Centre for Alternative Wastewater Treatment

2015 CFS Alert Constructed Wetland Interim Report

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November 2015

Fleming College

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EXECUTIVE SUMMARY

The following interim report provides a preliminary review of the data generated during the monitoring of the terraced wetland located at CFS Alert, Nunavut during the 2015 field season. This wetland is used to treat the sanitary waste and grey water generated at the Canadian Forces Station located in northern Nunavut (Figure 1). The terraced wetland in its current location was commissioned in the summer of 2010. CFS Alert produces, on average, approximately 100 m^3 of wastewater per day that is directed to the terraced wetland for treatment. The current water licence (No. 3BC-ALT1015) issued in August 2010 to the Department of National Defence by the Nunavut Water Board (NWB) stipulates that treated wastewater effluent from the station should be equal to or less than 80 mg L^{-1} BOD_5, 70 mg L^{-1} TSS, 5 mg L^{-1} oil and grease with no visible sheen, and have a pH between 6 and 9. Monitoring was undertaken by the Centre for Alternative Wastewater Treatment (CAWT), a research facility of Fleming College. Sampling began June 9th and ended September 8th, 2015.

Figure 1: **CFS Alert, located on the northern tip of Ellesmere Island.**

The interim report is an account of the concentrations of the four licensed parameters (above) within the treated effluent exiting the wetland. It should be noted that the position of the flow paths of the treated effluent exiting the wetland changed periodically due the retreating ice sheet that had developed during the winter. The summary data for the licensed parameters includes the sample locations corresponding to the changing effluent flow paths exiting the wetland. Samples were not collected from the weir site identified in the NWB licence since the flow paths of the effluent have shifted since its installation; meaning that there was no effluent at this site to collect. All raw data are tabulated and appended to the interim report. These raw data tables include all wastewater parameters examined for all site locations sampled.

The final report (to follow) will summarize data collected from sites sampled within the wetland. These data will provide documentation outlining how the wastewater parameters changed as the effluent passed through the wetland. The final report will comment on all major wastewater quality parameters, trace elements, and microorganisms analysed.

The wetland locations sampled during the 2015 field season and the approximate location of the dominant effluent flow paths are illustrated in Figure 2. The sample locations representing the dominant flows of the treated effluent exiting the wetland are: 15SH-3, 15SH-3f, 15SH-3c and with infrequent flow passing through 15SH-1. These four shore locations identify where final effluent samples were collected prior to the effluent's drainage into Parr Inlet of the Arctic Ocean. All other sample sites identified in Figure 2 represent locations within the wetland which were monitored to determine how wastewater parameters changed as the effluent moved through the site. The appended data tables provide the raw data for all monitored parameters collected at all sample locations. A brief site description for each sample location is also appended.

The terraced wetland is composed of five major berms intended to slow the rate of flow towards the ocean, thus allowing treatment to occur. The identification code for each sample site consisted of the sampling year (e.g. 15 for 2015), the berm number (e.g. B1 for Berm 1) and the sample location at each berm (e.g. -1 for sample location 1). An example is 15B1-1, which identifies the sample collected in the year 2015, from Berm 1 and location 1. The main direction of flow for the effluent began at site 15B1-1 with a portion flowing northerly along Berm 1 to the radiator on the northern end of Berm 2 and onto Berm 3, following it south to Berm 4. The remaining portion of the flow breached Berm 1 near 15B1-1 and flowed east, where it also breached Berm 2 and joined the other flow path exiting the southern portion of Berm 3. The majority of the flow from here traveled southerly along two thirds of Berm 4, where it once again breached the berm (Berm 4) and traveled southeasterly to Parr Inlet.

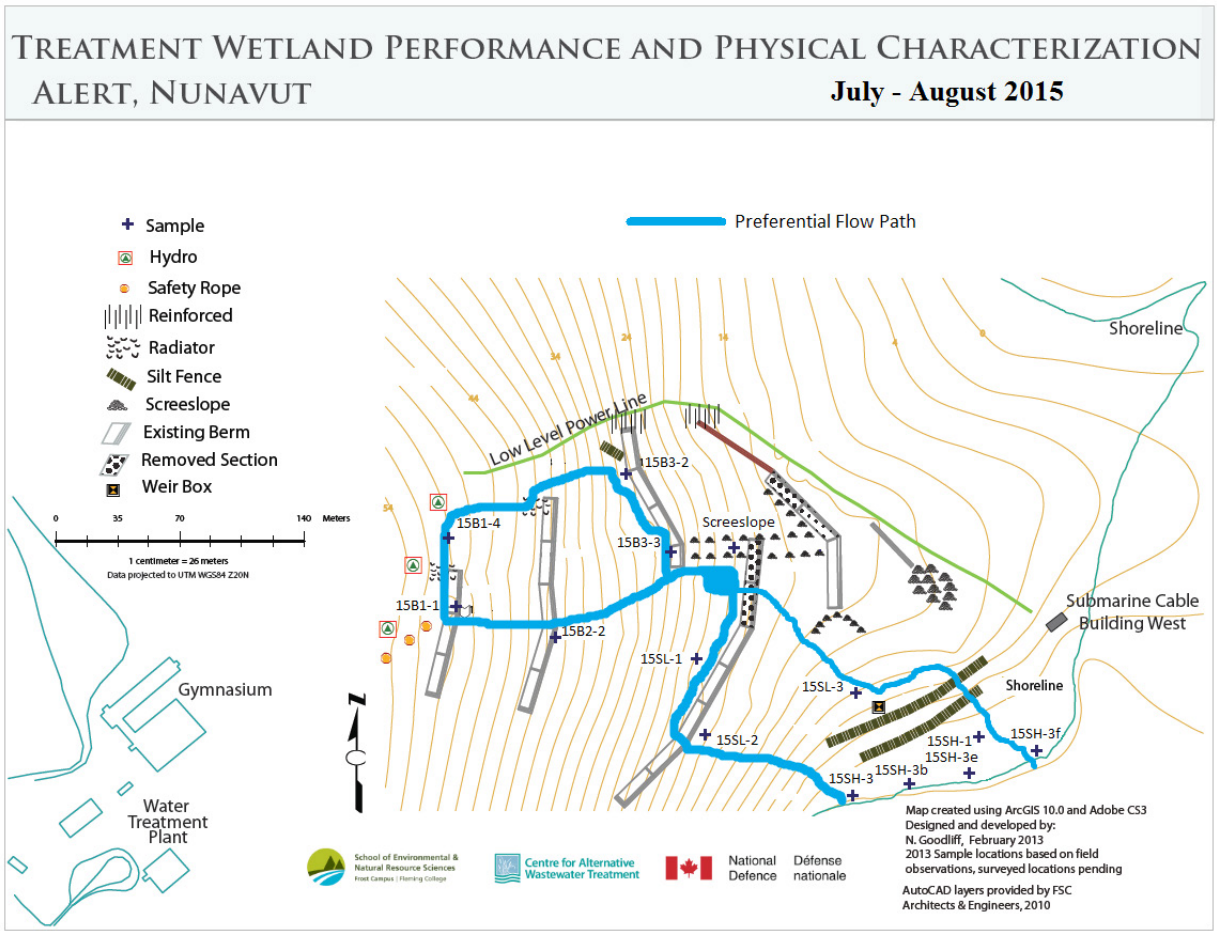

Figure 2: Sample locations and dominant effluent flow paths within the CFS Alert wetland for the 2015 monitoring period.

Figure 3 is a photograph of the wetland taken from southeast of Parr Inlet on August 22nd, 2015. This figure has been annotated with the sample locations and approximate locations of the preferential flow paths of the wastewater effluent as it flowed through the terraced wetland. It should be noted that in mid August the wetland was altered by fixing the breach in Berm 1, extending Berm 4 northward to force the main flow to travel down the screeslope, and installing a third silt fence between the shoreline of Parr Inlet and the existing silt fence. Alterations took place without prior consultation or notice being given to the CAWT. More will be discussed about this alteration in the final report.

The mean concentration of the regulated water quality parameters (BOD_5, TSS, oil and grease, pH) at the four final effluent monitoring sites (14SH-3, 14SH-1, 14SH-3e,

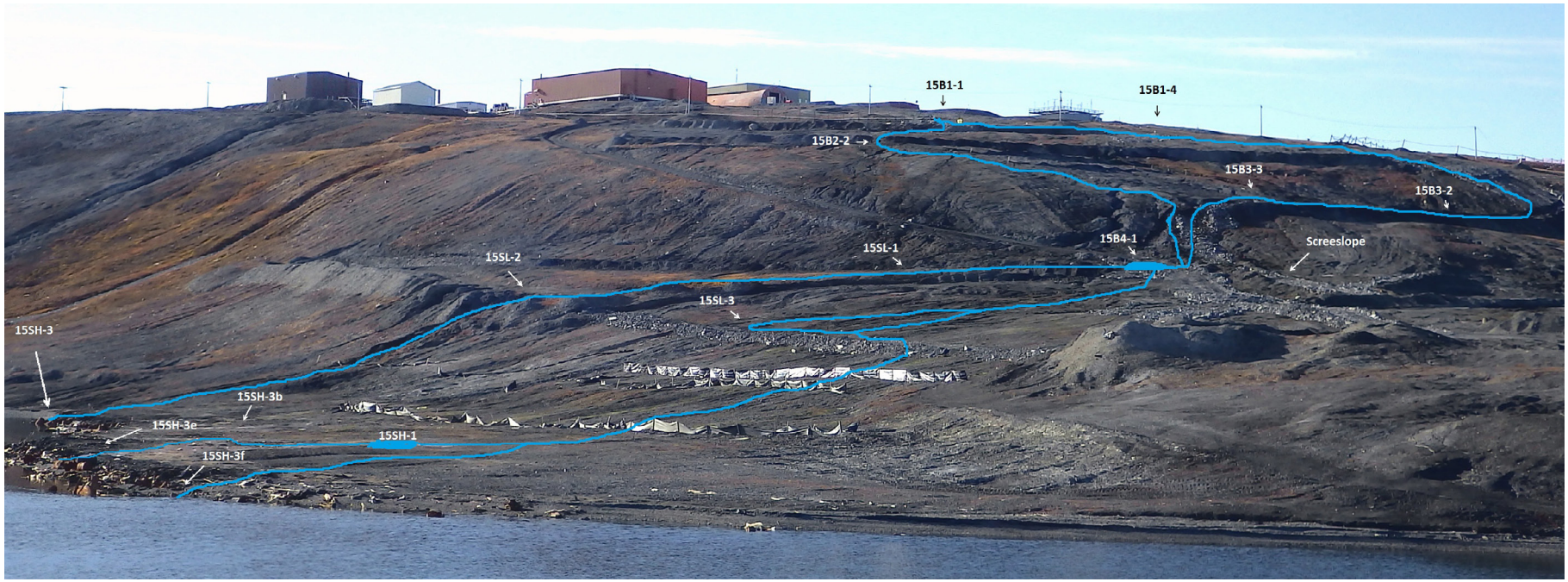

Figure 3: **Photograph of the Alert terraced wetland taken southeast of Parr Inlet on August 22nd, 2015. Sample locations are identified by ID codes and preferential flow paths of wastewater effluent shown in red.**

Table 1: Mean summer concentrations of effluent parameters measured at the four final effluent monitoring sites in 2015 and the stipulated licenced maximum concentrations as issued by the Nunavut Water Board to CFS Alert.

Parameter	Analytical Laboratory	NWB Licenced Value	15SH-3	15SH-3f
		mg L^{-1}	Mean ± S.D. (n) mg L^{-1}	Mean ± S.D. (n) mg L^{-1}
BOD_5	Alert, CAWT	80	182±56 (5)	39±18 (5)
BOD_5	Peterborough	80	90±50 (6)	7 (1)
Total Suspended Solids	Peterborough	70	880±1747 (10)	36±56 (10)
Oil and Grease	Peterborough	5	130±256 (9)	24±26 (2)
pH	Alert, CAWT	6 to 9	8.0±0.3 (10)	8.3±0.4 (10)

Parameter	Analytical Laboratory	NWB Licenced Value	15SH-3e	15SH-1
		mg L^{-1}	Mean ± S.D. (n) mg L^{-1}	Mean ± S.D. (n) mg L^{-1}
BOD_5	Alert, CAWT	80	16±13 (3)	37 (1)
BOD_5	Peterborough	80	--	--
Total Suspended Solids	Peterborough	70	17±16 (6)	12 (1)
Oil and Grease	Peterborough	5	--	--
pH	Alert, CAWT	6 to 9	8.4±0.5 (6)	8.3 (1)

14SH-3c) are summarized in Table 1. The measured values in Table 1 represent the mean of all samples analyzed at the identified sample locations.

The City of Peterborough Environmental Protection Laboratory (EPL) was contracted to analyze the influent and effluent of the CFS Alert wetland for BOD_5, oil and grease, and TSS. The EPL is ISO 17025 certified, has been accredited with the Canadian Association for Laboratory Accreditation (CALA) since 2004, and is licenced by the Ontario Ministry of the Environment for drinking water testing.

The CAWT performed additional BOD_5 testing at the Alert site for QA/QC purposes and to augment the number of samples tested to increase the understanding of the wetland's performance. The influent and effluent were monitored for pH on-site by CAWT personnel.

APPENDICES

2015 Alert Sample Locations

Sample Identification	Sample Location		Sample Description
	UTM Easting	UTM Northing	
15B1-1 (Influent Composite)"	0509856	9160589	Located directly below the influent outfall pipe.
15B1-1 (Influent Grab)"	0509856	9160589	Influent. Located 2m east of outfall pipe to allow for pooling and mixing.
15B1-1 (Pooling Location)"	0509856	9160589	Influent. Located 3m east of outfall pipe to allow for pooling and mixing.
15B1-4	0509867	9160622	After radiator, north end of Berm 1. Flowing east down to 15B3-2.
15B2-2	0509921	9160570	Breach in Berm 2, east of 15B1-1. Flowing north-east to 15B3-3.
15B3-2	0509974	9160694	Located at Berm 3, north of 15B3-3. Stream flows down through 15B3-2 to 15B3-3.
15B3-3	0509980	9160635	Directly above Berm 3 screeslope and Berm 3 breach, final point of confluence before streams permanently diverge.
15B4-1	0510028	9160589	Located directly below Berm 3 breach where flow meets Berm 4.
Screeslope	0510068	9160609	Sample point located at bottom of screeslope below Berm 3, where screeslope meets Berm 5. Established following wetland modifications in early September.
15SL-1	0510037	9160570	Located halfway between 15B4-1 and 15SL-2.
15SL-2	0510040	9160526	Sample point in Berm 4 breach, running over several exposed fuel drums from old landfill.
15SL-3	0510087	9160551	Secondary stream flows south-east from pooling at 15B4-1 and flows through 15SL-3 above gravel berm and silt fences.
15SH-1	0510120	9160495	Alert Inlet discharge point. Only sampled once during early meltwater flow in June.
15SH-3	0510070	9160481	Alert Inlet discharge point. Highly consistent discharge location from early though late season. Fed from stream running through SL-2. Stream initially ran through thick ice coverage, entire flowpath to this point clear of ice by early July.
15SH-3b	0510078	9160485	Alert Inlet discharge point, fed from SL-2. Very low volume discharge. Mostly meltwater. Completely dry by late June.
15SH-3e	0510111	9160493	Alert Inlet discharge point, fed from SL-3 and silt fence. Low flow throughout season and stagnent by mid-August.
15SH-3f	0510135	9160497	Alert Inlet discharge point, fed from SL-3 and silt fence. Moderate flow throughout season but low at end of season.
Reference Stream	0508566	9156044	Reference stream sampling point, located at Downs Bridge, approx. 5km south of Alert Station.

