	0.005	0.013	5	0.007	0.007	0.008	6	0.007	0.006	0.008	6	5	
Bromate, dissolved	<0.005	<0.005	<0.005	5	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	0.01	
Cadmium	<0.0001	<0.0001	<0.0001	5	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	0.005	
Chlorate, dissolved	0.132	0.116	0.140	5	0.107	0.040	0.140	6	0.138	0.102	0.169	6	1	
Chlorine, total	1.75	1.37	2.05	42	1.70	1.38	1.96	53	1.86	1.59	2.08	52	>0.5 and < 3.0	>1.0 and <2.4
Chlorite, dissolved	<0.005	<0.005	<0.005	5	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	1	
Chromium	<0.0002	<0.0002	0.0002	5	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	0.05	
Fluoride, dissolved	0.69	0.66	0.70	5	0.69	0.64	0.71	6	0.68	0.64	0.72	6	0.5-0.9	0.6-0.8
Lead	<0.0001	<0.0001	0.0001	5	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	0.01	
Mercury	<0.0001	<0.0001	<0.0001	5	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	0.001	
Nitrate (as N), dissolved	0.05	<0.01	0.16	5	0.04	0.03	0.08	6	0.04	0.01	0.08	6	10	
Nitrite (as N), dissolved	<0.005	<0.005	<0.005	5	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	1	
Selenium	0.0003	0.0002	0.0003	5	<0.0002	<0.0002	0.0003	6	<0.0002	<0.0002	0.0003	6	0.05	
Uranium	<0.0005	<0.0005	<0.0005	5	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	0.0005	6	0.02	

7.10 Castledowns, Clareview and Kaskitayo Reservoir

2015

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
Primary Organics (ug/L) **														
Benzene	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	5	
Carbon Tetrachloride	<0.9	<0.5	<1.0	10	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	5	
Chlorobenzene	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	80	
Dichlorobenzene (1,2)	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	5 (1)	
Dichloroethane (1,2)	<0.5	<0.5	<0.5	4	N/A	N/A	N/A		N/A	N/A	N/A			
Dichloroethylene (1,1)	<2.5	<0.5	<3.0	10	<3.0	<3.0	<3.0	6	<3.0	<3.0	<3.0	6	14	
Ethylbenzene	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	140 (1.6)	
Methylene Chloride	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	50	
Tetrachloroethylene	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	10	
Toluene	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	60 (24)	
Trichloroethylene	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	5	
Vinyl Chloride	<1.0	<1.0	<1.0	2	N/A	N/A	N/A		N/A	N/A	N/A			

7.10 Castledowns, Clareview and Kaskitayo Reservoir

2015

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
Secondary Inorganics (mg/L) ***														
Alkalinity, total (mg CaCO3/L)	116	109	129	5	116	112	122	6	123	113	137	6		
Aluminum	0.060	0.023	0.081	5	0.075	0.037	0.134	6	0.070	0.031	0.106	6	(0.1/0.2)	0.1/0.2
Beryllium	<0.0002	<0.0002	<0.0002	5	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6		
Bromide, dissolved	<0.005	<0.005	<0.005	5	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6		
Calcium	44.6	40.0	48.8	5	44.6	42.4	46.2	6	44.7	43.2	47.0	6		
Chloride, dissolved	5.2	4.3	6.4	5	4.5	3.3	5.6	6	4.9	3.9	6.1	6	(250)	
Cobalt	<0.0002	<0.0002	<0.0002	5	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6		
Copper	<0.002	<0.002	<0.002	5	<0.002	<0.002	<0.002	6	<0.002	<0.002	<0.002	6	(1)	
Hardness, Ca (mg CaCO3/L)	115	106	123	5	114	105	120	6	113	109	120	6		
Hardness, total (mg CaCO3/L)	171	154	183	5	167	165	170	6	170	164	177	6		
Iron	0.003	<0.002	0.008	5	0.013	0.008	0.022	6	<0.002	<0.002	0.003	6	(0.3)	0.3
Lithium	0.0031	0.0028	0.0035	5	0.0035	0.0031	0.0040	6	0.0034	0.0029	0.0038	6		
Magnesium	12.7	10.8	13.8	5	12.5	12.2	12.8	6	12.6	12.1	13.0	6		
Manganese	<0.002	<0.002	0.003	5	<0.002	<0.002	<0.002	6	<0.002	<0.002	<0.002	6	(0.05)	
Molybdenum	0.0007	0.0006	0.0008	5	0.0008	0.0006	0.0009	6	0.0008	0.0006	0.0010	6		
Nickel	0.0005	0.0004	0.0006	5	0.0003	<0.0002	0.0005	6	0.0004	<0.0002	0.0005	6		
Phosphorus	0.02	0.01	0.03	5	0.02	0.01	0.03	6	0.02	0.01	0.03	6		
Potassium	0.79	0.62	1.35	5	0.69	0.60	0.85	6	0.66	0.59	0.78	6		
Silicon	1.55	1.34	1.78	5	1.56	1.33	1.79	6	1.57	1.33	1.82	6		
Silver	<0.0002	<0.0002	<0.0002	5	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6		
Sodium	9.9	6.2	18.1	5	7.2	3.6	10.6	6	8.0	5.7	11.1	6	(200)	
Strontium	0.412	0.345	0.467	5	0.408	0.396	0.418	6	0.405	0.389	0.424	6		
Sulphate, dissolved	67.8	55.5	77.0	5	58.8	48.5	67.5	6	62.3	49.4	71.3	6	(500)	
Thallium	<0.0001	<0.0001	0.0001	5	<0.0001	<0.0001	0.0001	6	<0.0001	<0.0001	<0.0001	6		
Tin	<0.0002	<0.0002	<0.0002	5	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6		
Titanium	<0.0005	<0.0005	<0.0005	5	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	0.0005	6		
Vanadium	0.0006	0.0004	0.0007	5	0.0006	0.0005	0.0009	6	0.0006	0.0005	0.0009	6		
Zinc	0.003	<0.002	0.005	5	<0.002	<0.002	0.003	6	<0.002	<0.002	0.002	6	(5)	
Zirconium	<0.0002	<0.0002	0.0003	5	<0.0003	<0.0002	0.0004	6	<0.0002	<0.0002	0.0003	6		

7.10 Castledowns, Clareview and Kaskitayo Reservoir

2015

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
Secondary Organics (ug/L) ***														
Bromodichloromethane	0.8	0.5	1.3	10	0.9	0.6	1.1	6	0.8	0.7	1.0	6		16
Bromoform	<0.9	<0.5	<1.0	10	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Chloroform	14.0	6.7	21.3	10	15.8	10.6	25.4	6	12.6	7.8	19.0	6		
Dibromochloromethane	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Dichlorobenzene (1,3)	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Dichloroethylene, cis (1,2)	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Dichloroethylene, trans (1,2)	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Dichloropropane (1,2)	<0.5	<0.5	<0.5	10	<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	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	(15)	
MIBK	1.5	<1.0	6.4	10	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Styrene	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Tetrachloroethane (1,1,2,2)	<0.9	<0.5	<1.0	10	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Total Organic Carbon	1.2	0.7	1.7	5	1.5	1.0	2.3	6	1.4	0.9	2.2	6		
Total Volatile Organics (NonTHM)	1.8	<1.0	9.4	10	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Total Volatile Organics (Unknown)	<1.0	<1.0	<1.0	8	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Trichlorobenzene (1,2,4)	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Trichloroethane (1,1,1)	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Xylene (1,2)	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Xylene (1,4)	0.8	<0.5	2.3	10	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		

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

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

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

7.11 Londonderry, Millwoods and North Jasper Place Reservoir

2015

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	6	<1	<1	<1	4	(15)	10
Conductivity (uS/cm)	369	356	383	6	372	353	397	6	369	356	386	4		
Odour	Inoff	Inoff	Inoff	6	Inoff	Inoff	Inoff	6	Inoff	Inoff	Inoff	4	(Inoffensive)	Inoffensive
pH (N/A)	7.9	7.6	8.0	6	7.8	7.7	8.0	6	7.9	7.7	8.1	4	(6.5 – 8.5)	7.3-8.3
Turbidity (NTU)	0.11	0.06	0.89	53	0.09	0.05	0.19	52	0.10	0.07	0.22	38		1.0/3.0
Primary Inorganics (mg/L) **														
Antimony	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	0.0002	4	0.006	
Arsenic	0.0003	0.0002	0.0004	6	0.0003	0.0002	0.0003	6	0.0003	0.0002	0.0003	4	0.01	
Barium	0.059	0.056	0.061	6	0.058	0.055	0.061	6	0.060	0.058	0.063	4	1	
Boron	0.008	0.005	0.016	6	0.007	0.005	0.013	6	0.008	0.007	0.008	4	5	
Bromate, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	4	0.01	
Cadmium	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	4	0.005	
Chlorate, dissolved	0.103	0.060	0.144	6	0.139	0.110	0.152	6	0.139	0.120	0.160	4	1	
Chlorine, total	1.82	1.54	2.10	53	1.86	1.49	2.10	52	1.58	1.21	1.96	38	>0.5 and < 3.0	>1.0 and <2.4
Chlorite, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	4	1	
Chromium	<0.0002	<0.0002	0.0002	6	<0.0002	<0.0002	0.0002	6	<0.0002	<0.0002	<0.0002	4	0.05	
Fluoride, dissolved	0.69	0.65	0.73	6	0.69	0.67	0.71	6	0.69	0.67	0.71	4	0.5-0.9	0.6-0.8
Lead	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	4	0.01	
Mercury	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	4	0.001	
Nitrate (as N), dissolved	0.06	0.01	0.17	6	0.06	0.01	0.16	6	0.06	0.04	0.08	4	10	
Nitrite (as N), dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	4	1	
Selenium	0.0003	<0.0002	0.0003	6	0.0003	<0.0002	0.0003	6	0.0003	0.0002	0.0003	4	0.05	
Uranium	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	4	0.02	

7.11 Londonderry, Millwoods and North Jasper Place Reservoir

2015

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
Primary Organics (ug/L) **														
Benzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4	5	
Carbon Tetrachloride	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	4	5	
Chlorobenzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4	80	
Dichlorobenzene (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4	5 (1)	
Dichloroethylene (1,1)	<3.0	<3.0	<3.0	6	<3.0	<3.0	<3.0	6	<3.0	<3.0	<3.0	4	14	
Ethylbenzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4	140 (1.6)	
Methylene Chloride	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4	50	
Tetrachloroethylene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4	10	
Toluene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4	60 (24)	
Trichloroethylene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4	5	

