

2025 Year End Report: Port Carling Wastewater Treatment Plant (WWTP)



Environmental Compliance Approval: 4174-AG8T75

Engineering and Public Works Department

70 Pine Street, Bracebridge, Ontario P1L 1N3

Phone: 705-645-6764

Toll-Free: 1-800-281-3483

Fax: 705-645-7599

Email: publicworks@muskoka.on.ca

Website: www.muskoka.on.ca

Introduction

The Port Carling Wastewater Treatment Plant (WWTP), which services the community of Port Carling, is owned, and operated by the District Municipality of Muskoka. The plant is located at 140 Medora Street, Port Carling, and was commissioned in 2015. It currently services 400 customers.

The Plant operates under the MOE Certificate of Approval (Sewage) #4174-AG8T75 issued February 18, 2009, and MOE Certificate of Approval (Air) #0571-67WJB7 December 1, 2016. Under the terms of the Certificate of Approval, the plant is permitted to treat an average daily flow of 926 meters cubed per day, and a peak flow of 3800 meters cubed per day. Additionally, effluent limit criteria are as follows:

Table 1 Effluent Limit Criteria

Effluent Parameter	Concentration	Daily waste Loading Limits
CBOD	10 mg/L	9.26 kg/day
Total Suspended Solids	10 mg/L	9.26 kg/day
Total Phosphorous	0.30 mg/L	0.28 kg/day
Total Ammonia Nitrogen Summer (May 15 to September 30)	1.10 mg/L	1.02 kg/day
Total Ammonia Nitrogen Winter (October 01 to May 14)	5.40 mg/L	5.00 kg/day
E. coli	80 CFU/mL	N/A
pH	6.0-9.0 inclusive at all times	N/A

The facility process consists of grit removal and screening facilities, an activated sludge based secondary treatment process using membrane filters for solids separation, followed by disinfection with ultraviolet radiation. Chemical addition includes an alkalinity adjustment feed system, a sodium hypochlorite and citric acid system for membrane cleaning and a coagulant system using poly-aluminum chloride for phosphorous removal.

Treated effluent from the plant is discharged through a 300 millimeters effluent outfall line and is discharged to the Indian River.

Waste sludge from the plant process is digested aerobically at the plant and periodically hauled off site for disposal.

All pumping stations and treatment control systems use SCADA (Supervisor Control and Data Acquisition), in combination with Data Highway Plus, and programmable logic controllers.

General Information

A review of the District of Muskoka infrastructure needs is conducted annually by the Director of Water and Wastewater Services, Area Manager and Chief Operator, and

recommendations for maintenance, rehabilitation and renewal programs are considered.

Efforts to eliminate the discharge of untreated or partially treated wastewater to receiving waters are being accomplished by a long-term financial commitment to correct excessive infiltration into the wastewater collection system by means of sewer main rehabilitation / replacement, manhole rehabilitation and pumping station rehabilitation programs.

The treatment facility is capable of effective operation during emergencies, maintenance shutdowns, and power failures. This is achieved through such measures as preventive maintenance of duty / standby units, the duplication of major treatment components, the provision of standby power sources and extensive use of the SCADA systems. All pumping stations and treatment control systems use SCADA (Supervisor Control and Data Acquisition), in combination with Data Highway Plus, and programmable logic controllers.

All operators are qualified to operate the systems efficiently and effectively in order to achieve the highest level of treatment at all times. A commitment to provide Operator training and certification is being sustained.

Regulatory sampling is carried out to meet the requirements outlined in the ECA, and additional in-house operational sampling beyond these regulatory requirements is being performed on a routine basis. These efforts have resulted in an effective treatment process which ensures that effluent discharges consistently meet effluent objectives and are environmentally safe. All final effluent sample results for the MBR facilities met their effluent limits.

All data in this report is a compilation of test results received from SGS Canada and their accredited laboratory, Lakefield Research. All in-plant sampling, analysis and recording of results conforms, in order of precedence, to the following 3 standards: Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works", Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" and the American Water Works Association/Water Environment Federation (AWWA/WEF) publication "Standard Methods for the Examination of Water and Wastewater".

Executive Summary

Test results of the treated effluent for the parameters of suspended solids, ammonia, total phosphorous, and E. Coli are in compliance with the limits outlined in the ECA regarding monthly allowable concentrations and total effluent loading throughout the entire reporting period, with few exceptions.