Sample Identification Legend:
15 - for 2015, **B1** - Berm 1, **B2** - Berm 2, **B3** - Berm 3, **B4** - Berm 5, **SH** - Shoreline, **PL** - Powerline, **SF** - Silt fence, **Screeslope** - Screeslope/trickle filter

Temperature (° C)

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		20.7	7.3		6.6		0.0		
June 16, 2015		20.2	17.8	1.4	10.7				
June 23, 2015	20.7	17.6		17.2	9.0	0.0	1.0	0.5	
June 30, 2015	2.6	21.2		8.7	16.2			6.5	
July 8, 2015	23.2			13.2	16.7	5.9	14.5	8.6	
July 14, 2015	20.3			18.0	17.9			13.8	
July 20, 2015	2.9			16.1	15.4			11.7	
July 28, 2015	7.1			15.8	13.7			11.1	
August 5, 2015	11.1			14.4			7.8	7.4	
August 12, 2015	12.0			18.1	13.7		9.7	10.0	
August 18, 2015	20.6			17.9		4.2	4.5	3.5	
August 25, 2015	16.2			14.3		6.1	5.3	4.2	
September 8, 2015		21.1		15.0		4.4	4.0		1.2
Average	13.7	20.2	12.6	14.2	13.3	4.1	5.9	7.7	1.2
Min	2.6	17.6	7.3	1.4	6.6	0.0	0.0	0.5	1.2
Max	23.2	21.2	17.8	18.1	17.9	6.1	14.5	13.8	1.2

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015	0.0		3.6						
June 23, 2015	0.4	2.4			9.5			4.9	0.0
June 30, 2015	5.5	6.0	6.7	6.3		5.1	5.8	6.1	3.6
July 8, 2015			9.2			7.7	7.8	8.4	6.5
July 14, 2015	13.3	14.3	13.9			12.5	11.9	14.0	11.1
July 20, 2015	12.2	11.6	13.6			9.9	10.2	12.5	10.8
July 28, 2015	10.9	10.6	11.1			11.9	12.0	13.0	6.1
August 5, 2015	7.1	7.5	7.1			6.5	6.5	7.0	7.1
August 12, 2015	10.7	9.9	10.0				8.2	10.5	6.6
August 18, 2015	3.1	3.1	3.1				2.4	3.5	2.4
August 25, 2015	3.3	3.5	3.2				1.7	3.8	2.0
September 8, 2015							0.0		
Average	6.7	7.7	8.2	6.3	9.5	8.9	6.7	8.4	5.6
Min	0.0	2.4	3.1	6.3	9.5	5.1	0.0	3.5	0.0
Max	13.3	14.3	13.9	6.3	9.5	12.5	12.0	14.0	11.1

Dissolved Oxygen (DO) (mg/L)

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		6.61	11.11		8.40		13.83		
June 16, 2015		8.29	8.60	11.44	9.03				
June 23, 2015	4.50	7.33		3.66	9.33	12.55	11.82	11.48	
June 30, 2015	9.54	5.80		5.95	5.24			9.56	
July 8, 2015	10.27			6.18	6.79	8.85	8.54	8.84	
July 14, 2015	3.37			5.56	6.03			6.54	
July 20, 2015	9.52			7.61	7.84			7.57	
July 28, 2015	8.91			5.43	5.96			8.37	
August 5, 2015	7.00			8.02			9.86	10.10	
August 12, 2015	7.63			6.74	7.48		10.21	7.59	
August 18, 2015		7.26		6.57		9.64	9.68	10.72	
August 25, 2015		8.49		8.09		9.44	9.31	9.98	
September 8, 2015		7.68		7.80		10.10	10.13		10.66
Average	7.59	7.35	9.86	6.92	7.34	10.12	10.42	9.08	10.66
Min	3.37	5.80	8.60	3.66	5.24	8.85	8.54	6.54	10.66
Max	10.27	8.49	11.11	11.44	9.33	12.55	13.83	11.48	10.66

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015	12.56		11.73						
June 23, 2015	11.50	11.04			10.04			10.68	12.07
June 30, 2015	10.13	10.40	11.26	11.86		12.10	11.45	10.78	13.10
July 8, 2015			8.97			12.13	10.61	11.10	12.45
July 14, 2015	6.46	6.75	4.58			11.03	9.12	8.01	10.55
July 20, 2015	8.27	8.07	9.77			11.64	11.14	10.13	11.08
July 28, 2015	7.01	6.87	8.82			12.17	11.56	7.72	12.47
August 5, 2015	9.66	10.52	11.78			12.96	12.75	10.48	12.05
August 12, 2015	7.54	7.45	9.02				11.49	8.45	12.42
August 18, 2015	11.09	11.31	11.94				13.53	12.29	13.36
August 25, 2015	10.39	12.17	11.55				13.78	11.55	13.97
September 8, 2015							12.20		
Average	9.46	9.40	9.94	11.86	10.04	12.01	11.76	10.12	12.35
Min	6.46	6.75	4.58	11.86	10.04	11.03	9.12	7.72	10.55
Max	12.56	12.17	11.94	11.86	10.04	12.96	13.78	12.29	13.97

Conductivity (µS)

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		408	281		379		448		
June 16, 2015		1266	432	312	433				
June 23, 2015	620	844		1172	303	417	478	836	
June 30, 2015	414	426		615	528			737	
July 8, 2015	565			541	419	802	1056	1223	
July 14, 2015	452			540	542			668	
July 20, 2015	395			349	291			664	
July 28, 2015	407			372	472			651	
August 5, 2015	532			363			551	646	
August 12, 2015	409			386	334		489	483	
August 18, 2015		421		340		601	644	663	
August 25, 2015		328		288		535	542	563	
September 8, 2015		443		378		578	621		759
Average	474	591	357	471	411	587	604	713	759
Min	395	328	281	288	291	417	448	483	759
Max	620	1266	432	1172	542	802	1056	1223	759

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015	1294		1091						
June 23, 2015	705	483			528			483	63
June 30, 2015	741	732	762	774		977	784	705	114
July 8, 2015			802			1698	845	1184	131
July 14, 2015	821	858	885			2860	1286	8790	137
July 20, 2015	825	1005	990			2790	1099	1030	194
July 28, 2015	977	761	661			3390	573	650	300
August 5, 2015	733	771	695			1492	1056	892	232
August 12, 2015	475	647	535				1417	655	251
August 18, 2015	727	654	830				1680	730	289
August 25, 2015	572	547	548				998	571	301
September 8, 2015							870		
Average	787	718	780	774	528	2201	1061	1569	201
Min	475	483	535	774	528	977	573	483	63
Max	1294	1005	1091	774	528	3390	1680	8790	301

pH

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		7.75	7.57		7.47		8.09		
June 16, 2015		9.05	7.91	7.47	7.58				
June 23, 2015	8.59	8.60		8.60	8.61	8.61	8.63	8.66	
June 30, 2015	7.85	7.35		7.11	7.54			7.68	
July 8, 2015	8.32			7.24	7.61	7.39	7.80	7.62	
July 14, 2015	7.34			6.89	7.55			7.44	
July 20, 2015	7.81			7.19	7.28			7.24	
July 28, 2015	7.61			7.18	7.53			7.59	
August 5, 2015	7.25			7.36			7.78	7.85	
August 12, 2015	7.87			7.33	7.69		7.91		
August 18, 2015		7.97		7.41		7.62	7.72	7.68	
August 25, 2015		7.70		7.39		7.51	7.50	7.88	
September 8, 2015		9.19		7.29		7.43	7.42	7.67	7.43
Average	7.8	8.2	7.7	7.4	7.7	7.7	7.9	7.7	7.4
Min	7.3	7.4	7.6	6.9	7.3	7.4	7.4	7.2	7.4
Max	8.6	9.2	7.9	8.6	8.6	8.6	8.6	8.7	7.4

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015	7.85		8.03						
June 23, 2015	8.73	8.69			8.77			8.82	8.02
June 30, 2015	7.75	7.82	7.92	8.23		7.98	8.07	7.86	7.99
July 8, 2015			7.84			8.11	7.97	8.16	7.84
July 14, 2015	7.52	7.67	7.40			8.24	7.94	7.94	8.03
July 20, 2015	7.3	7.46	7.54			8.37	8.42	7.56	8.06
July 28, 2015	7.5	7.45	7.75			8.50	8.50	7.85	8.22
August 5, 2015	7.83	7.93	8.33			9.33	9.24	8.07	8.12
August 12, 2015	7.68	7.68	8.01				8.56	7.92	8.21
August 18, 2015	7.86	7.92	8.14				8.43	8.08	8.14
August 25, 2015	7.75	7.88	8.06				8.25	7.91	7.96
September 8, 2015							7.69		
Average	7.8	7.8	7.9	8.2	8.8	8.4	8.3	8.0	8.1
Min	7.3	7.5	7.4	8.2	8.8	8.0	7.7	7.6	7.8
Max	8.7	8.7	8.3	8.2	8.8	9.3	9.2	8.8	8.2

Dissolved Organic Carbon (DOC) (mg/L)

City of Peterborough Detection Limits: *1.0* *mg/L*

0.50 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		30.0	29.9		163		68.7		
June 16, 2015									
June 23, 2015	102	119		899	37.7	59.9	48.1	11.8	
June 30, 2015									
July 8, 2015	12.2			95.8	12.5	61.7	65.0	19.5	
July 14, 2015									
July 20, 2015	62.4			31.8	11.6			33.7	
July 28, 2015									
August 5, 2015	227			37.9			44.0	45.3	
August 12, 2015									
August 18, 2015		34.4		44.4		21.0	152	21.3	
August 25, 2015									
September 8, 2015		122		130		97.6	107		250
Average	101	76.4	29.9	206	56.2	60.1	80.8	26.3	250
Min	12.2	30.0	29.9	31.8	11.6	21.0	44.0	11.8	250
Max	227	122	30	899	163	97.6	152	45.3	250

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	9.5	6.5			10.4			8.9	1.8
June 30, 2015									
July 8, 2015			51.8			8.2	35.6	12.9	<1.0
July 14, 2015									
July 20, 2015	55.2	69.4	157			6.0	8.8	236	<1.0
July 28, 2015									
August 5, 2015		21.6	20.6				24.7	18.7	
August 12, 2015									
August 18, 2015	22.1	21.5	26.9				12.4	29.6	4.0
August 25, 2015									
September 8, 2015							13.8		
Average	28.9	29.8	64.1		10.4	7.1	19.1	61.2	1.7
Min	9.5	6.5	20.6		10.4	6.0	8.8	8.9	<0.1
Max	55.2	69.4	157		10.4	8.2	35.6	236	4.0

Chemical Oxygen Demand (COD) (mg/L)

City of Peterborough Detection Limits: *10* *mg/L*

5 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		230	140		650		190		
June 16, 2015									
June 23, 2015	620	820		6360	40	240	340	180	
June 30, 2015									
July 8, 2015	530			230	250	190	420	110	
July 14, 2015									
July 20, 2015	350			380	300			810	
July 28, 2015									
August 5, 2015	1830			344			275	275	
August 12, 2015									
August 18, 2015		190		340		390	550	330	
August 25, 2015									
September 8, 2015		700		650		400	510		550
Average	833	485	140	1384	310	305	381	341	550
Min	350	190	140	230	40	190	190	110	550
Max	1830	820	140	6360	650	400	550	810	550

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	240	320			110			400	<10
June 30, 2015									
July 8, 2015			230			40	250	70	<10
July 14, 2015									
July 20, 2015	960	860	670			30	20	2100	<10
July 28, 2015									
August 5, 2015	163	121	119			99	101	99	<10
August 12, 2015									
August 18, 2015	100	90	100				60	60	<10
August 25, 2015									
September 8, 2015							80		
Average	366	348	280		110	56	102	546	<10
Min	100	90	100		110	30	20	60	<10
Max	960	860	670		110	99	250	2100	<10

Carbonaceous Biochemical Oxygen Demand (cBOD5) (mg/L)

CAWT Detection Limits: ***1*** ***mg/L***

0.5 ***mg/L*** ***used to calculate mean when values were listed as <***

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015									
June 16, 2015		88	84	140	158				
June 23, 2015									
June 30, 2015	389	566		286	319			100	
July 8, 2015									
July 14, 2015	356			276	221			154	
July 20, 2015									
July 28, 2015	604			357	305			309	
August 5, 2015									
August 12, 2015	375			181	94		78	229	
August 18, 2015									
August 25, 2015		102		123		387	521	322	
September 8, 2015									
Average	431	252	84	227	219	387	299	223	
Min	356	88	84	123	94	387	78	100	
Max	604	566	84	357	319	387	521	322	

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015	170								
June 23, 2015									
June 30, 2015	137	136	181	37		30	47	229	3
July 8, 2015									
July 14, 2015	370	318	485			11	40	223	1
July 20, 2015									
July 28, 2015	639	539	276			6	64	133	1
August 5, 2015									
August 12, 2015	111	133	154				17	109	1
August 18, 2015									
August 25, 2015	113	71	66				29	214	1
September 8, 2015									
Average	256	240	232	37		16	39	182	2
Min	111	71	66	37		6	17	109	1
Max	639	539	485	37		30	64	229	3

Carbonaceous Biochemical Oxygen Demand (cBOD5) (mg/L)

Peterborough Detection Limits: ***2.0*** ***mg/L***
1.0 ***mg/L*** ***used to calculate mean when values were listed as <***

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015									
June 16, 2015		115							
June 23, 2015		278							
June 30, 2015	318	395							
July 8, 2015									
July 14, 2015	198								
July 20, 2015									
July 28, 2015	395								
August 5, 2015									
August 12, 2015	80								
August 18, 2015									
August 25, 2015		52							
Average	248	210							
Min	80	52							
Max	395	395							

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015			112						
June 23, 2015								43	
June 30, 2015								158	
July 8, 2015									
July 14, 2015								142	
July 20, 2015									
July 28, 2015								71	
August 5, 2015									
August 12, 2015								88	
August 18, 2015									
August 25, 2015								38	
September 8, 2015							7		
Average			112				7	90	
Min			112				7	38	
Max			112				7	158	

Biochemical Oxygen Demand (BOD5) (mg/L)