7.11 Londonderry, Millwoods and North Jasper Place Reservoir

2015

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
Secondary Inorganics (mg/L) ***														
Alkalinity, total (mg CaCO3/L)	115	106	127	6	118	107	131	6	121	115	128	4		
Aluminum	0.060	0.030	0.089	6	0.069	0.026	0.087	6	0.071	0.027	0.090	4	(0.1/0.2)	0.1/0.2
Beryllium	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	4		
Bromide, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	4		
Calcium	44.8	39.7	49.6	6	44.6	39.0	49.2	6	45.1	41.9	47.7	4		
Chloride, dissolved	5.4	4.6	7.8	6	5.2	4.5	6.9	6	4.7	3.8	5.8	4	(250)	
Cobalt	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	4		
Copper	<0.002	<0.002	<0.002	6	<0.002	<0.002	<0.002	6	<0.002	<0.002	<0.002	4	(1)	
Hardness, Ca (mg CaCO3/L)	115	106	121	6	118	105	125	6	118	113	121	4		
Hardness, total (mg CaCO3/L)	171	153	183	6	171	156	180	6	170	164	176	4		
Iron	0.005	0.003	0.006	6	<0.002	<0.002	0.003	6	0.004	0.002	0.006	4	(0.3)	0.3
Lithium	0.0034	0.0030	0.0038	6	0.0031	0.0028	0.0034	6	0.0034	0.0032	0.0037	4		
Magnesium	12.8	10.6	14.0	6	12.7	10.9	13.8	6	12.6	11.8	13.1	4		
Manganese	<0.002	<0.002	<0.002	6	<0.002	<0.002	0.003	6	<0.002	<0.002	<0.002	4	(0.05)	
Molybdenum	0.0008	0.0006	0.0008	6	0.0008	0.0006	0.0009	6	0.0008	0.0007	0.0009	4		
Nickel	0.0006	0.0003	0.0010	6	0.0005	0.0003	0.0010	6	0.0003	<0.0002	0.0004	4		
Phosphorus	0.03	0.02	0.03	6	0.03	0.02	0.03	6	0.03	0.02	0.03	4		
Potassium	0.84	0.62	1.68	6	0.75	0.61	1.28	6	0.73	0.63	0.91	4		
Silicon	1.62	1.36	1.96	6	1.64	1.36	1.95	6	1.69	1.46	1.90	4		
Silver	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	4		
Sodium	8.5	5.4	15.3	6	9.3	6.3	19.0	6	8.8	5.7	14.2	4	(200)	
Strontium	0.408	0.354	0.461	6	0.404	0.342	0.457	6	0.405	0.388	0.423	4		
Sulphate, dissolved	64.7	52.5	74.3	6	64.9	52.5	80.4	6	60.8	48.9	74.0	4	(500)	
Thallium	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	4		
Tin	<0.0002	<0.0002	0.0002	6	<0.0002	<0.0002	0.0002	6	<0.0002	<0.0002	<0.0002	4		
Titanium	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	4		
Vanadium	0.0007	0.0004	0.0010	6	0.0007	0.0004	0.0010	6	0.0006	0.0005	0.0009	4		
Zinc	0.007	0.003	0.011	6	<0.003	<0.002	0.004	6	<0.002	<0.002	<0.002	4	(5)	
Zirconium	<0.0002	<0.0002	0.0004	6	<0.0002	<0.0002	0.0004	6	<0.0002	<0.0002	0.0003	4		

7.11 Londonderry, Millwoods and North Jasper Place Reservoir

2015

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
Secondary Organics (ug/L) ***														
Bromodichloromethane	0.8	0.7	1.0	6	0.7	0.5	0.9	6	0.8	0.6	1.0	4		16
Bromoform	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	4		
Chloroform	12.6	9.5	18.4	6	12.5	7.3	18.0	6	14.9	11.6	21.8	4		
Dibromochloromethane	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4		
Dichlorobenzene (1,3)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4		
Dichloroethylene, cis (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4		
Dichloroethylene, trans (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4		
Dichloropropane (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4	(15)	
MIBK	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	4		
Styrene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4		
Tetrachloroethane (1,1,2,2)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	4		
Total Organic Carbon	1.3	0.8	1.9	6	1.5	0.5	2.7	6	1.2	1.0	1.6	4		
Total Volatile Organics (NonTHM)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	4		
Total Volatile Organics (Unknown)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	4		
Trichlorobenzene (1,2,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4		
Trichloroethane (1,1,1)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4		
Xylene (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4		
Xylene (1,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	4		

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

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

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

7.12 Ormsby, Papaschase 1 and Papaschase 2 Reservoir

2015

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	6	<1	<1	1	6	<1	<1	<1	6	(15)	10
Conductivity (uS/cm)	372	355	393	6	370	354	388	6	361	347	375	6		
Odour	Inoff	Inoff	Inoff	6	Inoff	Inoff	Inoff	6	Inoff	Inoff	Inoff	6	(Inoffensive)	Inoffensive
pH (N/A)	7.8	7.6	8.0	6	7.8	7.7	8.0	6	7.8	7.7	8.1	6	(6.5 – 8.5)	7.3-8.3
Turbidity (NTU)	0.10	0.02	0.32	51	0.15	0.07	0.48	52	0.10	0.06	0.17	52		1.0/3.0
Primary Inorganics (mg/L) **														
Antimony	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	0.006	
Arsenic	0.0003	0.0002	0.0003	6	0.0003	0.0002	0.0003	6	0.0003	0.0002	0.0004	6	0.01	
Barium	0.059	0.056	0.060	6	0.058	0.052	0.062	6	0.058	0.052	0.065	6	1	
Boron	0.007	0.005	0.012	6	0.007	0.005	0.014	6	0.007	0.006	0.008	6	5	
Bromate, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	0.01	
Cadmium	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	0.005	
Chlorate, dissolved	0.139	0.120	0.150	6	0.116	0.080	0.136	6	0.110	0.060	0.146	6	1	
Chlorine, total	1.79	1.43	2.12	51	1.73	1.12	2.05	52	1.81	1.25	2.02	52	>0.5 and < 3.0	>1.0 and <2.4
Chlorite, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	1	
Chromium	<0.0002	<0.0002	0.0002	6	<0.0002	<0.0002	0.0002	6	<0.0002	<0.0002	<0.0002	6	0.05	
Fluoride, dissolved	0.68	0.66	0.70	6	0.68	0.66	0.70	6	0.69	0.64	0.76	6	0.5-0.9	0.6-0.8
Lead	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	0.01	
Mercury	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	0.0001	6	0.001	
Nitrate (as N), dissolved	0.06	0.01	0.16	6	0.06	0.01	0.16	6	0.04	0.01	0.09	6	10	
Nitrite (as N), dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	1	
Selenium	0.0002	<0.0002	0.0003	6	0.0003	0.0002	0.0003	6	0.0002	0.0002	0.0003	6	0.05	
Uranium	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	0.0005	6	0.02	

7.12 Ormsby, Papaschase 1 and Papaschase 2 Reservoir

2015

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
Primary Organics (ug/L) **														
Benzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	5	
Carbon Tetrachloride	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	5	
Chlorobenzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	80	
Dichlorobenzene (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	5 (1)	
Dichloroethylene (1,1)	<3.0	<3.0	<3.0	6	<3.0	<3.0	<3.0	6	<3.0	<3.0	<3.0	6	14	
Ethylbenzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	140 (1.6)	
Methylene Chloride	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	50	
Tetrachloroethylene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	10	
Toluene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	60 (24)	
Trichloroethylene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	5	

7.12 Ormsby, Papaschase 1 and Papaschase 2 Reservoir

2015

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
Secondary Inorganics (mg/L) ***														
Alkalinity, total (mg CaCO ₃ /L)	118	107	131	6	122	109	145	6	119	112	129	6		
Aluminum	0.069	0.023	0.092	6	0.058	0.026	0.079	6	0.072	0.033	0.108	6	(0.1/0.2)	0.1/0.2
Beryllium	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6		
Bromide, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6		
Calcium	44.9	40.4	48.3	6	44.5	39.8	48.6	6	44.5	42.9	46.6	6		
Chloride, dissolved	5.2	4.4	7.1	6	5.4	4.7	7.1	6	4.8	3.5	5.6	6	(250)	
Cobalt	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6		
Copper	<0.002	<0.002	<0.002	6	<0.002	<0.002	<0.002	6	<0.002	<0.002	<0.002	6	(1)	
Hardness, Ca (mg CaCO ₃ /L)	117	104	123	6	117	105	125	6	114	107	122	6		
Hardness, total (mg CaCO ₃ /L)	171	156	178	6	170	156	179	6	170	164	174	6		
Iron	0.004	<0.002	0.006	6	0.016	0.010	0.021	6	0.003	0.002	0.007	6	(0.3)	0.3
Lithium	0.0030	0.0027	0.0034	6	0.0032	0.0029	0.0036	6	0.0034	0.0030	0.0038	6		
Magnesium	12.8	10.8	14.0	6	12.7	11.1	13.4	6	12.5	12.0	12.8	6		
Manganese	<0.002	<0.002	0.003	6	<0.002	<0.002	0.002	6	<0.002	<0.002	<0.002	6	(0.05)	
Molybdenum	0.0008	0.0007	0.0008	6	0.0008	0.0006	0.0009	6	0.0008	0.0006	0.0010	6		
Nickel	0.0005	0.0003	0.0009	6	0.0004	0.0003	0.0006	6	0.0003	<0.0002	0.0006	6		
Phosphorus	0.03	0.01	0.03	6	0.03	0.02	0.03	6	0.02	0.02	0.03	6		
Potassium	0.77	0.62	1.33	6	0.79	0.60	1.38	6	0.67	0.59	0.78	6		
Silicon	1.61	1.37	1.96	6	1.62	1.37	1.94	6	1.58	1.35	1.83	6		
Silver	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	0.0003	6	<0.0002	<0.0002	<0.0002	6		
Sodium	9.4	6.3	18.6	6	9.3	5.7	17.1	6	7.6	4.1	10.7	6	(200)	
Strontium	0.404	0.338	0.464	6	0.398	0.348	0.439	6	0.408	0.395	0.424	6		
Sulphate, dissolved	65.3	52.5	79.2	6	65.4	52.8	77.4	6	60.0	49.9	69.0	6	(500)	
Thallium	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	0.0002	<0.0001	0.0004	6		
Tin	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	0.0004	6		
Titanium	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	6		
Vanadium	0.0007	0.0004	0.0010	6	0.0007	0.0004	0.0010	6	0.0006	0.0003	0.0009	6		
Zinc	0.003	<0.002	0.005	6	<0.002	<0.002	<0.002	6	<0.002	<0.002	<0.002	6	(5)	
Zirconium	<0.0002	<0.0002	0.0002	6	<0.0002	<0.0002	0.0002	6	0.0003	<0.0002	0.0006	6		