In January 2025, the effluent pH exceeded the ECA limits due to abnormal influent loading on the plant. This event was reported to the Ministry and corrective actions were taken. A total of 32m³ of effluent outside of the pH range of 6.0-8.5 was discharged. This is further discussed in the "Plant Operational Upsets" section of this report.

Monthly concentration objectives and limits are consistently met throughout 2025. However, increased flows during early and prolonged melts caused the plant to exceed the maximum waste loading objectives on a few occasions. One of these melts occurred in early January. The other melt occurred mid-March and into April. This is further discussed in the "Effluent

Objective Analysis” section of this report.

Quantity of Flow Summary

The plant has a daily average flow design capacity of 926 meters cubed per day. The actual average daily flow for the reporting period was 600 meters cubed per day. The 3-year average was 637 meters cubed per day which represents 68.8% of the plant capacity. None of the individual system components exceeded the design flow rating.

In the month of March, most of Muskoka experienced mild temperatures on top of the heavier than normal snowfall received through the winter. The extensive snowpack created conditions for an extended melt period, which affected flows from March through April. Influent flows at the plant remained well below the peak rated capacity.

The monthly average influent flow in March was recorded as 1037.53m³/day, exceeding the average rated daily flow rate of 926m³/day.

The monthly average influent flow in April was recorded as 1183.86m³/day, also exceeding the average rated daily flow.

Plant Operational Upsets or Process Failures

There historically have been operational problems during the winter cold temperature low loading period with meeting the Nitrate effluent objective of less than 10.0 mg/L. For this reporting period, process control changes were made, resulting in the average Nitrate concentration objective being met for the entire year.

The only operational upset in 2025 occurred on January 29th. The STP received influent with extremely low pH. Operators were able to contain and treat the majority of the low-pH process water within one train of the plant; however, a total of 32.17m³ of effluent left the facility outside of the 6.0 to 8.5 acceptable range. The lowest in-house recorded value was 5.02. This event was reported to the Ministry under event number 1-GPXEI3. Corrective actions were taken immediately to compensate for the low pH; these actions were successful at saving enough of the biological process to allow operations to return to normal soon after this event.

Laboratory results taken during this pH exceedance contained TSS concentrations of 17 mg/L. This sample was a grab sample, and operations suspected it was caused by a fouled sample line that was inadequately flushed in an attempt to grab a representative sample of the event. Weekly samples are normally composite and taken from different pipework. This one result, taken on January 29th, coupled with the high flows during a seasonal melt at the beginning of the month contributed to an exceedance of the TSS waste loading objective. This is further discussed in the “Effluent Objective Analysis” section of this report.

Summary of Maintenance

There were no significant plant upgrades on major infrastructure in this reporting period.

All equipment information at this plant is entered into a computer database. From this information, a scheduled preventive maintenance program has been established. The maintenance program includes (and not limited to):

- Monthly testing (under load) of the standby generators.
- Annual calibration of flow metering devices.
- Annual cleaning of sewage pumping stations.
- Marine inspection of effluent outfall and diffuser completed in 2022. (5-year cycle)

Evaluation of the Need for Improvement Works

The treatment facility is operating at a plant capacity of 68.8% and is in compliance with specified effluent parameter criteria. In addition, there has been no significant treatment process upsets and plant bypasses. As a result, there is no need for improvements to the existing works.

Evaluation Summary of Proposed Work Requiring Approval under OWRA

Since the treatment facility is operating satisfactorily there is no anticipated work requiring an ECA amendment for this reporting period.

Interpretation of Analytical Results

All sample results for Raw Sewage and Final Effluent are reported in this section. Other tables in this report include Chemical Usage, Biosolids Quality, and Biosolids Quantity.

Raw Sewage

The information reported in the Raw Sewage sample results summary table consists of test results of analysis conducted on composite samples of the plant influent flow as required by the plant ECA. Samples are sent for analysis to Lakefield Research, as well as analysis conducted on site using Standard Methods or equivalent. Weekly analysis has been performed and reported as specified under the terms outline in the ECA.

Influent Analysis

Table 2 Influent Analysis

Influent Parameter	Minimum	4 Week Average Maximum	Annual Average	Average loading kg/day
BOD5 (mg/L)	15	223.25	105.23	60.90
Suspended Solids (mg/L)	18	231.5	104	57.75
Total Phosphorus (mg/L)	0.28	3.81	1.99	1.06
Ammonia (mg/L)	0.3	56.8	18.18	9.98

Effluent Analysis

The information reported in the Final Effluent sample results summary table 3 consists of test results of analysis conducted on final effluent composite samples. Bacteriological samples,

however, consisted of grab samples. Weekly analysis has been performed and reported as specified under the terms outlined in the ECA.