CAWT Detection Limits: ***1*** ***mg/L***

0.5 ***mg/L*** ***used to calculate mean when values were listed as <***

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		84	106		352		93		
June 16, 2015									
June 23, 2015	608	685		2304	96	164	173	65	
June 30, 2015									
July 8, 2015	334			170	120	116	226	70	
July 14, 2015									
July 20, 2015	259			315	200			644	
July 28, 2015									
August 5, 2015	1162			296			199	198	
August 12, 2015									
August 18, 2015		213		209		265	370	198	
August 25, 2015									
September 8, 2015									
Average	591	327	106	659	192	182	212	235	
Min	259	84	106	170	96	116	93	65	
Max	1162	685	106	2304	352	265	370	644	

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	60	95			52			97	9
June 30, 2015									
July 8, 2015			142			29	148	36	1
July 14, 2015									
July 20, 2015	974	776	1024			5	11	2258	<1
July 28, 2015									
August 5, 2015	151	116	112			28	36	60	<1
August 12, 2015									
August 18, 2015	55	46	44				18	35	1
August 25, 2015									
September 8, 2015									
Average	310	258	330		52	21	53	497	2
Min	55	46	44		52	5	11	35	<1
Max	974	776	1024		52	29	148	2258	9

Biochemical Oxygen Demand (BOD5) (mg/L)

Peterborough Detection Limits: ***2.3*** ***mg/L***
1.15 ***mg/L*** ***used to calculate mean when values were listed as <***

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		46	46		311		78		
June 16, 2015									
June 23, 2015		609							
June 30, 2015									
July 8, 2015	226								
July 14, 2015									
July 20, 2015	155								
July 28, 2015									
August 5, 2015	848								
August 12, 2015									
August 18, 2015		61							
August 25, 2015									
September 8, 2015		403							
Average	410	280	46		311		78		
Min	155	46	46		311		78		
Max	848	609	46		311		78		

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015								53	
June 30, 2015									
July 8, 2015							118	118	
July 14, 2015									
July 20, 2015								1780	
July 28, 2015									
August 5, 2015								37	
August 12, 2015									
August 18, 2015								17	
August 25, 2015									
September 8, 2015							8		
Average							63	401	
Min							8	17	
Max							118	1780	

Total Coliforms (TC) (cfu/100mls)

CAWT Detection Limits: ***3*** ***mg/L***

1.5 ***mg/L*** ***used to calculate mean when values were listed as <***

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		1640000	705000		3970000		500		
June 16, 2015		15000	380000	595000	8480000				
June 23, 2015	387840000	>387840000		81600000	470000	80000	65000	95000	
June 30, 2015	11560000	60000000		4080000	>24240000	345000		1850000	
July 8, 2015	14480000			5440000	9020000		11740000	490000	
July 14, 2015	234800000			46960000	96960000			8580000	
July 20, 2015	49000000			40300000	93800000			34320000	
July 28, 2015	46900000			20600000	26300000			12350000	
August 5, 2015	51000000			6200000			2200000	3100000	
Agust 12, 2015	17700000			29800000	4900000		1950000	7300000	
August 18, 2015		3600000		6200000		2750000	2150000	1800000	
August 25, 2015		7050000		5100000		12680000	4400000	1440000	
September 8, 2015									
Average	101660000	14461000	542500	22443182	30487500	3963750	3215071	7132500	
Min	11560000	15000	380000	595000	470000	80000	500	95000	
Max	387840000	60000000	705000	81600000	96960000	12680000	11740000	34320000	

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015	295000		450000						
June 23, 2015	55000	360000			65000			705000	<15000
June 30, 2015	1275000	1200000	2445000	307500		330000	532500	10520000	2424
July 8, 2015			3390000			<7500	4290000	215000	<1500
July 14, 2015	67840000	>24240000	54800000			5000	1200000	9380000	469
July 20, 2015	41520000	20400000	41520000			3200	>2424	11740000	28
July 28, 2015	9100000	9100000	3800000			11000	1588000	3390000	59
August 5, 2015	2750000	3600000	1800000			242400	86000	940000	94
August 12, 2015	17500000	5300000	7550000				118000	4180000	43
August 18, 2015	1100000	1100000	1250000				212000	1140000	<3
August 25, 2015	1120000	2080000	1840000				542000	8580000	<3
September 8, 2015									
Average	14255500	5392500	11884500	307500	65000	99225	1071063	5079000	1137
Min	55000	360000	450000	307500	65000	3200	86000	215000	<3
Max	67840000	20400000	54800000	307500	65000	330000	4290000	11740000	2424

Total Coliforms (TC) (cfu/100mls)

Peterborough Detection Limits: ***0.0 mg/L***
0.00 mg/L ***used to calculate mean when values were listed as <***

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		11000000					500		
June 16, 2015									
June 23, 2015		NDOGT							
June 30, 2015									
July 8, 2015	3000000	27500000							
July 14, 2015									
July 20, 2015	6500000								
July 28, 2015									
August 5, 2015	N/A	N/A							
August 12, 2015									
August 18, 2015									
August 25, 2015									
September 8, 2015		700000							
Average	4750000	13066667					500		
Min	3000000	700000					500		
Max	6500000	27500000					500		

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015								NDOGT	
June 30, 2015								2000000	
July 8, 2015							1140000		
July 14, 2015									
July 20, 2015								1800000	
July 28, 2015									
August 5, 2015								N/A	
August 12, 2015									
August 18, 2015								300000	
August 25, 2015									
September 8, 2015							40000		
Average							590000	1366667	
Min							40000	300000	
Max							1140000	2000000	

E.coli (EC) (cfu/100mls)

CAWT Detection Limits: ***3*** ***mg/L***

1.5 ***mg/L*** ***used to calculate mean when values were listed as <***

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		110000	15000		180000		<300		
June 16, 2015		<15000	<6000	55000	530000				
June 23, 2015	9920000	4800000		9920000	55000	15000	15000	15000	
June 30, 2015	3920000	6000000		520000	1585000			352500	
July 8, 2015	2080000			880000	1100000	125000	1240000	50000	
July 14, 2015	8240000			1720000	1510000			550000	
July 20, 2015	11000000			500000	1900000			1560000	
July 28, 2015	300000			1300000	1300000			2750000	
August 5, 2015	26300000			1600000			1300000	1250000	
August 12, 2015	3300000			8300000	500000		650000	800000	
August 18, 2015		2500000		500000		<150000	400000	400000	
August 25, 2015		1650000		1650000		640000	520000	120000	
September 8, 2015									
Average	8132500	2511250	9000	2449545	962222	213750	589307	784750	
Min	300000	<15000	<6000	55000	55000	15000	15000	15000	
Max	26300000	6000000	15000	9920000	1900000	640000	1300000	2750000	

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015	80000		150000						
June 23, 2015	<15000	15000			15000			65000	<15000
June 30, 2015	235000	260000	345000	62500		55000	147500	3480000	114
July 8, 2015			1060000			<7500	660000	80000	<1500
July 14, 2015	830000	650000	1100000			1000	125000	520000	5
July 20, 2015	1440000	320000	1560000			600	39	520000	3
July 28, 2015	950000	1100000	150000			1100	138000	300000	<3
August 5, 2015	1650000	2150000	800000			5900	10000	130000	11
August 12, 2015	6600000	800000	950000				32000	900000	5
August 18, 2015	400000	250000	400000				92000	430000	<3
August 25, 2015	120000	120000	120000				38000	280000	<3
September 8, 2015									
Average	1231250	629444	663500	62500	15000	11225	138060	670500	839
Min	80000	15000	120000	62500	15000	600	39	65000	<3
Max	6600000	2150000	1560000	62500	15000	55000	660000	3480000	114

E.coli (EC) (cfu/100mls)

Peterborough Detection Limits: ***0.0 mg/L***
0.00 mg/L ***used to calculate mean when values were listed as <***

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		<500000					<500		
June 16, 2015									
June 23, 2015		NDOGN							
June 30, 2015		1000000							
July 8, 2015	500000								
July 14, 2015									
July 20, 2015	3500000								
July 28, 2015									
August 5, 2015	N/A	N/A							
August 12, 2015									
August 18, 2015									
August 25, 2015									
September 8, 2015		200000							
Average	2000000	600000					<500		
Min	500000	200000					<500		
Max	3500000	1000000					<500		

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015								NDOVN	
June 30, 2015								470000	
July 8, 2015							420000		
July 14, 2015									
July 20, 2015								380000	
July 28, 2015									
August 5, 2015								N/A	
August 12, 2015									
August 18, 2015								160000	
August 25, 2015									
September 8, 2015							20000		
Average							220000	336667	
Min							20000	160000	
Max							420000	470000	

Ammonia (NH_3) (mg/L)

City of Peterborough Detection Limits: *0.10* *mg/L*

0.05 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		10.7	1.6		5.00		5.80		
June 16, 2015		3.30	5.2	2.20	7.00				
June 23, 2015		22.3		31.5	2.60	7.40	9.60	4.30	
June 30, 2015	3.30	16.7		16.8	20.4			8.70	
July 8, 2015	15.8			12.4	9.60	13.1	19.4	11.7	
July 14, 2015	16.1			10.7	11.1			6.90	
July 20, 2015	12.2			2.50	2.00			4.70	
July 28, 2015	10.6			11.6	26.1			5.90	
August 5, 2015	13.9			11.6			8.27	7.82	
August 12, 2015	21.8			13.0	7.10		3.50	8.30	
August 18, 2015	13.6	12.2		5.80		8.40	10.6	10.2	
August 25, 2015		8.70		4.40		19.0	17.0	10.4	
September 8, 2015		3.80		5.60		13.9	10.6		18.0
Average	13.4	11.1	3.4	10.7	10.1	12.4	10.6	7.89	18.0
Min	3.30	3.30	1.60	2.20	2.00	7.40	3.50	4.30	18.0
Max	21.8	22.3	5.20	31.5	26.1	19.0	19.4	11.7	18.0

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015	5.20		5.70						
June 23, 2015	4.50	3.20			3.00			3.20	0.10
June 30, 2015	9.60	9.00	10.7	6.80		4.70	7.00	9.60	0.10
July 8, 2015			13.0			5.00	9.50	10.00	<0.10
July 14, 2015	10.6	9.70	10.6			2.20	6.50	9.20	0.20
July 20, 2015	5.60	6.30	10.9			3.00	4.60	8.30	0.10
July 28, 2015	10.8	9.60	8.00			2.80	3.00	7.50	0.10
August 5, 2015	10.3	10.6	8.97			0.12	0.28	9.51	
August 12, 2015	5.40	8.10	6.60				2.50	8.30	0.20
August 18, 2015	11.3	10.9	8.40				4.80	10.10	0.10
August 25, 2015	8.30	8.20	8.10				5.80	9.60	0.10
September 8, 2015							4.20		
Average	8.16	8.40	9.10	6.80	3.00	2.97	4.82	8.53	0.17
Min	4.50	3.20	5.70	6.80	3.00	0.12	0.28	3.20	<0.10
Max	11.3	10.9	13.0	6.80	3.00	5.00	9.50	10.1	0.20

Nitrate (NO_3) (mg/L)

City of Peterborough Detection Limits: ***0.05*** ***mg/L***

0.025 ***mg/L*** ***used to calculate mean when values were listed as <***

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		<0.05	0.30		<0.05		<0.05		
June 16, 2015									
June 23, 2015	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	1.05	
June 30, 2015									
July 8, 2015	<0.05			<0.05	<0.05	0.22	<0.05	0.72	
July 14, 2015									
July 20, 2015	<0.05			<0.05	<0.05			<0.05	
July 28, 2015									
August 5, 2015	<0.20			0.04			0.03	0.03	
August 12, 2015									
August 18, 2015		0.07		<0.05		<0.05	<0.05	<0.05	
August 25, 2015									
September 8, 2015		0.10		0.12		0.20	0.16		<0.05
Average	<0.05	0.06	0.30	0.08	<0.05	0.12	0.05	0.37	<0.05
Min	<0.05	<0.05	0.30	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Max	<0.05	0.10	0.30	0.12	<0.05	0.22	0.16	1.05	<0.05

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.89	0.42			1.24			0.25	0.17
June 30, 2015									
July 8, 2015			<0.05			3.18	<0.05	1.08	<0.05
July 14, 2015									
July 20, 2015	<0.05	<0.05	<0.05			5.99	0.19	<0.05	0.21
July 28, 2015									
August 5, 2015	<0.020	<0.020	0.03			0.06	0.18	<0.20	
August 12, 2015									
August 18, 2015	0.22	0.38	0.33				3.66	0.42	0.94
August 25, 2015									
September 8, 2015							6.04		
Average	0.30	0.22	0.10		1.24	3.08	2.02	0.38	0.34
Min	<0.020	<0.020	<0.05		1.24	0.06	<0.05	<0.05	<0.05
Max	0.89	0.42	0.33		1.24	5.99	6.04	1.08	0.94

Nitrite (NO_2) (mg/L)

City of Peterborough Detection Limits: *0.05* *mg/L*

0.025 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		<0.05	<0.05		<0.05		0.06		
June 16, 2015									
June 23, 2015	<0.05	<0.05		0.15	<0.05	<0.05	<0.05	0.16	
June 30, 2015									
July 8, 2015	<0.05			<0.05	<0.05	<0.05	<0.05	0.13	
July 14, 2015									
July 20, 2015	<0.05			<0.05	<0.05			<0.05	
July 28, 2015									
August 5, 2015	<0.10			<0.010			<0.010	<0.010	
August 12, 2015									
August 18, 2015		<0.05		<0.05		<0.05	<0.05	<0.05	
August 25, 2015									
September 8, 2015		0.34		0.11		<0.05	<0.05		
Average	<0.05	0.10	<0.05	0.06	<0.05	<0.05	<0.05	0.07	
Min	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Max	<0.05	0.34	<0.05	0.15	<0.05	<0.05	<0.05	0.16	

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.16	0.11			0.27			0.10	<0.05
June 30, 2015									
July 8, 2015			<0.05			<0.05	<0.05	0.24	<0.05
July 14, 2015									
July 20, 2015	<0.05	<0.05	0.15			0.09	<0.05	<0.05	<0.05
July 28, 2015									
August 5, 2015	<0.010	<0.010	0.05			0.01	0.04	<0.10	
August 12, 2015									
August 18, 2015	0.05	0.06	0.11				0.12	0.06	<0.05
August 25, 2015									
September 8, 2015							0.05		
Average	0.06	0.05	0.08		0.27	0.04	0.05	0.09	<0.05
Min	<0.05	<0.05	<0.05		0.27	<0.05	<0.05	<0.05	<0.05
Max	0.16	0.11	0.15		0.27	0.09	0.12	0.24	<0.05

Total Kjeldahl Nitrogen (TKN) (mg/L)

City of Peterborough Detection Limits: *0.1* *mg/L*

0.05 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		15.2	3.60		7.60		12.0		
June 16, 2015									
June 23, 2015	26.1	58.5		206.0	3.10	19.2	22.3	11.1	
June 30, 2015									
July 8, 2015	41.8			18.6	17.4	21.3	31.9	17.1	
July 14, 2015									
July 20, 2015	25.4			10.2	8.70			32.6	
July 28, 2015									
August 5, 2015	86.3			26.5			15.2	13.5	
August 12, 2015									
August 18, 2015		26.0		16.8		21.2	30.0	24.8	
August 25, 2015									
September 8, 2015		18.6		21.6		27.5	23.5		
Average	44.9	29.6	3.60	50.0	9.20	22.3	22.5	19.8	
Min	25.4	15.2	3.60	10.2	3.10	19.2	12.0	11.1	
Max	86.3	58.5	3.60	206.0	17.4	27.5	31.9	32.6	