7.12 Ormsby, Papaschase 1 and Papaschase 2 Reservoir

2015

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
Secondary Organics (ug/L) ***														
Bromodichloromethane	0.7	0.5	0.8	6	0.8	0.6	1.1	6	0.8	0.7	1.0	6		16
Bromoform	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Chloroform	13.4	6.9	19.4	6	14.3	8.8	18.5	6	14.2	9.2	23.4	6		
Dibromochloromethane	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Dichlorobenzene (1,3)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Dichloroethylene, cis (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Dichloroethylene, trans (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Dichloropropane (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	(15)	
MIBK	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Styrene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Tetrachloroethane (1,1,2,2)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Total Organic Carbon	1.2	0.7	1.6	6	1.3	0.8	1.9	6	1.4	1.2	1.9	6		
Total Volatile Organics (NonTHM)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Total Volatile Organics (Unknown)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Trichlorobenzene (1,2,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Trichloroethane (1,1,1)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Xylene (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Xylene (1,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		

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

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

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

7.13 Rosslyn 1, Rosslyn 2 and Thorncliff Reservoir

2015

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	6	<1	<1	<1	6	<1	<1	2	6	(15)	10
Conductivity (uS/cm)	369	356	385	6	358	348	368	6	371	349	418	6		
Odour	Inoff	Inoff	Inoff	6	Inoff	Inoff	Inoff	6	Inoff	Inoff	Inoff	6	(Inoffensive)	Inoffensive
pH (N/A)	7.9	7.7	8.0	6	7.9	7.8	8.1	6	7.8	7.6	8.0	6	(6.5 – 8.5)	7.3-8.3
Turbidity (NTU)	0.11	0.07	0.19	52	0.10	0.07	0.24	52	0.09	0.06	0.29	52		1.0/3.0
Primary Inorganics (mg/L) **														
Antimony	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	0.006	
Arsenic	0.0003	0.0002	0.0003	6	0.0003	0.0002	0.0004	6	0.0003	<0.0002	0.0004	6	0.01	
Barium	0.059	0.053	0.064	6	0.058	0.051	0.063	6	0.058	0.053	0.063	6	1	
Boron	0.008	0.005	0.018	6	0.007	0.006	0.008	6	0.007	0.006	0.008	6	5	
Bromate, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	0.01	
Cadmium	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	0.005	
Chlorate, dissolved	0.114	0.070	0.132	6	0.080	<0.005	0.145	6	0.139	0.119	0.160	6	1	
Chlorine, total	1.46	1.19	1.81	52	1.73	1.25	2.00	52	1.64	1.18	2.07	52	>0.5 and < 3.0	>1.0 and <2.4
Chlorite, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	1	
Chromium	<0.0002	<0.0002	0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	0.05	
Fluoride, dissolved	0.69	0.64	0.75	6	0.69	0.64	0.75	6	0.69	0.64	0.73	6	0.5-0.9	0.6-0.8
Lead	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	0.01	
Mercury	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	0.001	
Nitrate (as N), dissolved	0.06	0.02	0.15	6	0.05	0.01	0.09	6	0.05	0.01	0.08	6	10	
Nitrite (as N), dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	1	
Selenium	0.0002	0.0002	0.0003	6	0.0002	0.0002	0.0003	6	0.0003	<0.0002	0.0003	6	0.05	
Uranium	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	6	0.02	

7.13 Rosslyn 1, Rosslyn 2 and Thorncliff Reservoir

2015

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
Primary Organics (ug/L) **														
Benzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	5	
Carbon Tetrachloride	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	5	
Chlorobenzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	80	
Dichlorobenzene (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	5 (1)	
Dichloroethylene (1,1)	<3.0	<3.0	<3.0	6	<3.0	<3.0	<3.0	6	<3.0	<3.0	<3.0	6	14	
Ethylbenzene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	140 (1.6)	
Methylene Chloride	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	50	
Tetrachloroethylene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	10	
Toluene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	60 (24)	
Trichloroethylene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	5	

7.13 Rosslyn 1, Rosslyn 2 and Thorncliff Reservoir

2015

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
Secondary Inorganics (mg/L) ***														
Alkalinity, total (mg CaCO3/L)	118	108	130	6	118	113	127	6	117	112	129	6		
Aluminum	0.061	0.044	0.076	6	0.084	0.042	0.167	6	0.066	0.026	0.100	6	(0.1/0.2)	0.1/0.2
Beryllium	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6		
Bromide, dissolved	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6	<0.005	<0.005	<0.005	6		
Calcium	44.8	41.9	47.0	6	44.4	42.4	46.4	6	43.7	41.6	45.0	6		
Chloride, dissolved	5.3	4.5	7.5	6	4.0	0.5	5.4	6	4.7	3.9	5.8	6	(250)	
Cobalt	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6		
Copper	<0.002	<0.002	<0.002	6	<0.002	<0.002	<0.002	6	<0.002	<0.002	<0.002	6	(1)	
Hardness, Ca (mg CaCO3/L)	115	110	121	6	113	109	116	6	114	110	118	6		
Hardness, total (mg CaCO3/L)	173	165	182	6	169	162	172	6	168	162	171	6		
Iron	0.008	0.005	0.011	6	0.003	0.002	0.004	6	<0.002	<0.002	0.002	6	(0.3)	0.3
Lithium	0.0033	0.0028	0.0036	6	0.0035	0.0030	0.0038	6	0.0033	0.0029	0.0037	6		
Magnesium	12.7	11.7	13.6	6	12.6	12.2	13.0	6	12.6	11.8	13.0	6		
Manganese	<0.002	<0.002	<0.002	6	<0.002	<0.002	<0.002	6	<0.002	<0.002	<0.002	6	(0.05)	
Molybdenum	0.0008	0.0006	0.0009	6	0.0007	0.0006	0.0009	6	0.0007	0.0006	0.0009	6		
Nickel	0.0004	0.0003	0.0005	6	0.0004	<0.0002	0.0007	6	0.0004	<0.0002	0.0007	6		
Phosphorus	0.03	0.01	0.03	6	0.02	0.01	0.03	6	0.03	0.02	0.03	6		
Potassium	0.83	0.62	1.56	6	0.68	0.61	0.80	6	0.68	0.59	0.91	6		
Silicon	1.61	1.43	1.94	6	1.58	1.34	1.85	6	1.55	1.31	1.79	6		
Silver	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6		
Sodium	8.5	5.6	12.7	6	7.0	3.4	9.6	6	8.6	5.8	13.5	6	(200)	
Strontium	0.408	0.380	0.434	6	0.399	0.393	0.411	6	0.399	0.387	0.422	6		
Sulphate, dissolved	63.5	51.6	73.7	6	58.1	49.4	67.0	6	61.8	49.3	73.5	6	(500)	
Thallium	<0.0001	<0.0001	<0.0001	6	<0.0001	<0.0001	<0.0001	6	0.0002	<0.0001	0.0007	6		
Tin	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	0.0002	6		
Titanium	<0.0005	<0.0005	<0.0005	6	<0.0005	<0.0005	<0.0005	6	<0.0006	<0.0005	0.0010	6		
Vanadium	0.0007	0.0004	0.0010	6	0.0006	0.0005	0.0009	6	0.0006	0.0004	0.0009	6		
Zinc	<0.003	<0.002	0.005	6	<0.002	<0.002	<0.002	6	<0.002	<0.002	0.003	6	(5)	
Zirconium	<0.0002	<0.0002	<0.0002	6	<0.0002	<0.0002	0.0002	6	<0.0002	<0.0002	0.0002	6		

7.13 Rosslyn 1, Rosslyn 2 and Thorncliff Reservoir

2015

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
Secondary Organics (ug/L) ***														
Bromodichloromethane	0.8	0.8	1.0	6	0.9	0.7	1.0	6	0.7	0.6	1.0	6		16
Bromoform	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Chloroform	15.4	11.6	19.5	6	15.4	9.7	26.0	6	13.6	6.8	21.5	6		
Dibromochloromethane	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Dichlorobenzene (1,3)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Dichloroethylene, cis (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Dichloroethylene, trans (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Dichloropropane (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	(15)	
MIBK	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Styrene	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Tetrachloroethane (1,1,2,2)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Total Organic Carbon	1.2	0.7	1.5	6	1.4	0.9	2.1	6	1.5	1.1	2.1	6		
Total Volatile Organics (NonTHM)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Total Volatile Organics (Unknown)	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6	<1.0	<1.0	<1.0	6		
Trichlorobenzene (1,2,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Trichloroethane (1,1,1)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Xylene (1,2)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		
Xylene (1,4)	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6	<0.5	<0.5	<0.5	6		

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

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

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

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

2015

HAA (Haloacetic Acid)

Parameter or Location	12 months running				GCDWQ or Approval or MAC* or (AO or OG)	EPCOR
	Mean	Min	Max	Count	12 month running	single result
HAA (ug/L)					80	40
01-RI	19.4	13.8	27.0	10		
01-SR	16.1	16.1	16.1	1		
02-SR	15.2	13.0	17.6	4		
03-SR	20.8	14.1	24.8	5		
04-SR	14.7	14.2	15.2	2		
05-SR	18.6	16.3	21.0	3		
07-SR	29.6	29.6	29.6	1		
09-SR	23.0	23.0	23.0	1		
12-SR	19.7	15.6	22.3	4		
13-RI	17.7	13.0	21.9	9		
14-SR	20.6	18.4	22.7	2		
15-SR	16.6	14.4	20.6	3		
17-SR	15.1	11.3	18.8	5		
18-SR	15.9	13.4	18.0	3		
19-OF	20.6	20.6	20.6	1		
19-RI	22.8	14.0	30.6	4		
19-SR	15.1	13.6	17.2	3		
21-SR	17.9	17.0	18.8	2		
22-SR	19.5	19.5	19.5	1		
23-SR	17.5	14.1	20.5	4		
24-RI	17.4	15.0	19.7	2		
25-SR	17.5	13.8	21.4	5		
26-SR	24.7	21.8	27.5	2		
27-SR	17.4	14.2	22.1	3		
28-DE	19.1	19.1	19.1	1		
Total Count				80		
Mean	18.9	16.4	21.4			
Min	14.7	11.3	15.2			
Max	29.6	29.6	30.6			