Effluent Loading Objective Analysis

CBOD₅

The maximum daily CBOD₅ waste loading objective was exceeded in 2025 during a heavier than normal melt on March 16th. Accredited lab results were commonly below the detectable limit. During January through April, our external lab used a less accurate means of measuring CBOD₅, yielding consistently <4mg/L (the Minimum Detectable Limit of this assay). The implications of this change were not noticed until the operating authority completed the 2024 annual report, noticing the accuracy of the analysis method was variable throughout 2024. The operating authority identified that the less accurate measuring method would mathematically cause loading objective exceedances even while the plant operated within its ECA parameters.

At a minimum detectable limit of 4 mg/L, flows greater than 1157.5m³/day would mathematically exceed the waste loading objective of 4.63 Kg/day. Moreover, flows greater than 2315 m³/day would mathematically exceed the waste loading limit of 9.26 kg/day. The external lab was asked to employ the higher resolution analytical method going forward. This would yield an MDL of <2 mg/L. Mathematically, a CBOD₅ concentration of 2mg/L would only exceed the loading objective at 2315m³/day, and it would only exceed the loading limit at 4630m³/day.

The operating authority and the MECP discussed these constraints through Notification #1-Q963ZU. All parties agree that the plant showed no indication that these higher flows included unsafe discharge parameters. For this reporting period, the laboratory results previous and following January through April of 2025 were extrapolated for the purposes of calculating the waste loading for CBOD₅. Therefore, the MDL result of <4mg/L received January through April 2025 were adjusted to <2mg/L for the purpose of these calculations. It should be reiterated that the concentration of CBOD₅ never exceeded the concentration objective throughout the 2025 reporting period, further validating this decision.

The table below outlines the day in which the effluent flows were so high that the calculated CBOD₅ objective was exceeded.

Table 3 CBOD₅ Exceedances

Date	Fin Eff	CBOD5	Loading
	m3	mg/L	kg/d
16-Mar	2611.78	<2 (MDL)	5.22

TSS

The maximum daily TSS waste loading objecting of 4.63kg/day was exceeded in 2025. In January a grab sample taken during an operational upset caused the monthly average to change from <2mg/L to 5.17mg/L; this was further detailed in the “Operational Upsets” section of this report.

In the month of March, the calculated TSS waste loading exceeded the objective of 4.63kg/day during an abnormally high influent flow period outlined in the “Quantity of Flow Summary” section of this report.

In April, one weekly sample consisted of 5mg/L of TSS, equal to the ECA's monthly average concentration objective. This brought the monthly average up to 2.6 mg/L, well within the ECA's objectives. Mathematically, due to increased flows to the plant, the waste loading objective was exceeded on two occasions.

The table below outlines the days in which the calculated TSS waste loading exceeded the objective.

Table 4 TSS exceedances

Date	Fin Eff	TSS	Loading
	m3	mg/L	kg/d
01-Jan	1085.33	5.17	5.60
16-Mar	2589.53	2.0	5.22
03-Apr	1887.68	2.6	4.91
04-Apr	1879.38	2.6	4.89

Nitrate

The maximum daily NO₃ waste loading objective of 9.26kg/day was exceeded in 2025 during the month of March. Operators attentively make process adjustments to better balance the nitrification-denitrification cycle of the plant. On March 16th, during a higher-than-normal flow period the calculated maximum nitrate loading was calculated to 9.37Kg/day. The average nitrate concentration was 4.28mg/L, well below the ECA objective of 10 mg/L. This high flow event is better described in the "Quantity of Flow Summary" section of this report.

Final Effluent Analysis Summary

All final effluent samples tested for Suspended Solids, Ammonia, E. Coli, and total phosphorous were below non-compliance limits outlined in the ECA.

