

2025 Year End Report: Bracebridge Lagoon Lane WWTP



Environmental Compliance Approval: # 3237-BDGQDG

Engineering and Public Works Department

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Introduction

The Bracebridge Lagoon Lane Wastewater Treatment Plant (WWTP), which services the Town of Bracebridge, is owned and operated by the District Municipality of Muskoka. The plant is located at 1000 Lagoon Lane and was commissioned in 2011. It services a population of approximately 9,508 residents.

The treatment facility consists of 60 acres of facultative lagoons and a membrane bioreactor (MBR) treatment plant. The first two lagoons were constructed in 1959. They were 23 acres in size. By 1976, additional capacity was required to meet the needs of the town. At that time, an additional 37 acres of lagoon were constructed, bringing the total to 60 acres.

In 1983, an extended aeration treatment plant was commissioned to provide additional capacity for the growing population and in 2011, that plant was decommissioned, and a new membrane bioreactor (MBR) plant was constructed within the same 60 acres.

In February of 2022, the construction and commissioning of a new wastewater receiving facility, referred to as the 'Headworks', was completed. All sanitary wastewater from the Town's collection system is received at this facility, where it is screened via 3mm step screens. The material removed with the step screens is washed to remove many organics and compressed to remove excess water which is then discharged into the endless bag system. The mostly dried, bagged material is disposed of into an onsite refuse bin. The screened wastewater flows through the grit vortex separating heavier inorganic material to settle out, be collected and pumped as a slurry to the grith classifiers and hydro-cyclones. The mostly dried grits are discharged to the endless bag system and disposed of in the onsite refuse bin. The refuse bin is emptied, and material is hauled off site weekly by local solid waste contractor. The raw sewage with larger solids removed, is then pumped to the membrane bioreactor (MBR) plant for secondary treatment. Aluminum is used as a precipitant to aid in the removal of phosphorous and disinfection is by ultra-violet lights. The only other chemical added to the wastewater treatment process is soda ash, for alkalinity. The final effluent is discharged into the Muskoka River by way of a diffused outfall.

The MBR plant operates under the MECP Environmental Compliance Approval (ECA Sewage) # 3237-BDGQDG, issued July 2019. Under the terms of the ECA, the plant is permitted to treat an average daily flow of 8,000m³/day, with a peak flow rating of 18,000m³/day. Effluent limit criteria are as follows:

Table 1 Effluent Limit Criteria

Effluent Parameter	Concentration
CBOD	10 mg/L
Total Suspended Solids	10 mg/L
Total Phosphorous	0.4 mg/L
Total Ammonia Nitrogen Summer (May 15 to September 30)	5.0 mg/L
Total Ammonia Nitrogen Winter (October 01 to May 14)	10.0 mg/L
E. coli	80 counts/100 ml (Monthly geometric Mean Density)
pH	6.0 – 9.5 inclusive

MBRs rely upon membrane equipment for liquids/solids separation prior to discharge of the effluent. The membrane equipment installed at the Lagoon Lane WWTP is an immersed system, i.e. a system that is designed for installation within membrane tanks, which utilizes hollow fiber membranes.

Waste sludge from the MBR process is sent to one of the three primary facultative lagoons.

General Information

A review of the District of Muskoka's infrastructure needs is conducted annually by the Director of Water and Sewer 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 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

In all respects, test results of the treated effluent for the parameters of CBOD₅, suspended solids, ammonia, total phosphorous, and E. Coli are in compliance with the limits outlined in the Certificate of Approval regarding monthly allowable concentrations and total effluent loading throughout the entire year.

Overall, the plant treatment processes performed satisfactorily and are deemed to be adequate. On February 7, 2025, **MECP Notification #1-H4EIV1** was issued regarding a January 2025 Total Ammonia Nitrogen (TAN) final effluent limit exceedance. The exceedance was identified through routine effluent monitoring and reported to the Ministry in accordance with reporting requirements.

Quantity of Flow Summary

In 2025, the Bracebridge (Lagoon Lane) WWTP was operated to treat a combined annual average daily flow of 4397m³/d, equating to 54.96% of the plant rated capacity (8000m³/d). A peak day flow of 14,461m³ occurred in March 2025, equating to 80.34% of the peak design flow capacity (18000m³).

In 2025 a total volume of 39,934.4m³ of Rosewarne Landfill Leachate was hauled to Maintenance Hole S37 on Kirkhill Dr. In 2025, Septic Haulers reportedly dumped a total of 5,157m³ of hauled septage between Septage Cells 1 & 2. An estimated total volume of 14,706m³ of septage supernatant was reportedly transferred from the Septage Lagoons to the WWTP, with the highest maximum day rate of that septage supernatant transfer noted as being 85.5m³/day in May 2025 - within the 180m³/d annual average capacity specified by the ECA. None of the individual system components exceeded the design flow rating.