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

2015

Trihalomethanes

Parameter or Location	12 months running				GCDWQ or Approval or MAC* or (AO or OG) 12 month running	EPCOR single result
	Mean	Min	Max	Count		
Trihalomethanes (ug/L)					100	50
01-RI	15.3	11.0	21.9	15		
01-SR	16.2	16.2	16.2	1		
02-SR	11.0	7.8	14.9	5		
03-SR	15.9	12.2	22.5	5		
04-SR	11.8	11.4	12.2	2		
05-RI	12.7	9.2	14.4	5		
05-SR	13.9	12.1	15.1	3		
07-SR	21.0	21.0	21.0	1		
09-SR	21.1	21.1	21.1	1		
10-DE	15.4	9.9	22.0	6		
11-DE	17.2	11.8	20.8	6		
12-DE	12.3	7.7	16.0	6		
12-SR	14.9	13.4	18.0	5		
13-DE	12.9	6.3	15.6	6		
13-RI	13.6	6.5	19.3	14		
14-DE	10.9	5.4	15.7	7		
14-SR	18.3	18.3	18.3	1		
15-SR	11.0	7.9	17.2	3		
16-DE	14.7	9.3	19.8	5		
17-SR	13.6	6.3	25.1	6		
18-DE	17.9	12.4	22.1	6		
18-SR	8.1	5.0	11.1	2		
19-OF	20.1	14.2	25.9	2		
19-RI	22.5	10.9	35.3	4		
19-SR	10.0	9.0	11.7	3		
20-DE	13.3	6.6	17.3	6		
21-SR	14.0	12.6	15.4	2		
22-SR	10.7	10.7	10.7	1		
23-RI	13.2	6.4	18.8	6		
23-SR	13.9	9.4	23.1	4		
24-RI	17.4	13.0	21.1	3		
25-RI	14.3	9.6	21.9	7		
25-SR	13.5	6.0	25.2	4		
26-DE	11.7	6.5	14.9	6		
26-SR	16.6	10.6	19.7	3		
27-RI	15.1	9.7	18.0	6		
27-SR	13.1	9.7	15.0	3		
28-DE	16.6	11.4	23.4	6		
Total Count				177		
	Mean	14.6	10.5	18.9		
	Min	8.1	5.0	10.7		
	Max	22.5	21.1	35.3		

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

2015

Trihalomethanes

Parameter or Location	12 months running				GCDWQ or Approval or MAC* or (AO or OG)	EPCOR
	Mean	Min	Max	Count	12 month running	single result
Trihalomethanes (ug/L)					100	50
CASTLEDOWNS RESERVOIR	14.7	7.2	22.6	10		
CLAREVIEW RESERVOIR	16.7	11.5	26.4	6		
KASKITAYO RESERVOIR	13.4	8.4	20.0	6		
LONDONDERRY RESERVOIR	13.5	10.3	19.3	6		
MILLWOODS RESERVOIR	13.2	7.8	18.9	6		
NORTH JASPER RESERVOIR	15.7	12.4	22.8	4		
ORMSBY RESERVOIR	14.1	7.4	20.1	6		
PAPASCHASE RESERVOIR 1	15.1	9.4	19.5	6		
PAPASCHASE RESERVOIR 2	15.0	10.0	24.4	6		
ROSSLYN RESERVOIR 1	16.3	12.4	20.2	6		
ROSSLYN RESERVOIR 2	16.3	10.4	27.0	6		
THORNCLIFF RESERVOIR	14.3	7.4	22.5	6		

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

2015

N-nitroso-dimethylamine

Parameter or Location	12 months running				GCDWQ or Approval or MAC* or (AO or OG)	EPCOR
	Mean	Min	Max	Count	12 month running	single result
NDMA (ng/L)					40	40
01-SR	5.2	5.2	5.2	1		
02-SR	1.9	1.9	1.9	2		
03-SR	2.9	2.3	3.5	2		
04-SR	3.3	3.3	3.3	1		
05-SR	2.7	2.2	3.2	2		
07-SR	3.9	3.9	3.9	1		
13-RI	3.1	1.4	6.9	9		
14-SR	3.1	3.1	3.1	1		
15-SR	1.8	1.1	2.5	2		
17-SR	1.4	0.1	2.1	3		
18-SR	0.9	0.9	0.9	2		
19-OF	1.9	1.9	1.9	1		
19-RI	3.2	2.8	3.7	3		
19-SR	1.1	1.1	1.1	1		
21-SR	1.5	1.5	1.5	1		
23-SR	3.4	3.4	3.4	1		
25-SR	2.4	1.8	3.2	3		
27-SR	2.2	2.1	2.2	2		
Total Count				38		
Mean	2.5	2.2	3.0			
Min	0.9	0.1	0.9			
Max	5.2	5.2	6.9			

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

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

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

2015

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Physical										
Colour (TCU)	6	2	34	57	6	2	23	57	(15)	10
Conductivity (uS/cm)	335	307	377	58	333	297	374	58		
FPA-Intensity (N/A)	0.56	<0.19	1.50	78	0.57	0.25	1.50	78		
pH (N/A)	8.3	7.8	8.5	12	8.3	7.9	8.5	12	(6.5–8.5)	7.3-8.3
Total Dissolved Solids (mg/L)	207	184	227	12	203	189	218	12	(500)	
Total Suspended Solids (mg/L)	8	<5	26	12	8	<5	20	12		
Turbidity (NTU) (daily)	9	0.7	178	365	8	1.1	151	365	(1.0)	1
Primary Inorganics (mg/L) **										
Antimony	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	0.0002	12	0.006	
Antimony, dissolved	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12	0.006	
Arsenic	0.0004	0.0003	0.0006	12	0.0004	0.0003	0.0006	12	0.010	
Arsenic, dissolved	0.0002	<0.0002	0.0003	12	0.0003	<0.0002	0.0004	12	0.010	
Barium	0.066	0.060	0.083	12	0.066	0.059	0.071	12	1.0	
Barium, dissolved	0.063	0.058	0.082	12	0.062	0.058	0.068	12	1.0	
Boron	0.008	0.005	0.011	12	0.007	0.006	0.009	12	5	
Boron, dissolved	0.007	0.005	0.011	12	0.007	0.005	0.008	12	5	
Bromate, dissolved	<0.005	<0.003	<0.005	76	<0.005	<0.003	<0.005	75	0.01	
Cadmium	<0.0001	<0.0001	<0.0001	12	<0.0001	<0.0001	<0.0001	12	0.005	
Cadmium, dissolved	<0.0001	<0.0001	<0.0001	12	<0.0001	<0.0001	<0.0001	12	0.005	
Chlorate, dissolved	<0.02	<0.01	<0.10	76	<0.02	<0.01	<0.10	75	1	
Chlorine, total	<0.03	<0.03	<0.03	11	<0.03	<0.03	<0.03	12	0.5 - 3.0	1.0 -2.4
Chlorite, dissolved	<0.028	<0.005	<0.200	76	<0.026	<0.005	<0.200	75	1	
Chromium	0.0004	<0.0002	0.0013	12	0.0003	<0.0002	0.0009	12	0.05	
Chromium, dissolved	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12		
Cyanide, dissolved	<0.002	<0.002	<0.002	10	<0.002	<0.002	<0.002	10	0.2	
Fluoride, dissolved	0.13	0.11	0.15	52	0.12	0.11	0.15	52	1.5	0.6–0.8
Lead	0.0002	<0.0001	0.0005	12	0.0002	<0.0001	0.0004	12	0.010	
Lead, dissolved	<0.0001	<0.0001	<0.0001	12	<0.0001	<0.0001	<0.0001	12	0.010	
Mercury	0.0001	<0.0001	0.0002	12	<0.0001	<0.0001	0.0001	12	0.001	
Mercury, dissolved	<0.0001	<0.0001	<0.0001	12	<0.0001	<0.0001	<0.0001	12	0.001	
Nitrate (as N), dissolved	0.05	<0.01	0.21	76	0.04	<0.01	0.16	75	10	
Nitrite (as N), dissolved	<0.007	<0.005	0.040	76	<0.007	<0.005	0.040	75	1	
Selenium	0.0003	<0.0002	0.0004	12	0.0003	0.0002	0.0004	12	0.05	
Selenium, dissolved	0.0002	<0.0002	0.0003	12	<0.0002	<0.0002	0.0004	12	0.05	
Uranium	<0.0005	<0.0005	0.0006	12	<0.0005	<0.0005	0.0006	12	0.02	
Uranium, dissolved	<0.0005	<0.0005	0.0005	12	<0.0005	<0.0005	0.0006	12	0.02	