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	13.3	12.0			3.70			15.5	0.1
June 30, 2015									
July 8, 2015			22.1			8.30	13.0	15.7	<0.1
July 14, 2015									
July 20, 2015	24.5	19.7	36.6			5.60	7.90	43.5	1.10
July 28, 2015									
August 5, 2015	14.0	14.3	13.3			4.14	5.25	13.8	
August 12, 2015									
August 18, 2015	22.0	20.0	19.2				11.6	19.2	<0.1
August 25, 2015									
September 8, 2015							6.00		
Average	18.5	16.5	22.8		3.70	6.01	8.75	21.5	0.33
Min	13.3	12.0	13.3		3.70	4.14	5.25	13.8	<0.1
Max	24.5	20.0	36.6		3.70	8.30	13.0	43.5	1.10

Total Phosphorus (TP) (mg/L)

City of Peterborough Detection Limits: *0.02* *mg/L*

0.01 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		1.37	0.75		2.14		1.40		
June 16, 2015									
June 23, 2015	8.78	7.18		45.3	0.56	2.01	1.87	2.82	
June 30, 2015									
July 8, 2015	5.95			2.63	1.97	1.21	3.48	0.59	
July 14, 2015									
July 20, 2015	2.39			1.48	0.81			2.81	
July 28, 2015									
August 5, 2015	12.2			3.51			1.48	1.32	
August 12, 2015									
August 18, 2015		2.45		1.25			3.27		
August 25, 2015									
September 8, 2015		3.87		2.06		3.78	3.13		7.01
Average	7.33	3.72	0.75	9.37	1.37	2.33	2.44	1.89	7.01
Min	2.39	1.37	0.75	1.25	0.56	1.21	1.40	0.59	7.01
Max	12.2	7.18	0.75	45.3	2.14	3.78	3.48	2.82	7.01

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	1.48	3.82			0.36			4.84	0.03
June 30, 2015									
July 8, 2015			2.68			0.10	2.20	0.72	<0.02
July 14, 2015									
July 20, 2015	2.88	2.30	5.70			0.05	0.09	7.18	<0.02
July 28, 2015									
August 5, 2015		0.83	0.52				0.42	0.57	
August 12, 2015									
August 18, 2015	0.68	0.52	0.57				0.27	0.52	<0.02
August 25, 2015									
September 8, 2015							0.12		
Average	1.68	1.87	2.37		0.36	0.08	0.62	2.77	<0.02
Min	0.68	0.52	0.52		0.36	0.05	0.09	0.52	<0.02
Max	2.88	3.82	5.70		0.36	0.10	2.20	7.18	0.03

Dissolved Phosphate as Phosphorus (PO_4) (mg/L)

City of Peterborough Detection Limits: *0.02* *mg/L*

0.01 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.69	0.11		0.61		0.47		
June 16, 2015									
June 23, 2015	1.77	3.45		24.6	<0.02	0.02	0.04	<0.02	
June 30, 2015									
July 8, 2015	2.03			1.00	0.65	0.02	0.99	<0.02	
July 14, 2015									
July 20, 2015	0.64			0.04	<0.02			<0.02	
July 28, 2015									
August 5, 2015	7.90			2.14			0.08	0.02	
August 12, 2015									
August 18, 2015		1.43		0.34		0.27	1.09	0.24	
August 25, 2015									
September 8, 2015		0.95		1.26		2.10	1.48		2.45
Average	3.09	1.63	0.11	4.90	0.32	0.60	0.69	0.06	2.45
Min	0.64	0.69	0.11	0.04	<0.02	0.02	0.04	<0.02	2.45
Max	7.90	3.45	0.11	24.6	0.65	2.10	1.48	0.24	2.45

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	<0.02	<0.02			<0.02			<0.02	<0.02
June 30, 2015									
July 8, 2015			0.53			<0.02	0.34	<0.02	<0.02
July 14, 2015									
July 20, 2015	0.04	0.08	2.00			<0.02	<0.02	1.81	<0.02
July 28, 2015									
August 5, 2015	0.02	0.03	0.08			0.13	0.13	0.09	
August 12, 2015									
August 18, 2015	0.03	0.04	<0.02				<0.02	<0.02	<0.02
August 25, 2015									
September 8, 2015							<0.02		
Average	0.03	0.04	0.66		<0.02	0.05	0.10	0.39	<0.02
Min	<0.02	<0.02	<0.02		<0.02	<0.02	<0.02	<0.02	<0.02
Max	0.04	0.08	2.00		<0.02	0.13	0.34	1.81	<0.02

Total Suspended Solids (TSS) (mg/L)

City of Peterborough Detection Limits: *2* *mg/L*

1 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		58	152		524		89		
June 16, 2015		37	91	498	148				
June 23, 2015	220	480		2260	77	1500	1440	3530	
June 30, 2015	166	232		198	352			734	
July 8, 2015	160			40	92	46	179	51	
July 14, 2015	332			106	162			1540	
July 20, 2015	118			155	155			2770	
July 28, 2015	262			245	228			248	
August 5, 2015	987			144			40	59	
August 12, 2015	131			39	41		34	296	
August 18, 2015		71		122		83	116	188	
August 25, 2015		67		57		176	418	83	
September 8, 2015		162		118		104	162		246
Average	297	158	122	332	198	382	310	950	246
Min	118	37	91	39	41	46	34	51	246
Max	987	480	152	2260	524	1500	1440	3530	246

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015	3000		6430						
June 23, 2015	2090	7100			316			5660	48
June 30, 2015	135	187	214	12		15	17	290	<2
July 8, 2015			80			47	194	58	2
July 14, 2015	486	574	720			13	38	204	4
July 20, 2015	774	306	310			3	4	784	<2
July 28, 2015	272	218	64			13	16	104	<2
August 5, 2015	41	23	11			9	33	29	
August 12, 2015	88	85	99				16	83	<2
August 18, 2015	32	32	34				13	36	<2
August 25, 2015	102	239	55				21	1550	<2
September 8, 2015							9		
Average	702	974	802	12	316	17	36	880	7
Min	32	23	11	12	316	3	4	29	<2
Max	3000	7100	6430	12	316	47	194	5660	48

Volatile Suspended Solids (VSS) (mg/L)

City of Peterborough Detection Limits: *10* *mg/L*

5 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		46	32		110		40		
June 16, 2015		32	75	138	93				
June 23, 2015	204	444		2030	27	112	98	136	
June 30, 2015	155	220		186	270			54	
July 8, 2015	144			36	60	23	115	18	
July 14, 2015	298			97	119			168	
July 20, 2015	110			146	132			526	
July 28, 2015	248			225	202			136	
August 5, 2015	907			121			36	44	
August 12, 2015	119			35	36		31	175	
August 18, 2015		62		101		75	106	92	
August 25, 2015		60		55		156	382	65	
September 8, 2015		148		108		88	130		212
Average	273	145	54	273	117	91	117	141	212
Min	110	32	32	35	27	23	31	18	212
Max	907	444	75	2030	270	156	382	526	212

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015	128		248						
June 23, 2015	80	262			25			220	<10
June 30, 2015	41	49	64	<10		<10	<10	96	<10
July 8, 2015			38			<10	78	14	<10
July 14, 2015	180	266	354			<10	28	129	<10
July 20, 2015	374	262	286			<10	<10	732	<10
July 28, 2015	244	202	58			11	14	80	<10
August 5, 2015	23	15	11			5	8	18	
August 12, 2015	61	59	65				<10	62	<10
August 18, 2015	16	13	15				<10	17	<10
August 25, 2015	40	43	25				13	202	<10
September 8, 2015							<10		
Average	119	130	116	<10	25	6	17	157	<10
Min	16	13	11	<10	25	5	<10	14	<10
Max	374	266	354	<10	25	11	78	732	<10

Fats, Oils and Grease (FOG) (mg/L)

City of Peterborough Detection Limits: *5.0* *mg/L*

2.50 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		6.5					6.4		
June 16, 2015		18.8							
June 23, 2015		194							
June 30, 2015		135							
July 8, 2015	70.0								
July 14, 2015	50.8								
July 20, 2015	56.4								
July 28, 2015	132								
August 5, 2015	98.9								
August 12, 2015	84.0								
August 18, 2015		59.3							
August 25, 2015		27.6							
September 8, 2015		136							
Average	82.0	82.5					6.4		
Min	50.8	6.5					6.4		
Max	132	194					6.4		

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015			9.5						
June 23, 2015								34.0	
June 30, 2015								33.2	
July 8, 2015							42.0		
July 14, 2015								47.6	
July 20, 2015								836	
July 28, 2015								50.8	
August 5, 2015								3.5	
August 12, 2015								55.5	
August 18, 2015								39.0	
August 25, 2015								69.6	
September 8, 2015							<10		
Average			9.5				23.5	130	
Min			9.5				<10	3.5	
Max			9.5				42.0	836	

Aluminum (Al) (mg/L)

City of Peterborough Detection Limits: ***0.0250 mg/L***
0.01250 mg/L ***used to calculate mean when values were listed as <***

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.278	2.340		3.030		0.555		
June 16, 2015									
June 23, 2015	0.417	0.266		1.120	0.509	12.50	13.30	48.500	
June 30, 2015									
July 8, 2015	0.305			0.148	0.405	0.436	0.860	0.660	
July 14, 2015									
July 20, 2015	0.090			0.183	0.255			10.100	
July 28, 2015									
August 5, 2015	0.538			0.300			0.089	0.260	
August 12, 2015									
August 18, 2015		0.120		0.163			0.092		
August 25, 2015									
September 8, 2015		0.504		0.237		0.122	0.162		0.250
Average	0.338	0.292	2.340	0.359	1.050	4.353	2.510	14.88	0.250
Min	0.090	0.120	2.340	0.148	0.255	0.122	0.089	0.260	0.250
Max	0.538	0.504	2.340	1.120	3.030	12.50	13.30	48.50	0.250

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	23.50	55.30			5.370			52.40	0.703
June 30, 2015									
July 8, 2015			0.780			0.574	1.770	0.860	0.027
July 14, 2015									
July 20, 2015	4.260	0.459	0.558			0.020	<0.02	0.830	0.037
July 28, 2015									
August 5, 2015		0.090	0.028				0.211	0.122	
August 12, 2015									
August 18, 2015	0.165	0.088	0.386				<0.025	0.089	<0.025
August 25, 2015									
September 8, 2015							0.030		
Average	9.308	13.98	0.438		5.370	0.297	0.407	10.86	0.195
Min	0.165	0.088	0.028		5.370	0.020	<0.025	0.089	<0.025
Max	23.50	55.30	0.780		5.370	0.574	1.770	52.40	0.703

Antimony (Sb) (mg/L)

City of Peterborough Detection Limits: *0.0005* *mg/L*
0.00025 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.0006	<0.0005		<0.0005		<0.0005		
June 16, 2015									
June 23, 2015	0.0016	0.0011		0.0015	0.0007	0.0009	0.0006	0.0009	
June 30, 2015									
July 8, 2015	0.0014			0.0016	0.0012	0.0019	0.0022	0.0007	
July 14, 2015									
July 20, 2015	<0.0005			0.0010	<0.0005			<0.005	
July 28, 2015									
August 5, 2015	0.0006			0.0004			0.0003	0.0004	
August 12, 2015									
August 18, 2015		<0.0005		<0.0005			<0.0005		
August 25, 2015									
September 8, 2015		0.0012		0.0012		0.0008	0.0007		0.0005
Average	0.0010	0.0008	<0.0005	0.0010	0.0006	0.0012	0.0007	0.0011	0.0005
Min	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	<0.0005	<0.005	0.0005
Max	0.0016	0.0012	<0.0005	0.0016	0.0012	0.0019	0.0022	0.0009	0.0005

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.0007	0.0010			0.0016			0.0022	<0.0005
June 30, 2015									
July 8, 2015			0.0014			<0.0005	0.0012	<0.0005	<0.0005
July 14, 2015									
July 20, 2015	<0.005	<0.005	<0.005			<0.005	<0.005	<0.005	<0.0005
July 28, 2015									
August 5, 2015		0.0004	0.0004				0.0004	0.0004	
August 12, 2015									
August 18, 2015	<0.0005	<0.0005	<0.0005				<0.0005	<0.0005	<0.0005
August 25, 2015									
September 8, 2015							<0.0005		
Average	0.0012	0.0010	0.0011		0.0016	<0.0005	0.0009	0.0011	<0.0005
Min	<0.0005	<0.0005	<0.0005		0.0016	<0.0005	<0.0005	<0.0005	<0.0005
Max	0.0007	0.0010	0.0014		0.0016	<0.005	0.0012	0.0022	<0.0005

Arsenic (As) (mg/L)

City of Peterborough Detection Limits: ***0.0005 mg/L***
0.00025 mg/L ***used to calculate mean when values were listed as <***

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.0005	0.0020		0.0030		0.0029		
June 16, 2015									
June 23, 2015	0.0008	<0.0005		0.0025	0.0021	0.0174	0.0135	0.0369	
June 30, 2015									
July 8, 2015	0.0006			0.0020	0.0009	0.0096	0.0016	0.0163	
July 14, 2015									
July 20, 2015	<0.0005			0.0007	0.0006			0.0108	
July 28, 2015									
August 5, 2015	0.0009			0.0006			0.0046	0.0062	
August 12, 2015									
August 18, 2015		<0.0005		<0.0005			0.0036		
August 25, 2015									
September 8, 2015		<0.0005		<0.0005		0.0026	0.0028		0.0041
Average	0.0006	0.0005	0.0020	0.0010	0.0017	0.0099	0.0048	0.0176	0.0041
Min	<0.0005	<0.0005	0.0020	<0.0005	0.0006	0.0026	0.0016	0.0062	0.0041
Max	0.0009	0.0005	0.0020	0.0025	0.0030	0.0174	0.0135	0.0369	0.0041

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.0194	0.0468			0.0069			0.0465	0.0006
June 30, 2015									
July 8, 2015			0.0129			0.0034	0.0077	0.0082	<0.0005
July 14, 2015									
July 20, 2015	0.0067	<0.0050	0.0113			<0.0050	<0.0050	0.0054	<0.0005
July 28, 2015									
August 5, 2015		0.0060	0.0052				0.0056	0.0060	
August 12, 2015									
August 18, 2015	0.0054	0.0062	0.0070				0.0050	0.0053	<0.0005
August 25, 2015									
September 8, 2015							0.0033		
Average	0.0105	0.0154	0.0091		0.0069	0.0030	0.0048	0.0143	<0.0005
Min	0.0054	<0.0050	0.0052		0.0069	<0.0050	<0.0050	0.0053	<0.0005
Max	0.0194	0.0468	0.0129		0.0069	0.0034	0.0077	0.0465	0.0006

Barium (Ba) (mg/L)