Plant Operational Upsets or Process Failures:

On February 7, 2025, **MECP Notification #1-H4EIVI** was issued regarding a January 2025 Total Ammonia Nitrogen (TAN) final effluent limit exceedance. The exceedance was identified through routine effluent monitoring and reported to the Ministry in accordance with reporting requirements.

On July 8, 2025, **MECP Notification #1-OQ8PN4** was submitted in advance of planned dredging activities in Facultative Cell 3, with work to be completed by Bishop Water. The notification was provided as a proactive measure to advise the Ministry of the upcoming maintenance activity and potential impacts during the dredging period.

On August 25, 2025, Bartells Environmental Services was onsite at the Bracebridge Septage Facility – Cell 2 to complete NASM cleaning of the cell. This activity was conducted under **MECP Notification #1-PG3E6V** and formed part of routine septage cell maintenance.

On August 28, 2025, final effluent monthly average in monitoring results indicated Total Phosphorus of 0.32 mg/L, which was slightly above the objective of 0.30 mg/L. This incident was reported as an objective exceedance as a monthly average.

On November 28 and 29, 2025, a loss of data trending occurred due to SCADA computer issues. The Ministry was notified under **MECP Notification #1-PUVEYP**. The issue affected data trending only and did not impact treatment performance or compliance monitoring during the period.

Summary of Maintenance

- Installed HACH DR1900 spectrophotometer for in-house testing (Jan 10, 2025).
- Reviewed fine screens with Pro Aqua / Huber Canada and received repair/replacement recommendations (May 2, 2025).
- Upgraded Chemical Room LED lighting (May 8, 2025).
- Installed SC4500 controller and DPS1 pH probe for final effluent monitoring (Jun 25, 2025).

- Removed and inspected two pumps; installed spare pump in Train 3 and took ZW1 offline (Jul 23, 2025).
- Dredged Facultative Cell 3 and transferred ~19,009 m³ sludge to Cell 2 (Jul 25, 2025).
- Completed fire panel inspection and repairs (Jul 28, 2025).
- Replaced faulty emergency lighting and overhauled/commissioned bioreactor blower MB301 (Aug 18, 2025).
- Repaired two safety shower/eyewash units (Aug 19, 2025).
- Removed 1,276 m³ sludge from Septage Lagoon Cell #2 for land application (Sep 16, 2025).
- Completed annual ozone system maintenance and inspection (Oct 1, 2025).
- Inspected and repaired Cell #2 septage lagoon liner (Oct 8, 2025).
- Transferred 323 m³ sludge from Septage Cell #1 to Cell #2 to increase freeboard; Cell #1 remains out of service (Dec 1–3, 2025).

Additional maintenance as follows:

- Monthly testing (under load) of the standby generators.
- Annual service of emergency standby generators.
- Annual maintenance of UV Systems.
- 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 54.96% and is in compliance with specified effluent parameter criteria.

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)	78	290	0	290
Suspended Solids (mg/L)	58	298.8	194	267
Total Phosphorus (mg/L)	1.34	5.56	3.91	5
TKN (mg/L)	11.6	45.3	35.4	48
pH	6.41	7.44	6.96	

Effluent Analysis

The information reported in the Final Effluent sample results summary tables 14-19 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 Objective Analysis

Total Ammonia Nitrogen objective exceedances (monthly average objective of 2.00 mg/L) occurred in January 2025, with a measured concentration of 10.2 mg/L, and again in February 2025, with a measured concentration of 2.48 mg/L. One effluent objective exceedance was later recorded on August 28, 2025, when final effluent Total Phosphorus monthly average measured 0.32 mg/L, which was above the monthly average objective of 0.30 mg/L. No other effluent objective exceedances were observed during the reporting period.

Final Effluent Analysis Summary

Except for one reported event, effluent limits were met throughout the reporting period. A final effluent monthly average limit exceedance of Total Ammonia Nitrogen (TAN) of 10.2 mg/L occurred in January 2025, exceeding the regulated limit of 10.0 mg/L. The exceedance was reported to the Ministry of the Environment, Conservation and Parks (MECP) under **Notification #1-H4EVI** on February 7, 2025. All remaining final effluent results for CBOD₅, suspended solids, ammonia, E. coli, and total phosphorus complied with the limits outlined in the ECA.