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

2015

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Primary Organics (ug/L) **										
1,2-Dichloroethane	<1	<1	<1	15	<1	<1	<1	15		
2,4-D	0.013	<0.005	0.038	4	<0.005	<0.005	<0.005	4	100	
Atrazine	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	5	
Azinphos-methyl	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4	20	
Benzene	<0.5	<0.5	<1.0	369	<0.5	<0.5	<1.0	368	5	
Benzo(a)pyrene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4	0.01	
Bromoxynil	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	5	
Carbon Tetrachloride	<1.0	<0.5	<1.0	369	<1.0	<0.5	<1.0	368	2	
Chlorobenzene	<0.5	<0.5	<1.0	369	<0.5	<0.5	<1.0	368	80 (30)	
Chlorpyrifos	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	90	
Diazinon	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	20	
Dicamba	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	120	
Dichlorobenzene (1,2)	<0.5	<0.5	<1.0	369	<0.5	<0.5	<1.0	368	200 (3)	
Dichlorobenzene (1,4)	<0.5	<0.5	<1.0	369	<0.5	<0.5	<1.0	368	5 (1)	
Dichloroethane (1,2)	<0.3	<0.1	<0.5	9	<0.3	<0.1	<0.5	7	5	
Dichloroethylene (1,1)	<2.9	<0.5	<3.0	369	<2.9	<0.5	<3.0	368	14	
Dichlorophenol (2,4)	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4	900 (0.3)	
Diclofop-methyl	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Dimethoate	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4	20	
Diuron	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4	150	
Ethylbenzene	<0.5	<0.5	<1.0	369	<0.5	<0.5	<1.0	368	140 (1.6)	
Glyphosate	<0.1	<0.1	<0.1	2	<0.1	<0.1	<0.1	2	280	
Malathion	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4	190	
MCPA	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	100	
Methylene Chloride	<0.7	<0.5	<5.0	369	<0.7	<0.5	<5.0	368	50	
Metolachlor	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	50	
Metribuzin	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4	80	
Microcystin LR	<0.080	<0.010	<0.150	4	<0.093	<0.010	0.200	4	1.5	
Nitilotriacetic acid	<0.3	<0.1	<0.5	2	<0.3	<0.1	<0.5	2		
Pentachlorophenol	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4	60 (30)	
Phorate	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	2	
Picloram	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4	190	
Simazine	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4	10	
Terbufos	<0.03	<0.03	<0.03	4	<0.03	<0.03	<0.03	4	1	
Tetrachloroethylene	<0.5	<0.5	<1.0	369	<0.5	<0.5	<1.0	368	10	
Tetrachlorophenol (2,3,4,6)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4	100 (1)	
Toluene	<0.5	<0.5	<1.0	369	<0.5	<0.5	<1.0	368	60 (24)	
Total Xylenes (m,p,o)	<1	<1	<1	15	<1	<1	<1	15		
Trichloroethylene	<0.5	<0.5	<1.0	369	<0.5	<0.5	<1.0	368	5	
Trichlorophenol (2,4,6)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4	5 (2)	
Trifluralin	<0.005	<0.005	0.006	4	<0.005	<0.005	0.006	4	45	
Trihalomethanes	<1.0	<1.0	<1.0	369	<1.0	<1.0	<1.0	368	100	50
Vinyl Chloride	<1.7	<0.1	<2.0	21	<1.7	<0.1	<2.0	19	2	

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

2015

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Primary Organics (ug/L) **										
Xylenes	<0.2	<0.2	<0.2	3	<0.2	<0.2	<0.2	3		
Radionuclides Bq/L)										
Cesium-137	<0.14	<0.07	<0.20	2	<0.20	<0.20	<0.20	2	10	
Gross Alpha	<0.16	<0.12	<0.20	2	<0.14	<0.12	<0.16	2	(0.5)	
Gross Beta	0.14	<0.09	0.18	2	0.45	0.31	0.58	2	(1.0)	
Iodine-131	<0.30	<0.30	<0.30	2	<0.25	<0.20	<0.30	2	6	
Lead-210	<0.02	<0.02	<0.02	2	<0.02	<0.02	<0.02	2	0.2	
Radium-226	0.01	<0.01	0.01	2	0.01	0.01	0.01	2	0.5	
Strontium-90	<0.1	<0.1	<0.1	2	<0.1	<0.1	<0.1	2	5	
Tritium	23	<15	30	2	23	<15	30	2	7000	

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

2015

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Inorganics (mg/L) ***										
Alkalinity, PHP (mg CaCO3/L)	<1	<1	2	12	<1	<1	2	12		
Alkalinity, total (mg CaCO3/L)	126	110	142	55	126	110	170	55		
Aluminum	0	0.05	0.88	12	0.19	0.05	0.62	12	(0.1/0.2)	0.1/0.2
Aluminum, dissolved	0	<0.003	0.133	12	0.006	<0.003	0.032	12		
Ammonia as N	<0.06	<0.05	0.18	91	<0.06	<0.05	0.20	92		
Beryllium	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12		
Beryllium, dissolved	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12		
Bromide, dissolved	<0.009	<0.005	<0.200	76	<0.007	<0.005	<0.020	75		
Calcium	45.2	40.6	51.0	12	44.9	40.3	50.2	12		
Calcium, dissolved	45.5	37.8	52.9	12	44.8	38.8	50.6	12		
Chloride, dissolved	1.2	0.5	9.6	76	0.8	<0.4	6.0	75	(250)	
Chlorine, free	<0.03	<0.03	<0.03	12	<0.03	<0.03	<0.03	12		
Cobalt	<0.0002	<0.0002	0.0004	12	<0.0002	<0.0002	0.0003	12		
Cobalt, dissolved	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12		
Copper	<0.002	<0.002	0.003	12	<0.002	<0.002	0.004	12	(1.0)	
Copper, dissolved	<0.002	<0.002	0.003	12	<0.002	<0.002	<0.002	12	(1.0)	
Hardness, Calcium (mg CaCO3/L)	115	100	132	52	114	98	135	52		
Hardness, total (mg CaCO3/L)	170	145	196	52	169	144	200	52		
Iron	0.19	0.04	0.98	12	0.20	0.07	0.69	12	(0.3)	0.3
Iron, dissolved	0.006	<0.002	0.034	12	0.005	<0.002	0.030	12	(0.3)	0.3
Lithium	0.0038	0.0032	0.0044	12	0.0036	0.0030	0.0041	12		
Lithium, dissolved	0.0036	0.0030	0.0040	12	0.0034	0.0029	0.0040	12		
Magnesium	12.9	11.2	14.2	12	12.9	11.4	14.2	12		
Magnesium, dissolved	13.1	10.8	14.6	12	13.0	11.0	14.4	12		
Manganese	0.007	<0.002	0.025	12	0.009	0.003	0.020	12	(0.05)	
Manganese, dissolved	<0.002	<0.002	0.005	12	<0.003	<0.002	0.008	12		
Molybdenum	0.0008	0.0007	0.0011	12	0.0008	0.0006	0.0010	12		
Molybdenum, dissolved	0.0007	0.0006	0.0009	12	0.0008	0.0006	0.0009	12		
Nickel	0.0010	0.0004	0.0046	12	0.0008	0.0004	0.0018	12		
Nickel, dissolved	0.0007	<0.0002	0.0043	12	0.0003	<0.0002	0.0007	12		
Phosphate,Ortho (as P)	<0.02	<0.02	<0.02	12	<0.02	<0.02	<0.02	12		
Phosphorus	0.04	0.02	0.06	12	0.04	0.03	0.05	12		
Phosphorus, dissolved	0.03	0.02	0.04	12	0.03	0.01	0.04	12		
Potassium	0.79	0.63	1.69	12	0.75	0.60	1.34	12		
Potassium, dissolved	0.75	0.62	1.45	12	0.71	0.61	1.17	12		
Silicon	1.91	1.20	3.45	12	1.87	1.25	2.96	12		
Silicon, dissolved	1.59	1.19	2.23	12	1.57	1.22	1.92	12		
Silver	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12		
Silver, dissolved	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12		
Sodium	3.8	3.1	5.6	12	3.6	2.9	4.7	12	(200)	
Sodium, dissolved	3.9	3.2	5.6	12	3.6	3.0	4.7	12		
Strontium	0.415	0.342	0.479	12	0.412	0.345	0.468	12		
Strontium, dissolved	0.416	0.342	0.483	12	0.413	0.346	0.461	12		

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

2015

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Inorganics (mg/L) ***										
Sulphate, dissolved	49.7	40.2	57.7	76	49.0	39.4	57.5	75	(500)	
Sulphide	<0.002	<0.002	<0.002	10	<0.002	<0.002	<0.002	10	(0.05)	
Thallium	0.0002	<0.0001	0.0003	12	0.0001	<0.0001	0.0002	12		
Thallium, dissolved	0.0001	<0.0001	0.0003	12	<0.0001	<0.0001	0.0002	12		
Tin	<0.0002	<0.0002	0.0003	12	0.0003	<0.0002	0.0008	12		
Tin, dissolved	<0.0002	<0.0002	<0.0002	12	<0.0002	<0.0002	<0.0002	12		
Titanium	0.0024	0.0006	0.0103	12	0.0025	0.0006	0.0081	12		
Titanium, dissolved	<0.0005	<0.0005	0.0005	12	<0.0007	<0.0005	0.0032	12		
Total Kjeldahl Nitrogen (TKN)	0.31	0.12	1.40	11	0.19	<0.06	0.56	11		
Vanadium	0.0011	0.0005	0.0029	12	0.0011	0.0007	0.0023	12		
Vanadium, dissolved	<0.0002	<0.0002	0.0004	12	0.0002	<0.0002	0.0004	12		
Zinc	0.016	0.004	0.027	12	0.016	<0.002	0.023	12	(5)	
Zinc, dissolved	<0.003	<0.002	0.008	12	<0.002	<0.002	<0.002	12		
Zirconium	0.0004	<0.0002	0.0008	12	0.0004	<0.0002	0.0008	12		
Zirconium, dissolved	<0.0002	<0.0002	0.0004	12	<0.0002	<0.0002	<0.0002	12		

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

2015

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Organics (ug/L) ***										
1,1,1,2-Tetrachloroethane	<1	<1	<1	15	<1	<1	<1	15		
1,1,2-Trichloroethane	<1	<1	<1	15	<1	<1	<1	15		
1,1-Dichloroethane	<1	<1	<1	15	<1	<1	<1	15		
1,1-Dichloropropene	<1	<1	<1	15	<1	<1	<1	15		
1,2,3-Trichlorobenzene	<1	<1	<1	15	<1	<1	<1	15		
1,2,3-Trichloropropane	<1	<1	<1	15	<1	<1	<1	15		
1,2,4-Trimethylbenzene	<1	<1	<1	15	<1	<1	<1	15		
1,2-Dibromo-3-Chloropropane	<1	<1	<1	15	<1	<1	<1	15		
1,2-Dibromoethane	<1	<1	<1	15	<1	<1	<1	15		
1,3,5-Trimethylbenzene	<1	<1	<1	15	<1	<1	<1	15		
1,3-Dichloropropane	<1	<1	<1	15	<1	<1	<1	15		
1,3-Dichloropropene(cis)	<1	<1	<1	15	<1	<1	<1	15		
1,3-Dichloropropene(trans)	<1	<1	<1	15	<1	<1	<1	15		
1,4-Dichloro-2-Butene(cis)	<25	<25	<25	15	<25	<25	<25	15		
1,4-Dichloro-2-Butene(trans)	<25	<25	<25	15	<25	<25	<25	15		
2,2-Dichloropropane	<10	<10	<10	15	<10	<10	<10	15		
2,4-DB	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
2,4-DP	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
2-Butanone (MEK)	<25	<25	<25	15	<25	<25	<25	15		
2-Chloroethyl Vinyl Ether	<1	<1	<1	15	<1	<1	<1	15		
2-Chlorotoluene	<1	<1	<1	15	<1	<1	<1	15		
2-Hexanone	<25	<25	<25	15	<25	<25	<25	15		
3-Methylchloranthrene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
4-Chlorotoluene	<1	<1	<1	15	<1	<1	<1	15		
7,12-Dimethylbenz(a)anthracen	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Acenaphthene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Acenaphthylene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Acetaminophen	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Acetone	<25	<25	<25	15	<25	<25	<25	15		
Acetonitrile	<25	<25	<25	15	<25	<25	<25	15		
Acetylsalicylic acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Acridine	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Acrylonitrile	<25	<25	<25	15	<25	<25	<25	15		
Aldicarb	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Aldicarb Sulfone	<5	<5	<5	4	<5	<5	<5	4		
Aldicarb Sulfoxide	<2	<2	2	4	<2	<2	<2	4		
Aldrin	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Allyl Chloride	<25	<25	<25	15	<25	<25	<25	15		
alpha-Endosulfan	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Aminopyralid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Anthracene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Bentazon	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Benzidine	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		