City of Peterborough Detection Limits: *0.0001 mg/L*
0.00005 mg/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.0170	0.0150		0.0830		0.0030		
June 16, 2015									
June 23, 2015	0.0500	0.0600		0.1110	0.0060	0.0290	0.0280	0.0580	
June 30, 2015									
July 8, 2015	0.0440			0.0640	0.0570	0.0630	0.0510	0.0280	
July 14, 2015									
July 20, 2015	0.0040			0.0450	0.0040			0.0230	
July 28, 2015									
August 5, 2015	0.0153			0.0063			0.0088	0.0110	
August 12, 2015									
August 18, 2015		0.0050		0.0050			0.0100		
August 25, 2015									
September 8, 2015		0.0640		0.0520		0.0740	0.0540		0.0620
Average	0.0283	0.0365	0.0150	0.0472	0.0375	0.0553	0.0258	0.0300	0.0620
Min	0.0040	0.0050	0.0150	0.0050	0.0040	0.0290	0.0030	0.0110	0.0620
Max	0.0500	0.0640	0.0150	0.1110	0.0830	0.0740	0.0540	0.0580	0.0620

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.0330	0.1090			0.0520			0.1640	0.0040
June 30, 2015									
July 8, 2015			0.0500			0.0250	0.0620	0.0250	0.0020
July 14, 2015									
July 20, 2015	0.0170	0.0150	0.0540			0.0330	0.0350	0.0430	0.0030
July 28, 2015									
August 5, 2015		0.0125	0.0116				0.0108	0.0137	
August 12, 2015									
August 18, 2015	0.0140	0.0140	0.0140				0.0450	0.0120	0.0040
August 25, 2015									
September 8, 2015							0.0500		
Average	0.0213	0.0376	0.0324		0.0520	0.0290	0.0406	0.0515	0.0033
Min	0.0140	0.0125	0.0116		0.0520	0.0250	0.0108	0.0120	0.0020
Max	0.0330	0.1090	0.0540		0.0520	0.0330	0.0620	0.1640	0.0040

Beryllium (Be) (mg/L)

City of Peterborough Detection Limits: *0.0001 mg/L*
0.00005 mg/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		<0.0001	<0.0001		0.000100		<0.0001		
June 16, 2015									
June 23, 2015	<0.0001	<0.0001		<0.0001	<0.0001	0.0005	0.0004	0.0013	
June 30, 2015									
July 8, 2015	<0.0001			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
July 14, 2015									
July 20, 2015	<0.0001			<0.0001	<0.0001			<0.001	
July 28, 2015									
August 5, 2015	<0.00010			<0.00010			<0.00010	<0.00010	
August 12, 2015									
August 18, 2015		<0.0001		<0.0001			<0.0001		
August 25, 2015									
September 8, 2015		<0.0001		<0.0001		<0.0001	<0.0001		<0.0001
Average	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Min	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Max	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0005	0.0004	0.0013	<0.0001

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.0006	0.0018			0.0002			0.0018	<0.0001
June 30, 2015									
July 8, 2015			<0.0001			<0.0001	0.0001	<0.0001	<0.0001
July 14, 2015									
July 20, 2015	<0.001	<0.001	<0.001			<0.001	<0.001	<0.001	<0.0001
July 28, 2015									
August 5, 2015		<0.00010	<0.00010				<0.00010	<0.00010	
August 12, 2015									
August 18, 2015	<0.0001	<0.0001	<0.0001				<0.0001	<0.0001	<0.0001
August 25, 2015									
September 8, 2015							<0.0001		
Average	<0.0001	<0.0001	<0.0001		0.0002	<0.0001	<0.0001	<0.0001	<0.0001
Min	<0.0001	<0.0001	<0.0001		0.0002	<0.0001	<0.0001	<0.0001	<0.0001
Max	0.0006	0.0018	<0.0001		0.0002	<0.0001	0.0001	0.0018	<0.0001

Boron (B) (mg/L)

City of Peterborough Detection Limits: *0.0005 mg/L*
0.00025 mg/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.0160	0.0308		0.0376		0.0203		
June 16, 2015									
June 23, 2015	0.0581	0.0286		0.0438	0.0766	0.0399	0.0376	0.2200	
June 30, 2015									
July 8, 2015	0.0790			0.1040	0.0525	0.1550	0.0695	0.2970	
July 14, 2015									
July 20, 2015	0.0096			0.0163	0.0048			0.1220	
July 28, 2015									
August 5, 2015	0.0240			0.0170			0.0540	0.0790	
August 12, 2015									
August 18, 2015		0.0112		0.0102			0.0446		
August 25, 2015									
September 8, 2015		0.0222		0.0228		0.0422	0.0322		0.0435
Average	0.0427	0.0195	0.0308	0.0357	0.0429	0.0790	0.0430	0.1795	0.0435
Min	0.0096	0.0112	0.0308	0.0102	0.0048	0.0399	0.0203	0.0790	0.0435
Max	0.0790	0.0286	0.0308	0.1040	0.0766	0.1550	0.0695	0.2970	0.0435

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.1290	0.0791			0.0973			0.0876	0.0007
June 30, 2015									
July 8, 2015			0.2420			0.4120	0.2680	0.3590	0.0011
July 14, 2015									
July 20, 2015	0.1460	0.1870	0.1820			0.4520	0.2550	0.1950	<0.0005
July 28, 2015									
August 5, 2015		0.1140	0.0980				0.1420	0.1310	
August 12, 2015									
August 18, 2015	0.0820	0.1010	0.0746				0.3080	0.0997	<0.0005
August 25, 2015									
September 8, 2015							0.1650		
Average	0.1190	0.1203	0.1492		0.0973	0.4320	0.2276	0.1745	0.0006
Min	0.0820	0.0791	0.0746		0.0973	0.4120	0.1420	0.0876	<0.0005
Max	0.1460	0.1870	0.2420		0.0973	0.4520	0.3080	0.3590	0.0011

Bismuth (Bi) (mg/L)

City of Peterborough Detection Limits: *0.0005 mg/L*
0.00025 mg/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		<0.0005	<0.0005		0.0006		<0.0005		
June 16, 2015									
June 23, 2015	0.0053	0.0041		0.0545	<0.0005	<0.0005	<0.0005	0.0010	
June 30, 2015									
July 8, 2015	0.0009			<0.0005	<0.0005	<0.0005	0.0011	<0.0005	
July 14, 2015									
July 20, 2015	<0.0005			<0.0005	<0.0005			0.0016	
July 28, 2015									
August 5, 2015	0.0011			0.0401			0.0001	0.0001	
August 12, 2015									
August 18, 2015		<0.0005		<0.0005			<0.0005		
August 25, 2015									
September 8, 2015		<0.0005		<0.0005		<0.0005	<0.0005		<0.0005
Average	0.0019	0.0012	<0.0005	0.0473	<0.0005	<0.0005	<0.0005	0.0007	<0.0005
Min	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Max	0.0053	0.0041	<0.0005	0.0545	0.0006	<0.0005	0.0011	0.0016	<0.0005

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	<0.0005	0.0013			<0.0005			0.0014	<0.0005
June 30, 2015									
July 8, 2015			0.0006			<0.0005	0.0006	<0.0005	<0.0005
July 14, 2015									
July 20, 2015	<0.005	<0.005	<0.005			<0.005	<0.005	<0.005	<0.0005
July 28, 2015									
August 5, 2015		0.0001	<0.000050				<0.000050	<0.000050	
August 12, 2015									
August 18, 2015	<0.0005	<0.0005	<0.0005				<0.0005	<0.0005	<0.0005
August 25, 2015									
September 8, 2015							<0.0005		
Average	<0.0005	0.0010	0.0011		<0.0005	<0.0005	0.0008	0.0009	<0.0005
Min	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Max	<0.0005	0.0013	0.0006		<0.0005	<0.0005	0.0006	0.0014	<0.0005

Cadmium (Cd) (mg/L)

City of Peterborough Detection Limits: *0.0001 mg/L*
0.00005 mg/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.0001	<0.0001		0.0004		<0.0001		
June 16, 2015									
June 23, 2015	0.0003	0.0003		0.0006	<0.0001	0.0002	0.0002	0.0005	
June 30, 2015									
July 8, 2015	0.0002			0.0002	0.0002	<0.0001	0.0008	0.0001	
July 14, 2015									
July 20, 2015	0.0001			<0.0001	<0.0001			<0.001	
July 28, 2015									
August 5, 2015	0.0008			0.0002			0.0001	0.0001	
August 12, 2015									
August 18, 2015		0.0002		0.0001			0.0002		
August 25, 2015									
September 8, 2015		0.0002		0.0004		0.0002	0.0002		0.0002
Average	0.0004	0.0002	<0.0001	0.0003	0.0002	0.0002	0.0003	0.0003	0.0002
Min	0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.001	0.0002
Max	0.0008	0.0003	<0.0001	0.0006	0.0004	0.0002	0.0008	0.0005	0.0002

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.0003	0.0008			0.0002			0.0008	<0.0001
June 30, 2015									
July 8, 2015			0.0001			0.0002	0.0002	<0.0001	<0.0001
July 14, 2015									
July 20, 2015	<0.001	<0.001	<0.001			<0.001	<0.001	<0.001	<0.0001
July 28, 2015									
August 5, 2015		0.0001	0.0001				0.0001	0.0001	
August 12, 2015									
August 18, 2015	0.0002	0.0002	0.0002				0.0001	0.0001	<0.0001
August 25, 2015									
September 8, 2015							0.0002		
Average	0.0003	0.0004	0.0002		0.0002	0.0004	0.0002	0.0003	<0.0001
Min	<0.001	<0.001	<0.001		0.0002	<0.001	<0.001	<0.0001	<0.0001
Max	0.0003	0.0008	0.0002		0.0002	0.0002	0.0002	0.0008	<0.0001

Calcium (Ca) (mg/L)

City of Peterborough Detection Limits: *0.200* *mg/L*
0.100 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		36.2	32.9		39.8		51.2		
June 16, 2015									
June 23, 2015	33.6	38.2		50.6	34.4	145	131	447	
June 30, 2015									
July 8, 2015	35.9			45.0	33.8	75.4	47.5	82.2	
July 14, 2015									
July 20, 2015	23.0			22.9	22.5			112	
July 28, 2015									
August 5, 2015	46.6			36.2			44.5	51.7	
August 12, 2015									
August 18, 2015		34.2		32.7			43.7		
August 25, 2015									
September 8, 2015		40.6		43.1		49.1	46.2		53.6
Average	34.8	37.3	32.9	38.4	32.6	89.8	60.7	173	53.6
Min	23.0	34.2	32.9	22.9	22.5	49.1	43.7	51.7	53.6
Max	46.6	40.6	32.9	50.6	39.8	145	131	447	53.6

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	222	615			55.9			789	12.6
June 30, 2015									
July 8, 2015			55.3			65.0	62.5	75.1	24.5
July 14, 2015									
July 20, 2015	69.8	42.7	40.3			52.8	31.1	48.8	22.6
July 28, 2015									
August 5, 2015		56.8	52.3				35.1	58.7	
August 12, 2015									
August 18, 2015	53.2	53.6	51.6				66.6	56.6	44.4
August 25, 2015									
September 8, 2015							63.9		
Average	115	192	49.9		55.9	58.9	51.8	206	26.0
Min	53.2	42.7	40.3		55.9	52.8	31.1	48.8	12.6
Max	222	615	55.3		55.9	65.0	66.6	789	44.4

Chromium (Cr) (mg/L)

City of Peterborough Detection Limits: *0.0005 mg/L*
0.00025 mg/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.0010	0.0033		0.0046		0.0012		
June 16, 2015									
June 23, 2015	0.0019	0.0012		0.0038	0.0013	0.0209	0.0219	0.0823	
June 30, 2015									
July 8, 2015	0.0009			0.0006	0.0011	0.0010	0.0031	0.0012	
July 14, 2015									
July 20, 2015	<0.0005			0.0006	0.0007			0.0185	
July 28, 2015									
August 5, 2015	0.0034			0.0013			<0.00050	0.0007	
August 12, 2015									
August 18, 2015		0.0006		0.0008			<0.0005		
August 25, 2015									
September 8, 2015		0.0008		0.0012		<0.0005	0.0006		0.0010
Average	0.0016	0.0009	0.0033	0.0014	0.0019	0.0074	0.0046	0.0257	0.0010
Min	<0.0005	0.0006	0.0033	0.0006	0.0007	<0.0005	<0.0005	0.0007	0.0010
Max	0.0034	0.0012	0.0033	0.0038	0.0046	0.0209	0.0219	0.0823	0.0010

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.0394	0.1130			0.0098			0.1000	0.0012
June 30, 2015									
July 8, 2015			0.0016			0.0011	0.0031	0.0013	<0.0005
July 14, 2015									
July 20, 2015	0.0079	<0.002	<0.002			<0.002	<0.002	<0.002	<0.0005
July 28, 2015									
August 5, 2015		<0.00050	<0.00050				<0.00050	<0.00050	
August 12, 2015									
August 18, 2015	<0.0005	<0.0005	0.0008				<0.0005	<0.0005	<0.0005
August 25, 2015									
September 8, 2015							<0.0005		
Average	0.0159	0.0286	0.0009		0.0098	0.0011	0.0010	0.0206	0.0005
Min	<0.0005	<0.0005	<0.0005		0.0098	<0.002	<0.0005	<0.0005	<0.0005
Max	0.0394	0.1130	0.0016		0.0098	0.0011	0.0031	0.1000	0.0012

Cobalt (Co) (mg/L)

City of Peterborough Detection Limits: ***0.0001 mg/L***
0.00005 mg/L ***used to calculate mean when values were listed as <***

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.0003	0.0017		0.0042		0.0049		
June 16, 2015									
June 23, 2015	0.0004	0.0002		0.0061	0.0046	0.0180	0.0217	0.0531	
June 30, 2015									
July 8, 2015	0.0002			0.0115	0.0008	0.0651	0.0017	0.0387	
July 14, 2015									
July 20, 2015	0.0001			0.0003	0.0003			0.0157	
July 28, 2015									
August 5, 2015	0.0007			0.0004			0.0098	0.0112	
August 12, 2015									
August 18, 2015		0.0002		0.0003			0.0070		
August 25, 2015									
September 8, 2015		0.0002		0.0007		0.0061	0.0057		0.0084
Average	0.0004	0.0002	0.0017	0.0032	0.0025	0.0297	0.0085	0.0297	0.0084
Min	0.0001	0.0002	0.0017	0.0003	0.0003	0.0061	0.0017	0.0112	0.0084
Max	0.0007	0.0003	0.0017	0.0115	0.0046	0.0651	0.0217	0.0531	0.0084

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.0265	0.0774			0.0177			0.0714	0.0006
June 30, 2015									
July 8, 2015			0.0261			0.0301	0.0322	0.0351	<0.0001
July 14, 2015									
July 20, 2015	0.0131	0.0126	0.0143			0.0077	0.0246	0.0146	<0.0001
July 28, 2015									
August 5, 2015		0.0154	0.0141				0.0134	0.0165	
August 12, 2015									
August 18, 2015	0.0132	0.0152	0.0114				0.0116	0.0131	<0.0001
August 25, 2015									
September 8, 2015							0.0110		
Average	0.0176	0.0302	0.0165		0.0177	0.0189	0.0186	0.0301	0.0002
Min	0.0131	0.0126	0.0114		0.0177	0.0077	0.0110	0.0131	<0.0001
Max	0.0265	0.0774	0.0261		0.0177	0.0301	0.0322	0.0714	0.0006