Table 3 Final Effluent Analysis Summary

Parameter	Minimum	4 Week Average Maximum	Annual Average	Average Loading kg/day
CBOD5 (mg/L)	2	2.25	2.02	3.01
Suspended Solids (mg/L)	2	3.5	2.21	3.01
Total Phosphorus (mg/L)	0.03	0.5	0.16	0.17
Ammonia (mg/L)	0.1	10.2	1.44	2.22
E. Coli (#/100 mL)	0	1	0.17	0.11
pH	6.76	7.65	7.29	N/A

Final Effluent Sampling Summary

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.

Biosolids Generation

The quality and volume of biosolids both generated and hauled from the facility for disposal is outlined in the table provided. Waste activated sludge is pumped from the Bracebridge WWTP to the Facultative Lagoon Cell #3. The lagoon provides storage and stabilization for the waste activated sludge.

For the reporting period, 19,009 m³ of stabilized biosolids in Facultative Lagoon Cell #3 were pumped to Facultative Cell #2. This work was performed by Bishop Water Technologies.

Co-Treatment Flow Summary

The treatment plant has the capability to co-treat additional waste through the Septage Receiving Facility, which is located on site at the Septage Lagoons. Septage and holding tank waste are hauled in by vacuum trucks, and dumped into the receiving cell, which is then blended into the plant influent flow. In addition, leachate from the district owned Rosewarne Landfill is transported to a site within the collection system, blended with wastewater within the system, and then received at the headworks of the MBR facility.

The plant ECA (Sewage) # 3237-BDGQDG, states that the average quantity of partially treated septage lagoon effluent shall not exceed an annual daily average of 180 m³. The highest monthly average for partially treated septage lagoon effluent was 85.5m³/day in May 2025 with no issue observed by this volume.

During the reporting period, a total of 14,706 m³ of septage supernatant was treated at the Lagoon Lane Septage Lagoon, while an additional 39,934.4 m³ of Rosewarne Landfill leachate was conveyed to the collection system for treatment. In addition, 117,395.36 m³ of untreated water from the Facultative Lagoons was transferred to the MBR facility for biological treatment and disinfection.

All septage and wastewater received at the Lagoon Lane facility underwent partial treatment, with supernatant from Septage Lagoon Cell #3 subsequently pumped to the MBR plant for further processing. Transfers from Septage Cell #3 are summarized in the following table:

Table 4 Septage Cell 3 Transfer Summary

Month	Minimum Daily Flow (m3)	Maximum Daily Flow (m3)	Total Monthly Flow (m3)
January	0.00	161.24	1,193.03
February	0.00	19.20	266.56
March	11.52	115.39	1,075.05
April	0.00	479.56	2,610.54
May	0.00	376.13	2,653.09
June	0.00	250.14	1,896.65
July	0.00	238.63	2,526.99
August	0.00	0.00	0.00
September	0.00	0.00	0.00
October	0.00	0.00	0.00
November	0.00	115.21	776.36
December	0.00	230.29	1,708.15

Summary of Complaints received throughout the reporting period.

There are no noted complaints for 2025.

Bracebridge Sewer System – 2025 Summary

New or Replaced Sewer Mains

Approximately 427 meters of new sewer main were installed in 2025.

New Sewer Services

A total of 39 new customers were connected to existing municipal sewer services in 2025.

Sewer Lateral Blockages

There were 3 sewer lateral blockages on the municipal side in 2025. The approximate cost was \$24,869.00.

Sewer Pump Stations

All minor sewer pump stations were cleaned by a third-party contractor in 2025.

Main Line Sewer Blockages

There were zero (0) main line sewer blockages or collapses in 2025.

Sewer Force Mains

- The Pine Street force main was flushed twice in 2025.
- One force main issue occurred on McDonald Street, which was repaired at a cost of approximately \$4,800.

Air Release / Vacuum Valves

All 15 air release vacuum valves connected to the sewage force mains within the collection system received maintenance inspections in 2025.

Sewer Flushing and Video Inspections

Approx 2,260m high maintenance sewer was flushed in 2025 as well as 7,970m of sewer main was flushed and videoed using CCTV.

Sewer Rehabilitation

There was no manhole rehabilitation completed in Bracebridge in 2025.

Locates

Field staff responded to approximately 1,392 locates in Bracebridge during 2025.