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

2015

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Organics (ug/L) ***										
Benzo(a)anthracene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Benzo(b)fluoranthene	<0.1	<0.1	0.2	4	<0.1	<0.1	<0.1	4		
Benzo(b,j,k)fluoranthene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Benzo(c)phenanthrene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Benzo(e)pyrene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Benzo(ghi)perylene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Benzo(k)fluoranthene	0.2	<0.1	0.6	4	<0.1	<0.1	<0.1	4		
Benzoylecgonine	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Bezafibrate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Bis(2-chloroethoxy)methane	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Bis(2-chloroethyl)ether	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Bis(2-chloroisopropyl)ether	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Bis(2-ethylhexyl)phthalate	0.4	<0.1	1.0	4	0.5	<0.1	1.8	4		
Bromacil	<0.030	<0.030	<0.030	4	<0.030	<0.030	<0.030	4		
Bromobenzene	<1	<1	<1	15	<1	<1	<1	15		
Bromochloromethane	<1	<1	<1	15	<1	<1	<1	15		
Bromodichloromethane	<0.5	<0.5	<1.0	369	<0.5	<0.5	<1.0	368		16
Bromoform	<1.0	<0.5	<1.0	369	<1.0	<0.5	<1.0	368		
Bromomethane	<10	<10	<10	15	<10	<10	<10	15		
Bromophenyl phenyl ether (4)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	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	<25	<25	<25	4	<25	<25	<25	4	90	
Carbathiin	<0.100	<0.100	<0.100	4	<0.100	<0.100	<0.100	4		
Chloramphenicol	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Chloro-2-MethylPhenol (4)	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Chloro-3-methylphenol (4)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Chloroethane	<10	<10	<10	15	<10	<10	<10	15		
Chloroform	<0.5	<0.5	<1.0	369	<0.5	<0.5	<1.0	368		
Chloromethane	<10	<10	<10	15	<10	<10	<10	15		
Chloronaphthalene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Chlorophenol (2)	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Chlorophenyl phenyl ether (4)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Chlorothalonil	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Chrysene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
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	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Clodinafop-propargyl	<0.040	<0.040	<0.040	4	<0.050	<0.040	0.080	4		
Clofibric Acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Clopyralid	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Codeine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		

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

2015

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Organics (ug/L) ***										
Cotinine	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Cyanazine	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Desethyl Atrazine	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Desisopropyl Atrazine	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Dibenzo(a,h)pyrene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Dibenzo(a,i)pyrene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Dibenzo(a,l)pyrene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Dibenzo(ah)anthracene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Dibromochloromethane	<0.5	<0.5	<1.0	369	<0.5	<0.5	<1.0	368		
Dibromomethane	<1	<1	<1	15	<1	<1	<1	15		
Dichlorobenzene (1,3)	<0.5	<0.5	<1.0	369	<0.5	<0.5	<1.0	368		
Dichlorodifluoromethane	<10	<10	<10	15	<10	<10	<10	15		
Dichloroethylene, cis (1,2)	<0.5	<0.5	<1.0	369	<0.5	<0.5	<1.0	368		
Dichloroethylene, trans (1,2)	<0.5	<0.5	<1.0	369	<0.5	<0.5	<1.0	368		
Dichloropropane (1,2)	<0.5	<0.5	<1.0	369	<0.5	<0.5	<1.0	368		
Diclofenac	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Dieldrin	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Diethyl phthalate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Dimethyl phthalate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Dimethylphenol (2,4)	<0.2	<0.2	<0.2	4	<0.2	<0.2	<0.2	4		
Di-n-butylphthalate	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Dinitrophenol (2,4)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Dinitrotoluene (2,4)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Dinitrotoluene (2,6)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Di-n-octyl phthalate	0.7	<0.1	2.3	4	<0.1	<0.1	<0.1	4		
Diphenylhydrazine (1,2)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Disulfoton	<0.200	<0.200	<0.200	4	<0.200	<0.200	<0.200	4		
Enrofloxacin	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Erythromycin	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Ethalfuralin	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Ethion	<0.10	<0.10	<0.10	4	<0.10	<0.10	<0.10	4		
Ethofumesate	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Ethyl Methacrylate	<25	<25	<25	15	<25	<25	<25	15		
Fenoprofen	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Fenoxaprop-p-ethyl	<0.040	<0.040	<0.040	4	<0.040	<0.040	<0.040	4		
Fluazifop	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Fluoranthene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Fluorene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Fluoxetine	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Fluroxypyr	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Gemfibrozil	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Hexachlorobenzene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Hexachlorobutadiene	<0.9	<0.5	<1.0	19	<0.9	<0.5	<1.0	19		

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

2015

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Organics (ug/L) ***										
Hexachlorocyclopentadiene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Hexachloroethane	<0.9	<0.5	<1.0	19	<0.9	<0.5	<1.0	19		
Hexaconazole	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Hydroxy Carbofuran (3)	<25	<25	<25	4	<25	<25	<25	4		
Ibuprofen	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Imazamethabenz-methyl	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Imazamox	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Imazethapyr	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Indeno(1,2,3-cd)pyrene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Indomethacin	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Iodomethane	<1	<1	<1	15	<1	<1	<1	15		
Iprodione	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Isophorone	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
iso-Propylbenzene	<1	<1	<1	15	<1	<1	<1	15		
Ketoprofen	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Lincomycin	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Lindane (alpha-BHC)	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Lindane (gamma-BHC)	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Linuron	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
MCPB	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
MCPP	<0.007	<0.005	0.011	4	<0.005	<0.005	<0.005	4		
Meclofenamic acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Metalaxyl-M	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Methacrylonitrile	<25	<25	<25	15	<25	<25	<25	15		
Methamphetamine	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Methomyl	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Methyl Methacrylate	<25	<25	<25	15	<25	<25	<25	15		
Methyl t-Butyl Ether (MTBE)	<0.5	<0.5	<1.0	369	<0.5	<0.5	<1.0	368		
Methyl Triclosan	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Methyl-4,6-dinitrophenol (2)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
MIBK	<2.0	<1.0	<25.0	369	<2.0	<1.0	<25.0	368		
Microcystin LA	<0.010	<0.010	<0.010	2	<0.010	<0.010	<0.010	2		
Microcystin RR	<0.010	<0.010	<0.010	2	<0.010	<0.010	<0.010	2		
Microcystin YR	<0.010	<0.010	<0.010	2	<0.010	<0.010	<0.010	2		
N,N-diethyl-m-toluamide (DEET)	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Naphthalene	<3.95	<0.01	<5.00	19	<3.95	<0.01	<5.00	19		
Napropamide	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Naproxen	<0.006	<0.005	0.009	4	<0.005	<0.005	<0.005	4		
n-Butylbenzene	<1	<1	<1	15	<1	<1	<1	15		
Nitrobenzene	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Nitrophenol (2)	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	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		

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

2015

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Organics (ug/L) ***										
N-Nitrosodiphenylamine	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Norfloracin	<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	<1	<1	<1	15	<1	<1	<1	15		
Ofloxacin	<0.02	<0.02	<0.02	4	<0.02	<0.02	<0.02	4		
Oxolinic acid	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Oxycarboxin	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
p, p' - Methoxychlor	<0.03	<0.03	<0.03	4	<0.03	<0.03	<0.03	4		
Parathion	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Pentachloroethane	<1	<1	<1	15	<1	<1	<1	15		
Pentoxifylline	<0.500	<0.500	<0.500	4	<0.500	<0.500	<0.500	4		
Perylene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Phenanthrene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Phenol	<0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	4		
Pipemidic acid	<0.5	<0.5	<0.5	4	<0.5	<0.5	<0.5	4		
p-Isopropyltoluene	<5	<5	<5	15	<5	<5	<5	15		
Propiconazole	<0.050	<0.050	<0.050	4	<0.050	<0.050	<0.050	4		
Propionitrile	<25	<25	<25	15	<25	<25	<25	15		
Pyrene	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Pyridaben	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Quinclorac	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Quizalofop	<0.030	<0.030	<0.030	4	<0.030	<0.030	<0.030	4		
Retene	<0.01	<0.01	<0.01	2	<0.01	<0.01	<0.01	2		
Salicylic acid	<0.025	<0.025	<0.025	4	<0.025	<0.025	<0.025	4		
sec-Butylbenzene	<1	<1	<1	15	<1	<1	<1	15		
Styrene	<0.5	<0.5	<1.0	369	<0.5	<0.5	<1.0	368		
Sulfabenzamide	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfadimethoxine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfadoxine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfamerazine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfamethazine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfamethoxazole	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfapyridine	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfaquinoxaline	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Sulfathiazole	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
tert-Butylbenzene	<1	<1	<1	15	<1	<1	<1	15		
Tetrachloroethane (1,1,2,2)	<1.0	<0.5	<1.0	369	<1.0	<0.5	<1.0	368		
Thiamethoxam	<0.05	<0.05	<0.05	4	<0.05	<0.05	<0.05	4		
Tolfenamic acid	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		
Total Organic Carbon	2.0	0.8	5.1	58	1.9	0.9	5.0	58		
Total Volatile Organics (NonTHM)	<1.0	<1.0	1.2	354	<1.0	<1.0	<1.0	353		
Total Volatile Organics (Unknown)	<1.0	<1.0	7.1	349	<1.0	<1.0	1.1	350		
Triallate	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	4		