Copper (Cu) (mg/L)

City of Peterborough Detection Limits: *0.0005 mg/L*
0.00025 mg/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.1390	0.0843		0.0739		0.0649		
June 16, 2015									
June 23, 2015	0.1030	0.1320		0.3530	0.0185	0.0767	0.0624	0.1220	
June 30, 2015									
July 8, 2015	0.2130			0.0674	0.0722	0.0232	0.1330	0.0354	
July 14, 2015									
July 20, 2015	0.1630			0.1010	0.0408			0.1220	
July 28, 2015									
August 5, 2015	0.3840			0.1950			0.0674	0.0573	
August 12, 2015									
August 18, 2015		0.1010		0.0674			0.0813		
August 25, 2015									
September 8, 2015		0.3080		0.1400		0.1140	0.1060		0.1250
Average	0.2158	0.1700	0.0843	0.1540	0.0514	0.0713	0.0858	0.0842	0.1250
Min	0.1030	0.1010	0.0843	0.0674	0.0185	0.0232	0.0624	0.0354	0.1250
Max	0.3840	0.3080	0.0843	0.3530	0.0739	0.1140	0.1330	0.1220	0.1250

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.0691	0.1510			0.0399			0.1740	0.0015
June 30, 2015									
July 8, 2015			0.0438			0.1040	0.0556	0.0274	0.0005
July 14, 2015									
July 20, 2015	0.0846	0.0420	0.0689			0.0300	0.0135	0.0496	0.0005
July 28, 2015									
August 5, 2015		0.0358	0.0375				0.0337	0.0359	
August 12, 2015									
August 18, 2015	0.0510	0.0415	0.0399				0.0408	0.0366	<0.0005
August 25, 2015									
September 8, 2015							0.0873		
Average	0.0682	0.0676	0.0475		0.0399	0.0670	0.0462	0.0647	0.0007
Min	0.0510	0.0358	0.0375		0.0399	0.0300	0.0135	0.0274	<0.0005
Max	0.0846	0.1510	0.0689		0.0399	0.1040	0.0873	0.1740	0.0015

Iron (Fe) (mg/L)

City of Peterborough Detection Limits: *0.0010 mg/L*
0.0005 mg/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.409	2.840		4.440		1.160		
June 16, 2015									
June 23, 2015	0.360	0.400		2.260	1.300	29.70	30.20	113.0	
June 30, 2015									
July 8, 2015	0.323			1.010	0.931	5.490	1.920	4.790	
July 14, 2015									
July 20, 2015	0.147			0.255	0.440			23.20	
July 28, 2015									
August 5, 2015	1.260			0.550			1.260	1.740	
August 12, 2015									
August 18, 2015		0.160		0.270			1.910		
August 25, 2015									
September 8, 2015		0.140		0.310		1.920	1.870		2.660
Average	0.523	0.277	2.840	0.776	1.778	12.37	6.387	35.68	2.660
Min	0.147	0.140	2.840	0.255	0.440	1.920	1.160	1.740	2.660
Max	1.260	0.409	2.840	2.260	4.440	29.70	30.20	113.0	2.660

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	53.00	142.0			9.380			113.0	1.020
June 30, 2015									
July 8, 2015			3.230			1.730	4.140	3.770	0.014
July 14, 2015									
July 20, 2015	10.70	1.830	1.950			0.300	0.484	2.650	0.012
July 28, 2015									
August 5, 2015		1.600	1.000				1.290	1.410	
August 12, 2015									
August 18, 2015	1.820	1.910	1.780				0.640	1.770	<0.05
August 25, 2015									
September 8, 2015							0.370		
Average	21.84	36.84	1.990		9.380	1.015	1.385	24.52	0.349
Min	1.820	1.600	1.000		9.380	0.300	0.370	1.410	0.012
Max	53.00	142.0	3.230		9.380	1.730	4.140	113.0	1.020

Lead (Pb) (mg/L)

City of Peterborough Detection Limits: *0.0005 mg/L*
0.00025 mg/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.0026	0.0039		0.0046		0.0009		
June 16, 2015									
June 23, 2015	0.0022	0.0023		0.0055	0.0012	0.0202	0.0170	0.0625	
June 30, 2015									
July 8, 2015	0.0028			0.0024	0.0024	0.0044	0.0055	0.0081	
July 14, 2015									
July 20, 2015	0.0014			0.0010	0.0009			0.0156	
July 28, 2015									
August 5, 2015	0.0122			0.0043			0.0010	0.0014	
August 12, 2015									
August 18, 2015		0.0010		0.0011			0.0019		
August 25, 2015									
September 8, 2015		0.0035		0.0038		0.0022	0.0025		0.0024
Average	0.0047	0.0024	0.0039	0.0030	0.0023	0.0089	0.0048	0.0219	0.0024
Min	0.0014	0.0010	0.0039	0.0010	0.0009	0.0022	0.0009	0.0014	0.0024
Max	0.0122	0.0035	0.0039	0.0055	0.0046	0.0202	0.0170	0.0625	0.0024

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.0287	0.1050			0.0102			0.1050	0.0008
June 30, 2015									
July 8, 2015			0.0053			0.0129	0.0062	0.0054	<0.0005
July 14, 2015									
July 20, 2015	0.0073	<0.005	<0.005			<0.005	<0.005	<0.005	<0.0005
July 28, 2015									
August 5, 2015		0.0011	0.0009				0.0012	0.0009	
August 12, 2015									
August 18, 2015	0.0022	0.0021	0.0027				0.0026	0.0018	<0.0005
August 25, 2015									
September 8, 2015							0.0061		
Average	0.0127	0.0277	0.0028		0.0102	0.0077	0.0037	0.0231	<0.0005
Min	0.0022	<0.005	<0.005		0.0102	<0.005	<0.005	<0.005	<0.0005

Lithium (Li) (mg/L)

City of Peterborough Detection Limits: *0.0002* *mg/L*
0.0001 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.0015	0.0041		0.0057		0.0020		
June 16, 2015									
June 23, 2015	0.0020	0.0013		0.0028	0.0024	0.0206	0.0217	0.0780	
June 30, 2015									
July 8, 2015	0.0017			0.0023	0.0020	0.0041	0.0032	0.0062	
July 14, 2015									
July 20, 2015	0.0010			0.0011	0.0011			0.0212	
July 28, 2015									
August 5, 2015	0.0013			0.0014			0.0016	0.0025	
August 12, 2015									
August 18, 2015		0.0010		0.0009			0.0015		
August 25, 2015									
September 8, 2015		0.0009		0.0011		0.0012	0.0013		0.0015
Average	0.0015	0.0012	0.0041	0.0016	0.0028	0.0086	0.0052	0.0270	0.0015
Min	0.0010	0.0009	0.0041	0.0009	0.0011	0.0012	0.0013	0.0025	0.0015
Max	0.0020	0.0015	0.0041	0.0028	0.0057	0.0206	0.0217	0.0780	0.0015

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.0393	0.0933			0.0027			0.0889	0.0011
June 30, 2015									
July 8, 2015			0.0041			0.0080	0.0073	0.0079	0.0003
July 14, 2015									
July 20, 2015	0.0110	0.0056	0.0050			0.0122	0.0062	0.0066	0.0006
July 28, 2015									
August 5, 2015		0.0028	0.0025				0.0043	0.0033	
August 12, 2015									
August 18, 2015	0.0024	0.0029	0.0027				0.0070	0.0028	0.0004
August 25, 2015									
September 8, 2015							0.0037		
Average	0.0176	0.0262	0.0036		0.0027	0.0101	0.0057	0.0219	0.0006
Min	0.0024	0.0028	0.0025		0.0027	0.0080	0.0037	0.0028	0.0003
Max	0.0393	0.0933	0.0050		0.0027	0.0122	0.0073	0.0889	0.0011

Magnesium (Mg) (mg/L)

City of Peterborough Detection Limits: *0.050* *mg/L*
0.025 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		6.01	6.91		8.35		6.59		
June 16, 2015									
June 23, 2015	7.05	7.11		11.2	7.82	26.4	26.7	83.0	
June 30, 2015									
July 8, 2015	6.13			6.81	5.92	15.10	8.48	29.2	
July 14, 2015									
July 20, 2015	5.45			5.52	5.51			31.0	
July 28, 2015									
August 5, 2015	7.70			5.69			7.62	10.0	
August 12, 2015									
August 18, 2015		5.34		5.02			8.24		
August 25, 2015									
September 8, 2015		4.58		5.23		6.96	6.62		7.72
Average	6.58	5.76	6.91	6.58	6.90	16.2	10.7	38.3	7.72
Min	5.45	4.58	6.91	5.02	5.51	6.96	6.59	10.0	7.72
Max	7.70	7.11	6.91	11.2	8.35	26.4	26.7	83.0	7.72

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	46.4	93.1			18.3			97.7	1.87
June 30, 2015									
July 8, 2015			15.0			34.3	20.5	32.3	3.06
July 14, 2015									
July 20, 2015	22.6	20.8	20.4			66.9	28.9	21.9	4.56
July 28, 2015									
August 5, 2015		13.4	12.1				23.1	17.8	
August 12, 2015									
August 18, 2015	12.2	15.7	11.4				35.9	15.7	7.19
August 25, 2015									
September 8, 2015							22.3		
Average	27.1	35.8	14.7		18.3	50.6	26.1	37.1	4.17
Min	12.2	13.4	11.4		18.3	34.3	20.5	15.7	1.87
Max	46.4	93.1	20.4		18.3	66.9	35.9	97.7	7.19

Manganese (Mn) (mg/L)

City of Peterborough Detection Limits: *0.0005 mg/L*
0.00025 mg/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.0096	0.0425		0.1560		0.1080		
June 16, 2015									
June 23, 2015	0.0208	0.0266		0.1920	0.1200	0.6860	0.7780	1.9000	
June 30, 2015									
July 8, 2015	0.0167			0.3390	0.0245	0.9880	0.0481	0.8960	
July 14, 2015									
July 20, 2015	0.0060			0.0117	0.0153			0.7110	
July 28, 2015									
August 5, 2015	0.0576			0.0205			0.2060	0.2620	
August 12, 2015									
August 18, 2015		0.0081		0.0153			0.2140		
August 25, 2015									
September 8, 2015		0.0135		0.0153		0.0971	0.0865		0.1810
Average	0.0253	0.0145	0.0425	0.0990	0.0790	0.5904	0.2401	0.9423	0.1810
Min	0.0060	0.0081	0.0425	0.0117	0.0153	0.0971	0.0481	0.2620	0.1810
Max	0.0576	0.0266	0.0425	0.3390	0.1560	0.9880	0.7780	1.9000	0.1810

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.9620	2.4100			0.3830			2.5900	0.0230
June 30, 2015									
July 8, 2015			0.6960			0.1950	0.6310	0.9040	0.0016
July 14, 2015									
July 20, 2015	0.3940	0.3270	0.3300			0.0981	0.2880	0.3720	<0.0005
July 28, 2015									
August 5, 2015		0.3730	0.3060				0.1160	0.4010	
August 12, 2015									
August 18, 2015	0.3340	0.3960	0.3090				0.2400	0.3350	<0.0005
August 25, 2015									
September 8, 2015							0.1330		
Average	0.5633	0.8765	0.4103		0.3830	0.1466	0.2816	0.9204	0.0063
Min	0.3340	0.3270	0.3060		0.3830	0.0981	0.1160	0.3350	<0.0005
Max	0.9620	2.4100	0.6960		0.3830	0.1950	0.6310	2.5900	0.0230

Mercury (Hg) (mg/L)

City of Peterborough Detection Limits: *0.0001 ug/L*
0.00005 ug/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		<0.0001	<0.0001		<0.0001		<0.0001		
June 16, 2015									
June 23, 2015	<0.0001	<0.0001		<0.0001	<0.0001	0.0001	<0.0001	0.0001	
June 30, 2015									
July 8, 2015	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	
July 14, 2015									
July 20, 2015	<0.1			<0.1	<0.1			<0.1	
July 28, 2015									
August 5, 2015									
August 12, 2015									
August 18, 2015		<0.0001		<0.0001			<0.0001		
August 25, 2015									
September 8, 2015		<0.1		<0.1		<0.1	<0.1		<0.1
Average	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.1
Min	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.1
Max	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	<0.0001	0.0001			<0.0001			0.0001	<0.0001
June 30, 2015									
July 8, 2015			<0.1			<0.1	<0.1	<0.1	<0.1
July 14, 2015									
July 20, 2015	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1	<0.1
July 28, 2015									
August 5, 2015									
August 12, 2015									
August 18, 2015	<0.0001	<0.0001	<0.0001				<0.0001	<0.0001	<0.0001
August 25, 2015									
September 8, 2015							<0.1		
Average	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Min	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Max	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1

Molybdenum (Mo) (mg/L)

City of Peterborough Detection Limits: *0.0005 mg/L*
0.00025 mg/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.0007	0.0007		0.0009		0.0007		
June 16, 2015									
June 23, 2015	0.0018	0.0009		0.0059	0.0014	0.0047	0.0017	0.0026	
June 30, 2015									
July 8, 2015	0.0010			0.0024	<0.0005	0.0022	0.0010	0.0025	
July 14, 2015									
July 20, 2015	0.0018			0.0014	0.0009			0.0042	
July 28, 2015									
August 5, 2015	0.0025			0.0009			0.0046	0.0067	
August 12, 2015									
August 18, 2015		0.0005		<0.0005			0.0025		
August 25, 2015									
September 8, 2015		<0.0005		<0.0005		<0.0005	<0.0005		<0.0005
Average	0.0018	0.0006	0.0007	0.0018	0.0009	0.0024	0.0018	0.0040	<0.0005
Min	0.0010	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	0.0025	<0.0005
Max	0.0025	0.0009	0.0007	0.0059	0.0014	0.0047	0.0046	0.0067	<0.0005

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.0020	0.0016			0.0015			0.0014	<0.0005
June 30, 2015									
July 8, 2015			0.0014			0.0036	0.0021	0.0022	<0.0005
July 14, 2015									
July 20, 2015	<0.005	<0.005	<0.005			0.0094	0.0067	<0.005	0.0041
July 28, 2015									
August 5, 2015		0.0016	0.0014				0.0018	0.0016	
August 12, 2015									
August 18, 2015	0.0012	0.0014	0.0012				0.0017	0.0012	0.0008
August 25, 2015									
September 8, 2015							<0.0005		
Average	0.0019	0.0018	0.0016		0.0015	0.0065	0.0025	0.0018	0.0014
Min	<0.005	<0.005	<0.005		0.0015	0.0036	<0.0005	<0.005	0.0008
Max	0.0020	0.0016	0.0014		0.0015	0.0094	0.0067	0.0022	0.0041

Nickel (Ni) (mg/L)