Table 5 Effluent Flow Summary

Month	Plant Total Monthly (m ³)	Average Day Flow (m ³ /d)	Maximum Day Flow (m ³ /d)	Minimum Day Flow (m ³ /d)
January	156,570	5,051	8,199	3,086
February	95,353	3,405	4,007	2,715
March	201,113	6,488	13,815	2,580
April	232,751	7,758	12,900	5,595
May	153,957	4,966	6,535	4,166
June	125,288	4,176	5,355	3,473
July	120,243	3,879	4,890	3,334
August	95,241	3,072	3,531	2,689
September	85,646	2,855	3,621	1,538
October	87,698	2,829	3,400	2,289
November	83,446	2,782	3,230	2,352
December	92,340	2,979	4,675	2,015

Total Flow: 1,529,646 m³
 Average Day: 4,191 m³
 Maximum Day: 13,815 m³
 Minimum Day: 1,538 m³

Table 6 Influent Quarterly Analysis Summary – Weekly 24-Hour Composite Sample Part 1

Sample Date	Sample Identification Number	BOD5 mg/L	Alkalinity (Total as CaCO3) mg/L	pH	Total Phosphorus mg/L	Suspended Solids mg/L
Feb 19/25	CA13637	188	171	7.10	4.08	206
May 14/25	CA13832	232	283	7.51	3.09	169
Aug 20/25	CA13942	353	267	6.82	4.76	245
Nov 12/25	CA13442	263	209	6.46	4.98	256
Yearly Average		259.0	232.5	6.97	4.23	219
Maximum		353.0	283	7.51	4.98	256
Minimum		188.0	171	6.46	3.09	169

Table 7 Influent 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 19/25	CA13637	35.8	<0.06	<0.03	32.7
May 14/25	CA13832	36.0	<0.06	<0.03	29.8
Aug 20/25	CA13942	43.4	<0.06	<0.03	39.3
Nov 12/25	CA13442	36.0	<0.06	<0.03	30.6
Yearly Average		37.8	<0.06	<0.03	33.1
Maximum		43.4	<0.06	<0.03	29.8
Minimum		35.8	<0.06	<0.03	39.3

Table 8 Chemical Usage Summary: Alum

Month	Average Dosage mg/L	Total Liters
January	32.1	8,069.0
February	30.9	4,829.2
March	32.8	10,637.7
April	31.9	11,945.9
May	32.9	8,116.5
June	33.1	6,741.4
July	31.7	6,141.9
August	39.2	6,276.0
September	37.4	5,296.9
October	40.3	5,903.5
November	37.2	5,120.8
December	42.9	6,500.4

Total Yearly Volume: 85,579 L

Table 9 Chemical Usage Summary: Soda Ash

Month	Average Dosage mg/L	Total kg (dry)
January	8.5	1,083.3
February	8.5	1,083.3
March	8.5	1,083.3
April	8.5	1,083.3
May	8.5	1,083.3
June	8.5	1,083.3
July	8.5	1,083.3
August	8.5	1,083.3
September	8.5	1,083.3
October	8.5	1,083.3
November	8.5	1,083.3
December	8.5	1,083.3

Total Yearly Kilograms: 13,000 kg

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 19/25	CA13637	<2	7.27	<0.03	<2
May 14/25	CA13832	2	7.42	0.03	2
Aug 20/25	CA13942	<2	7.33	0.24	<2
Nov 12/25	CA13442	<2	7.08	0.15	3
Yearly Average		2	7.28	0.14	2.5
Maximum		2	7.42	0.24	3.0
Minimum		<2	7.08	0.03	2.0

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 19/25	CA13637	0.8	2.9	0.16	0.1
May 14/25	CA13832	1.0	9.4	<0.03	0.4
Aug 20/25	CA13942	<0.5	11.1	<0.03	<0.1
Nov 12/25	CA13442	0.8	13.2	<0.03	<0.1
Yearly Average		0.8	9.1	0.06	0.18
Maximum		1.0	13.2	0.16	0.4
Minimum		0.5	2.9	0.03	0.1

Table 12 Effluent Loading and Concentration Summary: BOD5

Month	Average mg/L	Average kg/day	Maximum Daily kg/day
January	3.40	5.54	8.99
February	2.00	2.43	2.86
March	2.25	4.71	10.03
April	2.00	5.17	8.60
May	2.00	3.20	4.22
June	2.00	2.78	3.57
July	2.00	2.50	3.16
August	2.00	1.98	2.28
September	2.00	1.90	2.41
October	2.00	2.19	1.83
November	2.00	1.85	2.15
December	2.00	1.79	3.02
Average Monthly	2.14	3.01	4.43
Effluent Objective	5.00		
Non-Compliance	10.00		