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

2015

	ROSSDALE				E.L. SMITH				Approval or GCDWQ MAC, (AO or OG)	EPCOR
	Mean	Min	Max	Count	Mean	Min	Max	Count		
Secondary Organics (ug/L) ***										
Trichlorobenzene (1,2,4)	<0.5	<0.1	<1.0	373	<0.5	<0.1	<1.0	372		
Trichlorocarbaniide (3,4,4)	<0.025	<0.025	<0.025	4	<0.025	<0.025	<0.025	4		
Trichloroethane (1,1,1)	<0.5	<0.5	<1.0	369	<0.5	<0.5	<1.0	368		
Trichlorofluoromethane	<1	<1	<1	15	<1	<1	<1	15		
Triclopyr	<0.01	<0.01	<0.01	4	<0.01	<0.01	<0.01	4		
Triclosan	<0.025	<0.025	<0.025	4	<0.025	<0.025	<0.025	4		
Trimethoprim	<0.020	<0.020	<0.020	4	<0.020	<0.020	<0.020	4		
Vinclozolin	<0.010	<0.010	<0.010	4	<0.010	<0.010	<0.010	4		
Xylene (1,2)	<0.5	<0.5	<0.5	354	<0.5	<0.5	<0.5	353		
Xylene (1,4)	<0.5	<0.5	<0.5	354	<0.5	<0.5	<0.5	353		
Xylene (m,p)	<0	<0	<0	3	<0	<0	<0	3		
Xylene (o)	<0	<0	<0	3	<0	<0	<0	3		

**7.16 Statistics on Water Quality Complaint Samples
Submitted for Laboratory Testing 2015**

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	5	0	0	0	5	100%	0	0	1	1	2	0	1	6	0	0	129
FEB	1	0	0	0	1	100%	0	1	0	0	0	0	0	1	0	0	7
MAR	8	0	0	0	8	100%	0	1	3	0	4	0	0	8	0	0	238
APR	4	0	0	0	4	100%	0	0	1	0	3	0	0	4	0	0	120
MAY	5	1	0	1	5	100%	1	0	1	0	3	0	0	6	1	0	136
JUN	4	0	0	0	4	100%	0	1	1	0	2	0	0	4	0	0	116
JUL	5	0	0	0	5	100%	0	0	0	3	2	0	0	5	0	0	193
AUG	5	1	1	0	5	100%	0	1	1	1	2	0	0	13	1	1	474
SEP	12	1	0	1	12	100%	0	7	1	1	2	0	1	14	1	0	296
OCT	14	2	0	2	14	100%	0	3	5	0	6	0	0	14	2	0	336
NOV	13	5	0	5	13	100%	0	2	1	1	8	1	0	22	5	0	1240
DEC	15	3	0	3	15	100%	0	7	5	1	2	0	0	17	6	0	734
YTD	91	13	1	12	91	100%	1	23	20	8	36	1	2	114	16	1	4019

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

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

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

7.17 METHOD DETECTION LIMITS

Analyte	MDL	Unit
Alkalinity phenolphthalein	1	mg CaCO3/L
Alkalinity, total	1	mg CaCO3/L
Aluminum	0.003	mg/L
Aluminum, dissolved	0.003	mg/L
Ammonia as N	0.05	mg/L
Ammonia as NH3	0.05	mg/L
Antimony	0.0002	mg/L
Antimony, dissolved	0.0002	mg/L
Arsenic	0.0002	mg/L
Arsenic, dissolved	0.0002	mg/L
Barium	0.001	mg/L
Barium, dissolved	0.001	mg/L
Benzene	0.5	ug/L
Beryllium	0.0002	mg/L
Beryllium, dissolved	0.0002	mg/L
Bicarbonate	3	mg CaCO3/L
Boron	0.002	mg/L
Boron, dissolved	0.002	mg/L
Bromate, dissolved	0.005	mg/L
Bromide, dissolved	0.005	mg/L
Bromoacetic acid	1	ug/L
Bromochloroacetic acid	1	ug/L
Bromodichloroacetic Acid	1	ug/L
Bromodichloromethane	0.5	ug/L
Bromoform	1.0	ug/L
Cadmium	0.0001	mg/L
Cadmium, dissolved	0.0001	mg/L
Calcium	0.05	mg/L
Calcium, dissolved	0.05	mg/L
Carbon Tetrachloride	1.0	ug/L
Carbonate	3	mg CaCO3/L
Chlorate, dissolved	0.005	mg/L
Chloride, dissolved	0.05	mg/L
Chlorine, free	0.03	mg/L
Chlorine, total	0.03	mg/L
Chlorite, dissolved	0.005	mg/L
Chlorobenzene	0.5	ug/L
Chlorodibromoacetic Acid	2	ug/L
Chloroform	0.5	ug/L
Chromium	0.0002	mg/L
Chromium, dissolved	0.0002	mg/L
Cobalt	0.0002	mg/L
Cobalt, dissolved	0.0002	mg/L
Colour	1	TCU
Conductivity	0.2	uS/cm
Copper	0.002	mg/L
Copper, dissolved	0.002	mg/L
Cryptosporidium	0.8	oocysts/100L
Dibromoacetic acid	1	ug/L
Dibromochloromethane	0.5	ug/L
Dichloroacetic acid	1	ug/L
Dichlorobenzene (1,2)	0.5	ug/L
Dichlorobenzene (1,3)	0.5	ug/L

7.17 METHOD DETECTION LIMITS

Analyte	MDL	Unit
Dichlorobenzene (1,4)	0.5	ug/L
Dichloroethane (1,2)	0.5	ug/L
Dichloroethylene (1,1)	3.0	ug/L
Dichloroethylene, cis (1,2)	0.5	ug/L
Dichloroethylene, trans (1,2)	0.5	ug/L
Dichloropropane (1,2)	0.5	ug/L
Dilution Factor		
Dissolved Organic Carbon	0.1	mg/L
Ethylbenzene	0.5	ug/L
Fluoride, dissolved	0.01	mg/L
FPA-Intensity	0.25	N/A
Giardia	0.8	cysts/100L
Haloacetic Acids, total (HAA5)	3	ug/L
Hardness, Calcium	2	mg CaCO3/L
Hardness, total	2	mg CaCO3/L
Heterotrophic Plate Count	1	CFU/mL
Iron	0.002	mg/L
Iron, dissolved	0.002	mg/L
Lead	0.0001	mg/L
Lead, dissolved	0.0001	mg/L
Lithium	0.0002	mg/L
Lithium, dissolved	0.0002	mg/L
Magnesium	0.05	mg/L
Magnesium, dissolved	0.05	mg/L
Manganese	0.002	mg/L
Manganese, dissolved	0.002	mg/L
Mercury	0.0001	mg/L
Mercury, dissolved	0.0001	mg/L
Methyl t-Butyl Ether (MTBE)	0.5	ug/L
Methylene Chloride	0.5	ug/L
MIBK	1.0	ug/L
Molybdenum	0.0002	mg/L
Molybdenum, dissolved	0.0002	mg/L
Monochloramine	0.01	mg/L
Monochloroacetic acid	1	ug/L
Nickel	0.0002	mg/L
Nickel, dissolved	0.0002	mg/L
Nitrate (as N), dissolved	0.005	mg/L
Nitrite (as N), dissolved	0.005	mg/L
Observation		DESCRIPTION
Phosphate, Ortho (as P)	0.02	mg/L
Phosphorus	0.01	mg/L
Phosphorus, dissolved	0.01	mg/L
Potassium	0.05	mg/L
Potassium, dissolved	0.05	mg/L
Selenium	0.0002	mg/L
Selenium, dissolved	0.0002	mg/L
Silicon	0.01	mg/L
Silicon, dissolved	0.01	mg/L
Silver	0.0002	mg/L
Silver, dissolved	0.0002	mg/L
Sodium	0.05	mg/L
Sodium, dissolved	0.05	mg/L
Strontium	0.001	mg/L

7.17 METHOD DETECTION LIMITS

Analyte	MDL	Unit
Strontium, dissolved	0.001	mg/L
Styrene	0.5	ug/L
Sulphate, dissolved	0.05	mg/L
Tetrachloroethane (1,1,2,2)	1.0	ug/L
Tetrachloroethylene	0.5	ug/L
Thallium	0.0001	mg/L
Thallium, dissolved	0.0001	mg/L
Tin	0.0002	mg/L
Tin, dissolved	0.0002	mg/L
Titanium	0.0005	mg/L
Titanium, dissolved	0.0005	mg/L
Toluene	0.5	ug/L
Total Dissolved Solids	10	mg/L
Total Dissolved Solids (Calc)	10	mg/L
Total Organic Carbon	0.1	mg/L
Total Suspended Solids	5	mg/L
Total Volatile Organics (NonTHM)	1.0	ug/L
Total Volatile Organics (Unknown)	1.0	ug/L
Tribromoacetic Acid	3	ug/L
Trichloroacetic acid	1	ug/L
Trichlorobenzene (1,2,4)	0.5	ug/L
Trichloroethane (1,1,1)	0.5	ug/L
Trichloroethylene	0.5	ug/L
Trihalomethanes	1.0	ug/L
Turbidity	0.02	NTU
Uranium	0.0005	mg/L
Uranium, dissolved	0.0005	mg/L
UV 254 % Transmittance	1	%T/cm
Vanadium	0.0002	mg/L
Vanadium, dissolved	0.0002	mg/L
Vinyl Chloride	1.0	ug/L
Xylene (1,2)	0.5	ug/L
Xylene (1,4)	0.5	ug/L
Zinc	0.002	mg/L
Zinc, dissolved	0.002	mg/L
Zirconium	0.0002	mg/L
Zirconium, dissolved	0.0002	mg/L

Contract Lab Analysis

2,4-D	0.005	ug/L
2,4-DB	0.005	ug/L
2,4-DP	0.005	ug/L
3-Methylchloranthrene	0.01	ug/L
7,12-Dimethylbenz(a)anthracen	0.01	ug/L
Acenaphthene	0.01	ug/L
Acenaphthylene	0.01	ug/L
Acetaminophen	0.050	ug/L
Acetylsalicylic acid	0.01	ug/L
Acridine	0.01	ug/L
Aldicarb	0.1	ug/L
Aldicarb Sulfone	5	ug/L
Aldicarb Sulfoxide	5	ug/L
Aldrin	0.005	ug/L
alpha-Endosulfan	0.005	ug/L