City of Peterborough Detection Limits: *0.002* *mg/L*
0.001 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.002	0.006		0.011		0.009		
June 16, 2015									
June 23, 2015	0.002	0.002		0.011	0.007	0.054	0.058	0.165	
June 30, 2015									
July 8, 2015	0.002			0.011	0.003	0.104	0.006	0.046	
July 14, 2015									
July 20, 2015	<0.002			<0.002	<0.002			0.052	
July 28, 2015									
August 5, 2015	0.004			0.002			0.026	0.031	
August 12, 2015									
August 18, 2015		<0.002		<0.002			0.017		
August 25, 2015									
September 8, 2015		0.003		0.002		0.011	0.011		0.014
Average	0.002	0.002	0.006	0.005	0.006	0.056	0.021	0.073	0.014
Min	<0.002	<0.002	0.006	<0.002	<0.002	0.011	0.006	0.031	0.014
Max	0.004	0.003	0.006	0.011	0.011	0.104	0.058	0.165	0.014

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.085	0.236			0.038			0.226	0.002
June 30, 2015									
July 8, 2015			0.030			0.086	0.070	0.072	<0.002
July 14, 2015									
July 20, 2015	0.040	0.036	0.048			0.057	0.118	0.040	<0.002
July 28, 2015									
August 5, 2015		0.036	0.035				0.035	0.039	
August 12, 2015									
August 18, 2015	0.026	0.028	0.031				0.041	0.026	<0.002
August 25, 2015									
September 8, 2015							0.035		
Average	0.050	0.084	0.036		0.038	0.072	0.060	0.081	<0.002
Min	0.026	0.028	0.030		0.038	0.057	0.035	0.026	<0.002
Max	0.085	0.236	0.048		0.038	0.086	0.118	0.226	0.002

Potassium (K) (mg/L)

City of Peterborough Detection Limits: *0.500* *mg/L*
0.250 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		6.3	4.6		7.4		6.4		
June 16, 2015									
June 23, 2015	15.5	12.5		69.5	4.7	6.2	6.8	14.3	
June 30, 2015									
July 8, 2015	11.4			7.7	6.5	10.9	10.9	16.1	
July 14, 2015									
July 20, 2015	7.2			5.5	3.6			9.9	
July 28, 2015									
August 5, 2015	13.9			8.2			10.3	10.8	
August 12, 2015									
August 18, 2015		7.2		5.3			19.9		
August 25, 2015									
September 8, 2015		5.1		8.4		13.4	12.5		22.7
Average	12.0	7.8	4.6	17.4	5.6	10.2	11.1	12.8	22.7
Min	7.2	5.1	4.6	5.3	3.6	6.2	6.4	9.9	22.7
Max	15.5	12.5	4.6	69.5	7.4	13.4	19.9	16.1	22.7

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	11.2	8.4			6.8			8.6	<0.5
June 30, 2015									
July 8, 2015			11.8			20.3	14.5	13.2	<0.5
July 14, 2015									
July 20, 2015	13.4	16.1	17.5			26.8	17.4	21.3	<0.5
July 28, 2015									
August 5, 2015		10.3	10.4				12.7	10.9	
August 12, 2015									
August 18, 2015	10.2	10.0	9.0				17.4	10.0	<0.5
August 25, 2015									
September 8, 2015							15.7		
Average	11.6	11.2	12.2		6.8	23.6	15.5	12.8	<0.5
Min	10.2	8.4	9.0		6.8	20.3	12.7	8.6	<0.5
Max	13.4	16.1	17.5		6.8	26.8	17.4	21.3	<0.5

Selenium (Se) (mg/L)

City of Peterborough Detection Limits: *0.0005 mg/L*
0.00025 mg/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		<0.0005	<0.0005		<0.0005		<0.0005		
June 16, 2015									
June 23, 2015	<0.0005	<0.0005		0.0019	<0.0005	<0.0005	<0.0005	<0.0005	
June 30, 2015									
July 8, 2015	<0.0005			<0.0005	<0.0005	<0.0005	0.0014	<0.0005	
July 14, 2015									
July 20, 2015	<0.0005			<0.0005	<0.0005			<0.005	
July 28, 2015									
August 5, 2015	0.0008			0.0002			0.0002	0.0002	
August 12, 2015									
August 18, 2015		<0.0005		<0.0005			<0.0005		
August 25, 2015									
September 8, 2015		<0.0005		<0.0005		<0.0005	<0.0005		<0.0005
Average	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Min	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Max	0.0008	<0.0005	<0.0005	0.0019	<0.0005	<0.0005	0.0014	<0.0005	<0.0005

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	<0.0005	<0.0005			<0.0005			<0.0005	<0.0005
June 30, 2015									
July 8, 2015			<0.0005			<0.0005	<0.0005	<0.0005	<0.0005
July 14, 2015									
July 20, 2015	<0.005	<0.005	<0.005			<0.005	<0.005	<0.005	<0.0005
July 28, 2015									
August 5, 2015		0.0002	0.0002				0.0002	0.0002	
August 12, 2015									
August 18, 2015	<0.0005	<0.0005	<0.0005				<0.0005	<0.0005	<0.0005
August 25, 2015									
September 8, 2015							<0.0005		
Average	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Min	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Max	<0.005	<0.0005	<0.0005		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Silver (Ag) (mg/L)

City of Peterborough Detection Limits: ***0.0001 mg/L***
0.00005 mg/L ***used to calculate mean when values were listed as <***

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.0001	<0.0001		<0.0001		<0.0001		
June 16, 2015									
June 23, 2015	<0.0001	<0.0001		0.0001	<0.0001	0.0005	0.0002	0.0002	
June 30, 2015									
July 8, 2015	<0.0001			0.0002	<0.0001	0.0002	0.0002	<0.0001	
July 14, 2015									
July 20, 2015	0.0002			0.0002	0.0002			<0.001	
July 28, 2015									
August 5, 2015	0.0001			0.0001			<0.000050	<0.000050	
August 12, 2015									
August 18, 2015		<0.0001		<0.0001			<0.0001		
August 25, 2015									
September 8, 2015		<0.0001		<0.0001		<0.0001	<0.0001		<0.0001
Average	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0003	0.0001	0.0001	<0.0001
Min	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Max	0.0002	<0.0001	<0.0001	0.0002	0.0002	0.0005	0.0002	0.0002	<0.0001

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.0001	0.0003			<0.0001			0.0003	<0.0001
June 30, 2015									
July 8, 2015			<0.0001			<0.0001	<0.0001	<0.0001	<0.0001
July 14, 2015									
July 20, 2015	<0.001	<0.001	<0.001			0.0016	<0.001	<0.001	0.0003
July 28, 2015									
August 5, 2015		<0.000050	<0.000050				<0.000050	<0.000050	
August 12, 2015									
August 18, 2015	<0.0001	<0.0001	<0.0001				<0.0001	<0.0001	0.0002
August 25, 2015									
September 8, 2015							<0.0001		
Average	<0.0001	<0.0001	<0.0001		<0.0001	0.0011	<0.0001	<0.0001	0.0002
Min	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Max	0.0001	0.0003	<0.0001		<0.0001	0.0016	<0.0001	0.0003	0.0003

Sodium (Na) (mg/L)

City of Peterborough Detection Limits: *0.050* *mg/L*
0.025 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		97.9	14.6		29.6		26.0		
June 16, 2015									
June 23, 2015	140	66.6		138.0	14.2	32.8	31.8	113	
June 30, 2015									
July 8, 2015	58.0			45.1	34.2	54.3	153	127	
July 14, 2015									
July 20, 2015	22.9			25.2	14.9			75.7	
July 28, 2015									
August 5, 2015	39.6			16.8			40.6	53.9	
August 12, 2015									
August 18, 2015		28.4		17.9			51.6		
August 25, 2015									
September 8, 2015		85.7		39.0		46.3	62.2		75.7
Average	65.1	69.7	14.6	47.0	23.2	44.5	60.9	92.4	75.7
Min	22.9	28.4	14.6	16.8	14.2	32.8	26.0	53.9	75.7
Max	140	97.9	14.6	138	34.2	54.3	153	127	75.7

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	85.1	56.7			48.5			60.9	0.44
June 30, 2015									
July 8, 2015			68.4			243	84.5	111	0.52
July 14, 2015									
July 20, 2015	92.6	115	112			364	145	123	0.87
July 28, 2015									
August 5, 2015		58.7	54.9				142	84.0	
August 12, 2015									
August 18, 2015	62.6	68.5	48.5				206	54.3	1.35
August 25, 2015									
September 8, 2015							80.3		
Average	80.1	74.7	71.0		48.5	304	132	86.6	0.80
Min	62.6	56.7	48.5		48.5	243	80.3	54.3	0.44
Max	92.6	115	112.0		48.5	364	206	123	1.35

Strontium (Sr) (mg/L)

City of Peterborough Detection Limits: *0.0002 mg/L*
0.0001 mg/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.0721	0.0710		0.0856		0.0892		
June 16, 2015									
June 23, 2015	0.0708	0.0712		0.1010	0.0926	0.2160	0.2050	0.6820	
June 30, 2015									
July 8, 2015	0.0606			0.0921	0.0710	0.1820	0.1050	0.2990	
July 14, 2015									
July 20, 2015	0.0519			0.0523	0.0508			0.2090	
July 28, 2015									
August 5, 2015	0.0833			0.0676			0.0952	0.1200	
August 12, 2015									
August 18, 2015		0.0638		0.0604			0.0950		
August 25, 2015									
September 8, 2015		0.0498		0.0676		0.0943	0.0916		0.1020
Average	0.0667	0.0642	0.0710	0.0735	0.0750	0.1641	0.1135	0.3275	0.1020
Min	0.0519	0.0498	0.0710	0.0523	0.0508	0.0943	0.0892	0.1200	0.1020
Max	0.0833	0.0721	0.0710	0.1010	0.0926	0.2160	0.2050	0.6820	0.1020

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.3560	0.7400			0.1570			0.9000	0.0175
June 30, 2015									
July 8, 2015			0.1540			0.3010	0.1850	0.2810	0.0361
July 14, 2015									
July 20, 2015	0.1490	0.1370	0.1380			0.3760	0.1940	0.1480	0.0395
July 28, 2015									
August 5, 2015		0.1540	0.1330				0.1610	0.1730	
August 12, 2015									
August 18, 2015	0.1480	0.1610	0.1350				0.2990	0.1500	0.0738
August 25, 2015									
September 8, 2015							0.2450		
Average	0.2177	0.2980	0.1400		0.1570	0.3385	0.2168	0.3304	0.0417
Min	0.1480	0.1370	0.1330		0.1570	0.3010	0.1610	0.1480	0.0175
Max	0.3560	0.7400	0.1540		0.1570	0.3760	0.2990	0.9000	0.0738

Sulfur (S) (mg/L)

City of Peterborough Detection Limits: *0.10* *mg/L*
0.05 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		2.20	7.00		7.70		2.60		
June 16, 2015									
June 23, 2015	5.10	4.30		14.5	3.30	4.40	4.10	11.7	
June 30, 2015									
July 8, 2015	4.90			4.10	3.50	5.90	11.4	18.5	
July 14, 2015									
July 20, 2015	3.40				1.80			9.40	
July 28, 2015									
August 5, 2015	6.66			3.07			3.92	4.65	
August 12, 2015									
August 18, 2015		2.80		2.40			3.60		
August 25, 2015									
September 8, 2015		4.00		12.70		4.50	4.00		5.90
Average	5.02	3.33	7.00	7.35	4.08	4.93	4.94	11.1	5.90
Min	3.40	2.20	7.00	2.40	1.80	4.40	2.60	4.65	5.90
Max	6.66	4.30	7.00	14.5	7.70	5.90	11.4	18.5	5.90

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	9.60	8.70			7.90			9.10	0.70
June 30, 2015									
July 8, 2015			7.90			26.6	8.10	17.6	1.80
July 14, 2015									
July 20, 2015	11.7	15.3	19.4			46.2	11.4	17.0	9.40
July 28, 2015									
August 5, 2015		6.23	5.30				12.0	9.10	
August 12, 2015									
August 18, 2015	5.30	6.00	4.20				23.6	5.30	19.70
August 25, 2015									
September 8, 2015							7.20		
Average	8.87	9.06	9.20		7.90	36.4	12.5	11.6	7.90
Min	5.30	6.00	4.20		7.90	26.6	7.20	5.30	0.70
Max	11.7	15.3	19.4		7.90	46.2	23.6	17.6	19.7

Tellurium (Te) (mg/L)

City of Peterborough Detection Limits: ***0.001 mg/L***
0.0005 mg/L ***used to calculate mean when values were listed as <***

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		<0.001	<0.001		<0.001		<0.001		
June 16, 2015									
June 23, 2015	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	
June 30, 2015									
July 8, 2015	<0.001			<0.001	<0.001	<0.001	<0.001	<0.001	
July 14, 2015									
July 20, 2015	<0.001			<0.001	<0.001			<0.01	
July 28, 2015									
August 5, 2015	<0.00020			<0.00020			<0.00020	<0.00020	
August 12, 2015									
August 18, 2015		<0.001		<0.001			<0.001		
August 25, 2015									
September 8, 2015		<0.001		<0.001		<0.001	<0.001		<0.001
Average	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Min	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Max	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	<0.001	<0.001			<0.001			<0.001	<0.001
June 30, 2015									
July 8, 2015			<0.001			<0.001	<0.001	<0.001	<0.001
July 14, 2015									
July 20, 2015	<0.01	<0.01	<0.01			<0.01	<0.01	<0.01	<0.001
July 28, 2015									
August 5, 2015		<0.00020	<0.00020				<0.00020	<0.00020	
August 12, 2015									
August 18, 2015	<0.001	<0.001	<0.001				<0.001	<0.001	<0.001
August 25, 2015									
September 8, 2015							<0.001		
Average	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Min	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Max	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001

Thallium (Tl) (mg/L)

City of Peterborough Detection Limits: *0.0003 mg/L*
0.00015 mg/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		<0.0003	<0.0003		<0.0003		<0.0003		
June 16, 2015									
June 23, 2015	<0.0003	<0.0003		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	
June 30, 2015									
July 8, 2015	<0.0003			<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	
July 14, 2015									
July 20, 2015	<0.0003			<0.0003	<0.0003			<0.003	
July 28, 2015									
August 5, 2015	<0.000010			<0.000010			<0.000010	<0.000010	
August 12, 2015									
August 18, 2015		<0.0003		<0.0003			<0.0003		
August 25, 2015									
September 8, 2015		<0.0003		<0.0003		<0.0003	<0.0003		<0.0003
Average	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Min	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Max	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	<0.0003	<0.0003			<0.0003			<0.0003	<0.0003
June 30, 2015									
July 8, 2015			<0.0003			<0.0003	<0.0003	<0.0003	<0.0003
July 14, 2015									
July 20, 2015	<0.003	<0.003	<0.003			<0.003	<0.003	<0.003	<0.0003
July 28, 2015									
August 5, 2015		<0.000010	<0.000010				<0.000010	<0.000010	
August 12, 2015									
August 18, 2015	<0.0003	<0.0003	<0.0003				<0.0003	<0.0003	<0.0003
August 25, 2015									
September 8, 2015							<0.0003		
Average	<0.0003	<0.0003	<0.0003		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Min	<0.0003	<0.0003	<0.0003		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Max	<0.0003	<0.0003	<0.0003		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003