Table 5 Final Effluent Analysis Summary

Parameter	Minimum	4 Week Average Maximum	Annual Average	Average Loading kg/day
COBD5 (mg/L)	2	2.64	2.65	1.63
Suspended Solids (mg/L)	2	2.09	2.08	1.22
Total Phosphorus (mg/L)	0.03	0.031	0.03	0.03
Ammonia (mg/L)	0.1	0.119	0.12	Winter: 0.07 Summer: 0.07
Nitrate (mg/L)	0.06	3.36	3.53	1.97
E. Coli (#/100 mL)	0	0	0	N/A
pH (in-house)	5.02	8.01 (max)	7.32	N/A

Average daily flow comparisons by day of week ensure ECA requirements for scheduled sampling are taken at a time, and in a location characteristic of the quality and quantity of the sewage stream over the time period being monitored. Average daily flow rates by day of the week compare the flow to the average daily flow for the entire year. This data is used to determine if a particular day of the week is best to ensure samples are taken to meet the requirements of scheduled monitoring sections of the ECA's. Sampling plans are reviewed and updated yearly based on the previous yearly flow data.

Acute Lethality to Rainbow Trout and *Daphnia magna*

Final effluent was sampled on 2025-08-06 and sent to Nautilus Environmental for lethality testing against rainbow trout and *Daphnia magna*. The results were 0% impairment and 0% lethality.

Final Effluent Sampling Summary

All samples were collected following the frequency and methods required by the facility approval. No changes to the sampling plan are being considered at this time.

Biosolids Generation

The quality and volume of biosolids hauled from the facility for disposal is outlined in the table provided. Biosolids from the plant were hauled to an approved site. Private contractors were used by the District of Muskoka to transfer all material for disposal during this reporting period and will continue to do so in the following reporting period. It is anticipated that there will not be a significant increase in the total volume of biosolids produced in the coming reporting period.

Summary of Complaints received throughout the reporting period.

There were no complaints received in the reporting period.

Port Carling Wastewater Collection Summary 2025

New or Replaced Sewer Mains

There were no new or replaced sewer mains in Port Carling in 2025.

New Sewer Services:

1 new customer connected to existing municipal services in 2025.

Sewer Lateral Blockages:

District had 0 lateral blockages on the municipal side in 2025.

Sewer Pump Stations:

N/A

Main Line Sewer Blockages:

There were no main line sewer blockages in 2025.

Sewer Force Mains:

N/A

Air Release Valves:

All 5 of the air release vacuum valves connected to the sewage force mains in our collection system had a maintenance inspection 2025.

Sewer Flushing and Video Inspections:

2834m of sewer main was flushed, 1696m of which had CCTV recordings in 2025.

Sewer Rehabilitation:

There was no MH rehab in Port Carling in 2025.

Locates:

Field staff addressed approximately 144 locates for Port Carling in 2025.

Table 6 Effluent Flow Summary

Month	Plant Total Monthly (m³)	Average Day Flow (m³/d)	Maximum Day Flow (m³/d)	Minimum Day Flow (m³/d)
January	17,175	554	1,084	378
February	10,760	384	567	306
March	32,769	1,057	2,612	349
April	36,224	1,207	1,877	864
May	22,821	736	942	561
June	20,419	681	925	519
July	18,084	583	710	462
August	16,140	521	647	404
September	12,500	417	507	340
October	10,881	351	437	269
November	10,303	343	454	282
December	10,983	354	544	272

Total Flow: 219,059m³
 Average Day: 600m³
 Maximum Day: 2,612m³
 Minimum Day: 269m³

Table 7 Influent Quarterly Analysis Summary – Weekly 24-Hour Composite Sample

Sample Date	Sample Identification Number	BOD5 mg/L	Total Kjeldahl Nitrogen mg/L	Nitrate Nitrogen mg/L	Total Phosphorus mg/L	Suspended Solids mg/L
Feb 10 2025	CA13360	61	14.7	0.17	1.31	42
May-20-2025	CA12728	61	11.8	<0.06	1.08	81
August-12-2025	CA13513	188	28.7	<0.06	3.11	152
Nov-11-2025	CA12384	121	25.4	<0.06	2.76	72
Yearly Average		107.8	20.2	0.1	2.1	86.8
Maximum		188.0	28.7	0.2	3.1	152.0
Minimum		61.0	11.8	0.1	1.1	42.0

Table 8 Chemical Usage Summary: Coagulant

Month	Average Dosage mg/L	Total kg (dry)
January	49.9	693.6
February	48.2	426.0
March	46.0	1,202.7
April	39.7	1,186.5
May	42.2	820.5
June	41.5	726.5
July	40.3	627.6
August	40.3	568.8
September	44.2	485.6
October	65.5	426.9
November	44.2	391.7
December	44.2	416.2
Average	45.5	664.4