7.17 METHOD DETECTION LIMITS

Analyte	MDL	Unit
Aminomethyl Phosphonic Acid	0.1	ug/L
Aminopyralid	0.01	ug/L
Anthracene	0.01	ug/L
Atrazine	0.005	ug/L
Azinphos-methyl	0.2	ug/L
Bentazon	0.005	ug/L
Benzene	0.1	ug/L
Benzidine	0.2	ug/L
Benzo(a)anthracene	0.01	ug/L
Benzo(a)pyrene	0.01	ug/L
Benzo(b)fluoranthene	0.1	ug/L
Benzo(b,j,k)fluoranthene	0.01	ug/L
Benzo(c)phenanthrene	0.01	ug/L
Benzo(e)pyrene	0.01	ug/L
Benzo(ghi)perylene	0.01	ug/L
Benzo(k)fluoranthene	0.1	ug/L
Benzoylcegonine	0.01	ug/L
Bezafibrate	0.1	ug/L
Bis(2-chloroethoxy)methane	0.1	ug/L
Bis(2-chloroethyl)ether	0.1	ug/L
Bis(2-chloroisopropyl)ether	0.1	ug/L
Bis(2-ethylhexyl)phthalate	0.1	ug/L
Bromacil	0.030	ug/L
Bromochloroacetic acid	2	ug/L
Bromodichloromethane	0.1	ug/L
Bromophenyl phenyl ether (4)	0.1	ug/L
Bromoxynil	0.005	ug/L
Butylbenzylphthalate	0.1	ug/L
Caffeine	0.02	ug/L
Carbamazepine	0.010	ug/L
Carbaryl	25	ug/L
Carbathiin	0.100	ug/L
Carbon Tetrachloride	0.1	ug/L
Cesium-137	0.2	Bq/L
Chloramphenicol	0.01	ug/L
Chloro-2-MethylPhenol (4)	0.010	ug/L
Chloro-3-methylphenol (4)	0.1	ug/L
Chlorobenzene	0.1	ug/L
Chloronaphthalene	0.1	ug/L
Chlorophenol (2)	0.2	ug/L
Chlorophenyl phenyl ether (4)	0.1	ug/L
Chlorothalonil	0.005	ug/L
Chlorpyrifos	0.005	ug/L
Chrysene	0.01	ug/L
Ciprofloxacin	0.02	ug/L
Clindamycin	0.010	ug/L
Clodinafop acid metabolite	0.020	ug/L
Clodinafop-propargyl	0.040	ug/L
Clofibric Acid	0.01	ug/L
Clopyralid	0.020	ug/L
Codeine	0.05	ug/L
Cotinine	0.01	ug/L
Cyanazine	0.050	ug/L
Cyanide, dissolved	0.002	mg/L

7.17 METHOD DETECTION LIMITS

Analyte	MDL	Unit
Desethyl Atrazine	0.050	ug/L
Desisopropyl Atrazine	0.050	ug/L
Diazinon	0.005	ug/L
Dibenzo(a,h)pyrene	0.01	ug/L
Dibenzo(a,i)pyrene	0.01	ug/L
Dibenzo(a,l)pyrene	0.01	ug/L
Dibenzo(ah)anthracene	0.01	ug/L
Dibromoacetic acid	2	ug/L
Dicamba	0.005	ug/L
Dichloroacetic acid	2	ug/L
Dichlorobenzene (1,2)	0.1	ug/L
Dichlorobenzene (1,4)	0.1	ug/L
Dichloroethane (1,2)	0.1	ug/L
Dichlorophenol (2,4)	0.01	ug/L
Diclofenac	0.010	ug/L
Diclofop-methyl	0.02	ug/L
Dieldrin	0.005	ug/L
Diethyl phthalate	0.1	ug/L
Dimethoate	0.050	ug/L
Dimethyl phthalate	0.1	ug/L
Dimethylphenol (2,4)	0.2	ug/L
Di-n-butylphthalate	0.1	ug/L
Dinitrophenol (2,4)	0.1	ug/L
Dinitrotoluene (2,4)	0.1	ug/L
Dinitrotoluene (2,6)	0.1	ug/L
Di-n-octyl phthalate	0.1	ug/L
Diphenylhydrazine (1,2)	0.1	ug/L
Disulfoton	0.200	ug/L
Diuron	0.2	ug/L
Enrofloxacin	0.02	ug/L
Erythromycin	0.010	ug/L
Ethalfuralin	0.005	ug/L
Ethion	0.10	ug/L
Ethofumesate	0.005	ug/L
Ethylbenzene	0.1	ug/L
Fenoprofen	0.005	ug/L
Fenoxaprop-p-ethyl	0.040	ug/L
Fluazifop	0.010	ug/L
Fluoranthene	0.01	ug/L
Fluorene	0.01	ug/L
Fluoxetine	0.01	ug/L
Fluroxypyr	0.010	ug/L
Gemfibrozil	0.005	ug/L
Glufosinate	1.0	ug/L
Glyphosate	0.1	ug/L
Gross Alpha	0.12	Bq/L
Gross Beta	0.10	Bq/L
Haloacetic Acids, total (HAA5)	2	ug/L
Haloacetic Acids, total (HAA6)	2	ug/L
Hexachlorobenzene	0.1	ug/L
Hexachlorobutadiene	0.5	ug/L
Hexachlorocyclopentadiene	0.1	ug/L
Hexachloroethane	0.5	ug/L
Hexaconazole	0.050	ug/L

7.17 METHOD DETECTION LIMITS

Analyte	MDL	Unit
Hydroxy Carbofuran (3)	25	ug/L
Ibuprofen	0.005	ug/L
Imazamethabenz-methyl	0.050	ug/L
Imazamox	0.020	ug/L
Imazethapyr	0.020	ug/L
Indeno(1,2,3-cd)pyrene	0.01	ug/L
Indomethacin	0.05	ug/L
Iodine-131	0.3	Bq/L
Iprodione	0.020	ug/L
Isophorone	0.1	ug/L
Ketoprofen	0.01	ug/L
Lead-210	0.02	Bq/L
Lincomycin	0.05	ug/L
Lindane (alpha-BHC)	0.005	ug/L
Lindane (gamma-BHC)	0.005	ug/L
Linuron	0.020	ug/L
Malathion	0.050	ug/L
MCPA	0.005	ug/L
MCPB	0.020	ug/L
MCPP	0.005	ug/L
Meclofenamic acid	0.01	ug/L
Metalaxyl-M	0.010	ug/L
Methamphetamine	0.020	ug/L
Methomyl	0.1	ug/L
Methyl Triclosan	0.010	ug/L
Methyl-4,6-dinitrophenol (2)	0.1	ug/L
Methylene Chloride	0.4	ug/L
Metolachlor	0.005	ug/L
Metribuzin	0.010	ug/L
Microcystin LA	0.010	ug/L
Microcystin LR	0.010	ug/L
Microcystin RR	0.010	ug/L
Microcystin Total	0.25	ug/L
Microcystin YR	0.010	ug/L
Microcystins (as LR)	0.15	ug/L
Monobromoacetic acid	2	ug/L
Monochloroacetic acid	2	ug/L
N,N-diethyl-m-toluamide (DEET)	0.005	ug/L
Naphthalene	0.01	ug/L
Napropamide	0.02	ug/L
Naproxen	0.005	ug/L
NDMA	0.50	ng/L
Nitrobenzene	0.1	ug/L
Nitrophenol (2)	0.1	ug/L
Nitrophenol (4)	0.1	ug/L
N-Nitroso-di-n-propylamine	0.2	ug/L
N-Nitrosodiphenylamine	0.1	ug/L
Norfloracin	0.020	ug/L
Norfluoxetine	0.020	ug/L
NTA	0.2	ug/L
Ofloxacin	0.02	ug/L
Oxolinic acid	0.01	ug/L
Oxycarboxin	0.05	ug/L
p, p' - Methoxychlor	0.03	ug/L

7.17 METHOD DETECTION LIMITS

Analyte	MDL	Unit
Parathion	0.010	ug/L
Pentachlorophenol	0.1	ug/L
Pentoxifylline	0.500	ug/L
Perylene	0.01	ug/L
Phenanthrene	0.01	ug/L
Phenol	0.1	ug/L
Phorate	0.005	ug/L
Picloram	0.005	ug/L
Pipemidic acid	0.5	ug/L
Propiconazole	0.050	ug/L
Pyrene	0.01	ug/L
Pyridaben	0.020	ug/L
Quinclorac	0.005	ug/L
Quizalofop	0.030	ug/L
Radium-226	0.005	Bq/L
Retene	0.01	ug/L
Salicylic acid	0.025	ug/L
Simazine	0.010	ug/L
Strontium-90	0.1	Bq/L
Sulfabenzamide	0.05	ug/L
Sulfadimethoxine	0.05	ug/L
Sulfadoxine	0.05	ug/L
Sulfamerazine	0.05	ug/L
Sulfamethazine	0.05	ug/L
Sulfamethoxazole	0.05	ug/L
Sulfapyridine	0.05	ug/L
Sulfaquinoxaline	0.05	ug/L
Sulfathiazole	0.05	ug/L
Sulphide	0.002	mg/L
Terbufos	0.03	ug/L
Tetrachloroethylene	0.1	ug/L
Tetrachlorophenol (2,3,4,6)	0.1	ug/L
Thiamethoxam	0.05	ug/L
Tolfenamic acid	0.005	ug/L
Toluene	0.1	ug/L
Total Kjeldahl Nitrogen (TKN)	0.06	mg/L
Triallate	0.005	ug/L
Trichloroacetic acid	2	ug/L
Trichlorobenzene (1,2,4)	0.1	ug/L
Trichlorocarbanilide (3,4,4)	0.025	ug/L
Trichloroethylene	0.1	ug/L
Trichlorophenol (2,4,6)	0.1	ug/L
Triclopyr	0.010	ug/L
Triclosan	0.025	ug/L
Trifluralin	0.005	ug/L
Trihalomethanes	0.1	ug/L
Trimethoprim	0.020	ug/L
Tritium	15	Bq/L
Vinclozolin	0.010	ug/L
Vinyl Chloride	0.2	ug/L
Xylene (m,p)	0.1	ug/L
Xylene (o)	0.1	ug/L
Xylenes	0.1	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
TCU	= True Colour Units
TDS	= Total Dissolved Solids
TOC	= Total Organic Carbon
WL	= Water Laboratory
WTP	= Water Treatment Plant