Tin (Sn) (mg/L)

City of Peterborough Detection Limits: ***0.0005 mg/L***
0.00025 mg/L ***used to calculate mean when values were listed as <***

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.0013	0.0006		0.0034		<0.0005		
June 16, 2015									
June 23, 2015	0.0068	0.0078		0.0083	<0.0005	0.0006	<0.0005	<0.0005	
June 30, 2015									
July 8, 2015	0.0013			0.0009	0.0009	0.0008	0.0029	<0.0005	
July 14, 2015									
July 20, 2015	<0.0005			<0.0005	0.0005			<0.005	
July 28, 2015									
August 5, 2015	0.0031			0.0013			0.0035	0.0021	
August 12, 2015									
August 18, 2015		0.0006		0.0011			0.0062		
August 25, 2015									
September 8, 2015		0.0034		0.0010		0.0008	0.0007		0.0008
Average	0.0029	0.0033	0.0006	0.0021	0.0013	0.0007	0.0023	0.0013	0.0008
Min	<0.0005	0.0006	0.0006	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	0.0008
Max	0.0068	0.0078	0.0006	0.0083	0.0034	0.0008	0.0062	0.0021	0.0008

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	<0.0005	<0.0005			<0.0005			<0.0005	<0.0005
June 30, 2015									
July 8, 2015			0.0005			<0.0005	0.0007	<0.0005	<0.0005
July 14, 2015									
July 20, 2015	<0.005	<0.005	<0.005			<0.005	<0.005	<0.005	<0.0005
July 28, 2015									
August 5, 2015		0.0002	0.0003				0.0002	0.0002	
August 12, 2015									
August 18, 2015	0.0022	0.0047	0.0021				<0.0005	0.0027	<0.0005
August 25, 2015									
September 8, 2015							<0.0005		
Average	0.0017	0.0019	0.0008		<0.0005	<0.0005	0.0008	0.0012	<0.0005
Min	<0.0005	<0.0005	0.0003		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Max	0.0022	0.0047	0.0021		<0.0005	<0.0005	0.0007	0.0027	<0.0005

Titanium (Ti) (mg/L)

City of Peterborough Detection Limits: *0.0005 mg/L*
0.00025 mg/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.0057	0.0111		0.0145		0.0024		
June 16, 2015									
June 23, 2015	0.0044	0.0055		0.0100	0.0112	0.0484	0.0444	0.0874	
June 30, 2015									
July 8, 2015	0.0039			0.0049	0.0057	0.0048	0.0066	0.0189	
July 14, 2015									
July 20, 2015	0.0029			0.0049	0.0019			0.0222	
July 28, 2015									
August 5, 2015	0.0190			0.0047			0.0017	0.0013	
August 12, 2015									
August 18, 2015		0.0054		0.0090			0.0014		
August 25, 2015									
September 8, 2015		0.0039		0.0065		0.0044	0.0039		0.0044
Average	0.0076	0.0051	0.0111	0.0067	0.0083	0.0192	0.0101	0.0325	0.0044
Min	0.0029	0.0039	0.0111	0.0047	0.0019	0.0044	0.0014	0.0013	0.0044
Max	0.0190	0.0057	0.0111	0.0100	0.0145	0.0484	0.0444	0.0874	0.0044

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.0600	0.1080			0.0172			0.1050	0.0037
June 30, 2015									
July 8, 2015			0.0044			0.0232	0.0067	0.0109	<0.0005
July 14, 2015									
July 20, 2015	0.0094	<0.005	0.0051			<0.005	<0.005	<0.005	<0.0005
July 28, 2015									
August 5, 2015		0.0009	0.0006				0.0010	0.0006	
August 12, 2015									
August 18, 2015	0.0019	0.0006	0.0141				<0.0005	0.0016	<0.0005
August 25, 2015									
September 8, 2015							0.0005		
Average	0.0238	0.0280	0.0061		0.0172	0.0129	0.0022	0.0241	0.0011
Min	0.0019	<0.005	0.0006		0.0172	<0.005	<0.0005	<0.0005	<0.0005
Max	0.0600	0.1080	0.0141		0.0172	0.0232	0.0067	0.1050	0.0037

Tungsten (W) (mg/L)

City of Peterborough Detection Limits: *0.0005 mg/L*
0.00025 mg/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.001	<0.0005		<0.0005		<0.0005		
June 16, 2015									
June 23, 2015	<0.0005	<0.0005		<0.0005	<0.0005	0.003	0.001	0.001	
June 30, 2015									
July 8, 2015	0.001			0.002	<0.0005	0.001	<0.0005	<0.0005	
July 14, 2015									
July 20, 2015	0.001			0.001	0.001			<0.005	
July 28, 2015									
August 5, 2015	0.002			<0.00010			<0.00010	<0.00010	
August 12, 2015									
August 18, 2015		<0.005		<0.005			<0.005		
August 25, 2015									
September 8, 2015		<0.0005		<0.0005		<0.0005	<0.0005		<0.0005
Average	0.0010	0.0009	<0.0005	0.0009	0.0004	0.0014	0.0009	0.0010	<0.0005
Min	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Max	0.0016	0.0007	<0.0005	0.0017	0.0007	0.0033	0.0014	0.0010	<0.0005

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.001	0.001			<0.0005			<0.0005	<0.0005
June 30, 2015									
July 8, 2015			<0.0005			<0.0005	<0.0005	<0.0005	<0.0005
July 14, 2015									
July 20, 2015	<0.005	<0.005	<0.005			0.011	0.007	<0.005	0.002
July 28, 2015									
August 5, 2015		<0.00010	<0.00010				<0.00010	<0.00010	
August 12, 2015									
August 18, 2015	<0.005	<0.005	<0.005				<0.005	<0.005	<0.005
August 25, 2015									
September 8, 2015							<0.0005		
Average	0.0019	0.0014	<0.0005		<0.0005	0.0056	0.0019	<0.0005	0.0013
Min	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Max	0.0006	0.0006	<0.0005		<0.0005	0.0109	0.0066	<0.0005	0.0022

Uranium (U) (mg/L)

City of Peterborough Detection Limits: *0.0005* *mg/L*
0.0003 *mg/L* *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		<0.0005	<0.0005		<0.0005		<0.0005		
June 16, 2015									
June 23, 2015	0.0006	<0.0005		<0.0005	0.0008	0.0007	0.0007	0.0019	
June 30, 2015									
July 8, 2015	<0.0005			<0.0005	<0.0005	0.0009	<0.0005	0.0021	
July 14, 2015									
July 20, 2015	<0.0005			<0.0005	<0.0005			<0.005	
July 28, 2015									
August 5, 2015	0.0003			0.0002			0.0004	0.0005	
August 12, 2015									
August 18, 2015		<0.0005		<0.0005			<0.0005		
August 25, 2015									
September 8, 2015		<0.0005		<0.0005		<0.0005	<0.0005		<0.0005
Average	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	<0.0005	0.0015	<0.0005
Min	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	0.0004	0.0005	<0.0005
Max	0.0006	<0.0005	<0.0005	0.0002	0.0008	0.0009	0.0007	0.0021	<0.0005

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.0012	0.0026			0.0009			0.0026	<0.0005
June 30, 2015									
July 8, 2015			0.0008			0.0012	0.0007	0.0012	<0.0005
July 14, 2015									
July 20, 2015	<0.005	<0.005	<0.005			<0.005	<0.005	<0.005	<0.0005
July 28, 2015									
August 5, 2015		0.0007	0.0007				0.0008	0.0008	
August 12, 2015									
August 18, 2015	0.0007	0.0008	0.0009				0.0012	0.0007	<0.0005
August 25, 2015									
September 8, 2015							0.0012		
Average	0.0015	0.0017	0.0012		0.0009	0.0019	0.0013	0.0016	<0.0005
Min	<0.005	<0.005	<0.005		0.0009	<0.005	<0.005	<0.005	<0.0005
Max	0.0012	0.0026	0.0009		0.0009	0.0012	0.0012	0.0026	<0.0005

Vanadium (V) (mg/L)

City of Peterborough Detection Limits: ***0.0001 mg/L***
0.00005 mg/L ***used to calculate mean when values were listed as <***

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.0003	0.0020		0.0029		0.0008		
June 16, 2015									
June 23, 2015	0.0003	0.0002		0.0010	0.0007	0.0152	0.0152	0.0493	
June 30, 2015									
July 8, 2015	0.0002			0.0002	0.0005	0.0009	0.0011	0.0011	
July 14, 2015									
July 20, 2015	0.0001			0.0002	0.0004			0.0106	
July 28, 2015									
August 5, 2015	0.0008			<0.00050			<0.00050	0.0006	
August 12, 2015									
August 18, 2015		0.0002		0.0002			0.0003		
August 25, 2015									
September 8, 2015		0.0002		0.0003		0.0003	0.0003		0.0005
Average	0.0003	0.0002	0.0020	0.0004	0.0011	0.0055	0.0035	0.0154	0.0005
Min	0.0001	0.0002	0.0020	0.0002	0.0004	0.0003	0.0003	0.0006	0.0005
Max	0.0008	0.0003	0.0020	0.0010	0.0029	0.0152	0.0152	0.0493	0.0005

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.0239	0.0709			0.0060			0.0619	0.0007
June 30, 2015									
July 8, 2015			0.0011			0.0007	0.0021	0.0011	<0.0001
July 14, 2015									
July 20, 2015	0.0047	<0.001	0.0013			<0.001	<0.001	0.0012	<0.0001
July 28, 2015									
August 5, 2015		<0.00050	<0.00050				<0.00050	<0.00050	
August 12, 2015									
August 18, 2015	0.0005	0.0004	0.0007				0.0002	0.0003	<0.0001
August 25, 2015									
September 8, 2015							0.0002		
Average	0.0097	0.0357	0.0010		0.0060	0.0007	0.0008	0.0161	0.0007
Min	0.0005	0.0004	0.0007		0.0060	0.0007	0.0002	0.0003	0.0007
Max	0.0239	0.0709	0.0013		0.0060	0.0007	0.0021	0.0619	0.0007

Zinc (Zn) (mg/L)

City of Peterborough Detection Limits: *0.0005 mg/L*
0.00025 mg/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.0905	0.0384		0.0511		0.0191		
June 16, 2015									
June 23, 2015	0.1240	0.1410		0.3560	0.0115	0.0739	0.0697	0.1830	
June 30, 2015									
July 8, 2015	0.0842			0.0613	0.0655	0.0437	0.1160	0.0295	
July 14, 2015									
July 20, 2015	0.0676			0.0318	0.0098			0.1030	
July 28, 2015									
August 5, 2015	0.2000			0.0537			0.0225	0.0206	
August 12, 2015									
August 18, 2015		0.0517					0.0548		
August 25, 2015									
September 8, 2015		0.0878		0.1200		0.1010	0.0672		0.0736
Average	0.1190	0.0928	0.0384	0.1246	0.0345	0.0729	0.0582	0.0840	0.0736
Min	0.0676	0.0517	0.0384	0.0318	0.0098	0.0437	0.0191	0.0206	0.0736
Max	0.2000	0.1410	0.0384	0.3560	0.0655	0.1010	0.1160	0.1830	0.0736

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.0952	0.2290			0.0422			0.2330	0.0031
June 30, 2015									
July 8, 2015			0.0520			0.0279	0.0510	0.0223	<0.0005
July 14, 2015									
July 20, 2015	0.0501	0.0419	0.0641			<0.005	0.0143	0.0597	<0.0005
July 28, 2015									
August 5, 2015		0.0142	0.0147				0.0107	0.0144	
August 12, 2015									
August 18, 2015	0.0297	0.0259	0.0288				0.0204	0.0208	0.0014
August 25, 2015									
September 8, 2015							0.0307		
Average	0.0583	0.0778	0.0399		0.0422	0.0279	0.0254	0.0700	0.0013
Min	0.0297	0.0142	0.0147		0.0422	0.0279	0.0107	0.0144	<0.0005
Max	0.0952	0.2290	0.0641		0.0422	0.0279	0.0510	0.2330	0.0031

Zirconium (Zr) (mg/L)

City of Peterborough Detection Limits: *0.001 mg/L*
0.0005 mg/L *used to calculate mean when values were listed as <*

Sample Description	15B1-1 (Influent Composite)	15B1-1 (Influent Grab)	15B1-1 (pooling location)	15B1-4	15B2-2	15B3-2	15B3-3	15B4-1	ScreeSlope
Sample Date									
June 9, 2015		0.001	0.001		0.003				
June 16, 2015							0.007		
June 23, 2015	0.001	<0.001		0.002	<0.001	0.007		0.031	
June 30, 2015							0.011		
July 8, 2015	<0.001			0.001	0.001	0.002		0.001	
July 14, 2015									
July 20, 2015	<0.001			<0.001	<0.001			<0.01	
July 28, 2015							0.000		
August 5, 2015	0.003			0.001				0.001	
August 12, 2015							<0.001		
August 18, 2015		<0.001		0.001					
August 25, 2015							<0.001		
September 8, 2015		<0.001		0.001		<0.001			<0.001
Average	0.001	0.001	0.001	0.001	0.001	0.003	0.004	0.009	<0.001
Min	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.01	<0.001
Max	0.003	0.001	0.001	0.002	0.003	0.007	0.011	0.031	<0.001

Sample Description	15SL-1	15SL-2	15SL-3	15SH-1	15SH-3b	15SH-3e	15SH-3f	15SH-3	Reference Stream
Sample Date									
June 9, 2015									
June 16, 2015									
June 23, 2015	0.016	0.028			0.005			0.025	<0.001
June 30, 2015									
July 8, 2015			0.001			0.001	0.001	0.001	<0.001
July 14, 2015									
July 20, 2015	<0.01	<0.01	<0.01			<0.001	<0.01	<0.01	<0.001
July 28, 2015									
August 5, 2015		0.0005	0.0005				0.0004	0.0005	
August 12, 2015									
August 18, 2015	<0.001	<0.001	<0.001				<0.001	<0.001	<0.001
August 25, 2015									
September 8, 2015							<0.001		
Average	0.007	0.009	0.002		0.005	0.001	0.001	0.006	<0.001
Min	<0.001	<0.001	<0.001		0.005	<0.001	<0.001	<0.001	<0.001
Max	0.016	0.028	0.001		0.005	0.001	0.001	0.025	<0.001

Centre for Alternative Wastewater Treatment

Vision

The Centre for Alternative Wastewater Treatment (CAWT) at the School of Environmental and Natural Resource Sciences, Frost Campus, Fleming College is an internationally recognized research institute committed to excellence in research and education.

The CAWT conducts research in the areas of water and wastewater treatment science and communicates results in high quality publications. The Centre continues to expand research capacity and productivity over time.

The Centre fosters collaborative research partnerships with universities, government agencies, non-governmental organizations, and the private sector; and engages in opportunities to enhance student learning through the integration of applied research activities in student curricula.

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