Total Yearly Kilograms: 7,973kg
Note: Coagulant switched from SternPAC to Alum in August 2025

Table 9 Chemical Usage Summary: Sodium Hydroxide

Month	Average Dosage mg/L	Total kg (dry)
January	6.7	73.9
February	13.1	93.8
March	2.0	36.1
April	0.1	2.2
May	0.0	0.0
June	9.8	131.3
July	5.9	71.4
August	20.1	214.8
September	18.6	162.2
October	7.7	58.2
November	14.1	95.9
December	21.5	169.9
Average	10.0	92.5

Total Yearly Kilograms: 1,110kg

Note: significant reduction in hydroxide usage d/t process adjustments.

Table 10 Effluent Quarterly Analysis Summary – Weekly 24-Hour Composite Sample Part 1

Sample Date	Sample Identification Number	CBOD5 mg/L	pH	Total Phosphorus mg/L	Suspended Solids mg/L
Feb 10 2025	CA13360	<4	7.37	<0.03	<2
May-20-2025	CA12728	<2	7.89	<0.03	<2
August-12-2025	CA13513	<2	7.14	<0.03	<2
Nov-11-2025	CA12384	<2	7.15	<0.03	2
Yearly Average		2.5	7.39	0.03	2
Maximum		4	7.89	0.03	2
Minimum		2	7.14	0.03	2

Table 11 Effluent Quarterly Analysis Summary – Weekly 24-Hour Composite Sample Part 2

Sample Date	Sample Identification Number	Total Kjeldahl Nitrogen mg/L	Nitrate Nitrogen mg/L	Nitrite Nitrogen mg/L	Total Ammonia Nitrogen mg/L
Feb 10 2025	CA13360	0.6	7.33	<0.03	<0.1
May-20-2025	CA12728	<0.5	2.0	<0.03	<0.1
August-12-2025	CA13513	0.6	3.08	<0.03	<0.1
Nov-11-2025	CA12384	<0.5	4	0.03	<0.1
Yearly Average		0.55	4.1	0.03	<0.1
Maximum		0.6	7.3	0.03	<0.1
Minimum		0.5	2.0	<0.03	<0.1

Table 12 Effluent Loading and Concentration Summary: COD5

Month	Average mg/L	Average kg/day	Maximum Daily kg/day
January	4.00	2.00	4.34
February	4.00	1.34	1.89
March	4.00	4.06	10.19
April	4.00	4.64	7.31
May	2.00	1.40	1.80
June	2.00	1.28	1.78
July	2.00	1.05	1.40
August	2.00	0.89	1.05
September	2.00	0.71	0.84
October	2.00	0.72	0.11
November	2.00	0.70	1.07
December	2.00	0.76	1.35
Average Monthly	2.67	1.63	2.76
Effluent Objective	5.00		4.63
Non-Compliance	10.00		9.26

Table 13 Effluent Loading and Concentration Summary: Suspended Solids

Month	Average mg/L	Average kg/day	Maximum Daily kg/day
January	2.00	1.00	2.17
February	2.00	0.67	0.95
March	2.00	2.03	5.09
April	2.75	3.19	5.02
May	2.25	1.58	2.03
June	2.00	1.28	1.78
July	2.00	1.05	1.40
August	2.00	0.89	1.05
September	2.00	0.71	0.84
October	2.00	0.72	1.08
November	2.00	0.70	1.07
December	2.00	0.76	1.35
Average Monthly	2.08	1.22	1.99
Effluent Objective	5.00		4.63
Non-Compliance	10.00		9.26

Table 14 Effluent Loading and Concentration Summary: Total Ammonia Nitrogen Summer

Month	Average mg/L	Average kg/day	Maximum Daily kg/day
May	0.15	0.11	0.14
June	0.10	0.06	0.09
July	0.10	0.05	0.07
August	0.30	0.13	0.16
September	0.15	0.05	0.06
October	0.10	0.04	0.05
Average Monthly	0.15	0.07	0.10
Effluent Objective	0.80		0.74
Non-Compliance	1.10		1.02

Table 15 Effluent Loading and Concentration Summary: Total Ammonia Nitrogen Winter

Month	Average mg/L	Average kg/day	Maximum Daily kg/day
January	0.10	0.05	0.11
February	0.17	0.06	0.08
March	0.10	0.10	0.25
April	0.10	0.12	0.18
November	0.10	0.03	0.05
December	0.10	0.04	0.07
Average Monthly	0.11	0.07	0.12
Effluent Objective	4.00		3.70
Non-Compliance	5.40		5.00