Table 13 Effluent Loading and Concentration Summary: Suspended Solids

Month	Average mg/L	Average kg/day	Maximum Daily kg/day
January	2.20	3.58	5.82
February	2.00	2.43	2.86
March	2.00	4.19	8.91
April	2.00	5.17	8.60
May	3.25	5.21	6.85
June	2.00	2.78	3.57
July	2.40	3.00	3.79
August	2.00	1.98	2.28
September	2.00	1.90	2.41
October	2.00	2.19	1.83
November	2.00	1.85	2.15
December	2.00	1.79	3.02
Average Monthly	2.15	3.01	4.34
Effluent Objective	5.0		
Non-Compliance	10.0		

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

Month	Average mg/L	Average kg/day	Maximum Daily kg/day
May	0.60	0.96	1.26
June	0.23	0.31	0.40
July	0.78	0.98	1.23
August	0.10	0.10	0.11
September	0.10	0.10	0.12
October	0.10	0.11	0.09
Average Monthly	0.32	0.43	0.54
Effluent Objective	2.0		
Non-Compliance	5.0		

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

Month	Average mg/L	Average kg/day	Maximum Daily kg/day
January	10.20	16.62	26.98
February	2.48	3.01	3.54
March	1.50	3.14	6.68
April	1.38	3.57	5.93
November	0.13	0.12	0.13
December	0.32	0.29	0.48
Average Monthly	2.39	4.01	6.56
Effluent Objective	2.0		
Non-Compliance	10.0		

Table 16 Effluent Loading and Concentration Summary: Fecal Coliform

Month	Geomean (#/100mL)	Maximum Daily (#/100mL)
January	0.32	0.00
February	0.00	0.00
March	0.00	0.00
April	0.00	0.00
May	0.00	0.00
June	0.00	0.00
July	0.00	0.00
August	0.00	0.00
September	0.19	0.00
October	0.00	0.00
November	0.00	0.00
December	0.00	0.00
Average Monthly	0.04	0.00
Effluent Objective	<2	
Non-Compliance	80	

Table 17 Effluent Loading and Concentration Summary: Total Phosphorus

Month	Average mg/L	Average kg/day	Maximum Daily kg/day
January	0.03	0.05	0.08
February	0.03	0.04	0.05
March	0.04	0.07	0.16
April	0.03	0.08	0.13
May	0.03	0.05	0.06
June	0.10	0.14	0.18
July	0.29	0.37	0.46
August	0.32	0.32	0.37
September	0.28	0.26	0.33
October	0.25	0.28	0.23
November	0.23	0.21	0.24
December	0.26	0.23	0.39
Average Monthly	0.16	0.17	0.22
Effluent Objective	0.30	N/A	N/A
Non-Compliance	0.40	N/A	N/A

Table 18 Liquid Sludge Production Summary

Month			Volume m ³
January	Pumped	Facultative Cell 3	4085.35
February	Pumped	Facultative Cell 3	2714.87
March	Pumped	Facultative Cell 3	3848.04
April	Pumped	Facultative Cell 3	3890.64
May	Pumped	Facultative Cell 3	3831.98
June	Pumped	Facultative Cell 3	4798.31
July	Pumped	Facultative Cell 3	3857.14
August	Pumped	Facultative Cell 3	6622.54
September	Pumped	Facultative Cell 3	4674.04
October	Pumped	Facultative Cell 3	5401.20
November	Pumped	Facultative Cell 3	4204.75
December	Pumped	Facultative Cell 3	3865.17

Yearly Total Volume m³: 51,794 m³

Table 19 Sludge Quality Analysis

Parameter Sampled (mg/L)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Date	Feb 19/25	May 14/25	Aug 20/25	Nov 12/25
Nitrate	<3	<3	<3	<3
Mercury	0.001	0.003	0.001	0.001
Chromium	0.10	0.08	0.06	0.04
Cobalt	0.01	0.01	<0.01	<0.01
Copper	2.4	1.5	1.1	1.1
Lead	0.1	0.1	<0.1	<0.1
Molybdenum	<0.05	<0.05	<0.05	<0.05
Nickel	0.08	0.11	0.07	<0.04
Selenium	<0.1	<0.1	<0.1	<0.1
Arsenic	<0.1	<0.1	<0.1	<0.1
Zinc	2	2	<1	<1
Cadmium	0.006	<0.005	<0.005	<0.005
Ammonia+ Ammonium	6.8	9.0	2.0	1.4
Total Kjeldahl Nitrogen	453	484	185	254
Total Phosphorus	162	132	102	95
Total Solids	6860	7630	4520	3860
Volatile Solids	5600	6500	3380	3210
Nitrite	<3	<3	<3	<3
Potassium			32	30
Total Suspended Solids	6300	6070	4000	3500

Bracebridge 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 Curie
Director, Water and Wastewater Services

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