Table 16 Effluent Loading and Concentration Summary: Fecal Coliform

Month	Geomean (#/100mL)	Maximum Daily (#/100mL)
January	0.00	0.00
February	0.00	0.00
March	0.00	0.00
April	0.00	0.00
May	0.00	0.00
June	0.50	0.44
July	0.00	0.00
August	0.00	0.00
September	0.00	0.00
October	0.00	0.00
November	0.00	0.00
December	0.00	0.00
Average Monthly	0.04	0.04
Effluent Objective	2.20	
Non-Compliance	80.0	

Table 17 Effluent Loading and Concentration Summary: Total Phosphorus

Month	Average mg/L	Average kg/day	Maximum Daily kg/day
January	0.03	0.01	0.03
February	0.03	0.01	0.01
March	0.03	0.03	0.08
April	0.04	0.04	0.06
May	0.03	0.02	0.03
June	0.03	0.19	0.27
July	0.03	0.02	0.02
August	0.03	0.01	0.02
September	0.03	0.01	0.01
October	0.03	0.01	0.02
November	0.03	0.01	0.02
December	0.04	0.01	0.02
Average Monthly	0.03	0.03	0.05
Effluent Objective	0.10		0.09
Non-Compliance	0.30		0.28

Table 18 Effluent Loading and Concentration Summary: pH

Month	Average	Minimum	Maximum
January	7.41	5.02	8.36
February	7.45	7.24	7.63
March	7.39	7.26	7.48
April	7.36	7.23	7.47
May	7.32	7.18	7.48
June	7.3	7.14	7.48
July	7.18	7.04	7.28
August	7.21	7.04	7.5
September	7.30	7.22	7.41
October	7.20	7.03	7.26
November	7.33	7.19	7.43
December	7.38	7.26	7.48
Average Monthly	7.32		

Table 19 Effluent Loading and Concentration Summary: Nitrate

Month	Average mg/L	Average kg/day	Maximum Daily kg/day
January	5.26	2.63	5.71
February	5.36	1.79	2.54
March	3.59	3.65	9.14
April	4.28	4.96	7.81
May	1.36	0.95	1.22
June	3.06	1.96	2.72
July	1.77	0.93	1.24
August	2.48	1.10	1.31
September	1.85	0.65	0.78
October	4.24	1.52	2.28
November	3.31	1.16	1.77
December	6.15	2.32	4.16
Average Monthly	3.56	1.97	3.39
Effluent Objective	10.0		9.26

Table 20 Liquid Sludge Production Summary

Month	Hauler	Liquid Volume m ³	Destination
January			
February			
March			
April			
May	ROHES	470	ROHES
June			
July	ROHES	500	ROHES
August			
September	ROHES	349	ROHES
October			
November			
December			

Yearly Total Volume: 1,319m³
 Yearly Average Volume: 120m³
 Maximum Volume: 500m³
 Minimum Volume: 0m³

Table 21 Sludge Quality Analysis

Parameter Sampled (mg/L)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Date	Feb 10/25	May 20/25	August 13/25	November 11/25
Sample ID	CA13361	CA12729	CA13514	CA12385
Nitrate	16	<3	<3	6
Mercury	0.002	0.007	0.011	0.08
Chromium	0.07	0.28	0.29	0.24
Cobalt	<0.01	0.03	0.03	0.02
Copper	1.4	5.3	8.4	9.7
Lead	<0.1	0.2	0.4	0.3
Molybdenum	<0.05	0.07	0.1	0.08
Nickel	0.05	0.2	0.18	0.18
Selenium	<0.1	<0.1	<0.1	<0.1
Arsenic	<0.1	<0.1	<0.1	<0.1
Zinc	2	7	12.0	10
Cadmium	<0.005	0.012	0.019	0.018
Ammonia+ Ammonium	1.3	2.2	15.8	3.1
Total Kjeldahl Nitrogen	240	694	971	597
Total Phosphorus	79	368	321	271
Total Solids	5100	18000	17100	13600
Volatile Solids				
Nitrite	<3	<3	<3	<3
Potassium	16	37	53	44

Certification of Reports

I certify that the information in this document and all attachments is correct, accurate, and complete to the best of my knowledge.

Michael Currie
Director, Water and Wastewater Services

Darren Ronson
Manager, Water and Wastewater Operations