ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

March 31, 2026

Ministry of the Environment, Conservation and Parks
3rd floor, 101 17th Street East
Owen Sound, Ontario N4K 0A5

RE: 2025 Wiarton Wastewater Annual Sewage Performance Report (ECA #6045-ARDJS7) and Municipal Sewage Collection System Performance Report (CLI-ECA #094-W601) – Town of South Bruce Peninsula

Please see attached for the 2025 Annual Sewage and Collection System Performance Report prepared by the Ontario Clean Water Agency on behalf of the Town of South Bruce Peninsula for the:

- Wiarton Wastewater Treatment Plant
- Wiarton Wastewater Collection System

This report was completed in accordance with the requirements set out in ECA #6045-ARDJS7, issued November 23, 2017, *Condition 11(4)* and Municipal Sewage Collection System CLI-ECA #094-W601, issued April 2, 2025, *Schedule E(4.6)*. Your receipt of this report by or before March 31, satisfies the regulatory requirements:

- ECA #6045-ARDJS7 that "The Owner shall prepare performance reports on a calendar year basis and submit to the Water Supervisor by March 31 of the calendar year following the period being report upon."
- CLI-ECA #094-W601 that "The Owner shall prepare an annual performance report for the Authorized System that is submitted to the Director on or before March 31st of each year and covers the period from January 1st to December 31st of the preceding calendar year.

In addition, CLI-ECA #094-W601 requires that report shall be made available, on request and without charge, to members of the public who are served by the Authorized System; and made available, by June 1 of the same reporting year, to members of the public without charge by publishing the report on the Internet, if the Owner maintains a website on the Internet. We kindly ask that notification is provided once the report is posted on the Municipal website.

Lastly, the Ministry has indicated that the Municipal Collection System ECA Annual Reports can either be prepared as a separate report or as a subsection of the Annual Sewage Report for the Wastewater Treatment Facility, attached you will find one report that satisfies the reporting requirements of both Environmental Compliance Approvals.

Should you require further clarification on the information found within the Annual Sewage Performance Report, please feel free to contact me.

Sincerely,

Leo-Paul Frigault
Senior Operations Manager
OCWA, Georgian Highlands Region

2025 ANNUAL SEWAGE & COLLECTION SYSTEM PERFORMANCE REPORT

WIARTON WASTEWATER TREATMENT PLANT

For the period of
JANUARY 1, 2025 TO DECEMBER 31, 2025

Prepared for the Town of South Bruce Peninsula by the Ontario Clean Water Agency

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Town of SOUTH BRUCE PENINSULA

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Appendices

1. System Description

The Wiarton Wastewater Treatment System is owned by the Corporation of the Town of South Bruce Peninsula and is operated on behalf of the Owner by the Ontario Clean Water Agency (OCWA). The system is responsible for the collection and conveyance of sanitary wastewater, the treatment of sewage and the safe and compliant discharge of treated effluent to Colpoy's Bay. The Wiarton WWTP began operating in its present configuration in 2016 and has a rated capacity of 4,400 m^3/day. The facility includes a three (3)-cell Moving Bed Bioreactor System (MBBR), a three (3)-cell (6ha.) waste stabilization lagoon system that is aerated and operated in series configuration, a Dynasand Filtration System and a UV disinfection System.

The collection system serves the former Town of Wiarton. Most of the raw sewage, including waste from the Wiarton Water Filtration Plant sewage pump station is collected at Sewage Pump Station no. 1 (SPS no.1) located at the intersection of George and Taylor Street. SPS no.1 is equipped with two (2) 60 hp 1775 rpm sewage pumps located in a dry well each with a rated capacity of 103.0 L/s at a TDH of 29.0 m (one duty, one standby) and a combined rated capacity of 130 L/s at a TDH of 39.0 m. The dry well is equipped with a forcemain air relief and vacuum relief valve. The raw sewage is then pumped to Sewage Pump Station no.2 (SPS no.2) located at the intersection of Taylor and Elm Streets. Raw sewage from the system located south of Elm Street is also collected at SPS no.2. SPS no.2 is equipped with three (3) 90 hp sewage pumps located in a wet well each with a rated capacity of 116 L/s at a TDH of 30.5 m (one (1) duty, two (2) standby), and two pumps in parallel having a rated capacity of 164.81 L/sec at a TDH of 36.68m (two (2) duty, one (1) standby). From there, the raw sewage is pumped to a three (3)-cell MBBR System and then flows to a three (3)-cell waste stabilization lagoon system that provides effluent polishing. Coagulant is injected at the MBBR effluent to provide precipitation of phosphorous in the lagoons. The discharge from lagoon cell #3 is continuous.

The Septage Receiving Station has controlled access and a magnetic flow meter to record volumes of septage received. The Septage Receiving Station discharges to the MBBR.

Sodium Hypochlorite solution dosing is performed (before filtration and UV disinfection) for seasonal chlorination of lagoon effluent for control of algae growth between May and September of each year when required.

Disinfection using the UV disinfection system is only required from May 15 to September 15 but is currently being operated year round.

Discharge from the lagoon filter building is directed to Colpoy Bay through a 300 mm discharge pipe on Mary Street and Isaac Street (original). A 200mm backup effluent discharge pipe is located on Taylor Street. Both pipes intersect at the discharge pipe located at George and Tyson Streets.

An overview of the Wiarton Wastewater Treatment System can be found in Table 1 and a summary of the monitoring program can be found in Table 2.

Table 1. Wiarton Wastewater Treatment System Overview

Facility Name	Wiarton Wastewater Treatment Plant
Facility Type	MBBR 3-cell, Aerated Lagoon3-cell, Sand Filtration, UV disinfection with pumping stations (3)
Plant Classification	II WWT and II WWC
Works Number	110000819
Rated Capacity	4,400 m^3/day
Number of Households	1,100
Receiving Water	Colpoy's Bay (Georgian Bay)
Environmental Compliance Approval / Certificate of Approval	ECA 6045-ARDJS7 (Issue Date: November 23, 2017)
	CLI-ECA 094-W601, Issue 1 (Issue Date: April 2, 2025)
	8-1028-99-006 (Air)

Table 2. Monitoring Program for Wiarton WWTP

Source	Parameter	Frequency	Method
Influent	Flow (m^3)	Daily	Flow Meter
	BOD_5, TSS, TP, TKN	Bi-Weekly	External Analysis
Effluent	Flow (m^3)	Daily	Flow Meter
	$CBOD_5$, TSS, TKN, Total Ammonia Nitrogen (TAN), Total Phosphorus	Bi-Weekly	External Analysis
	E. Coli	Bi-Weekly	External Analysis
	pH, Temperature	Bi-Weekly	In-House & External Analysis
	Temperature	Bi-Weekly	In-House & External Analysis
	Un-ionized Ammonia (WSER)	Quarterly	External Analysis
Septage	Flow (m^3)	Daily	Flow Meter
	BOD5, Total Suspended Solids, Total Phosphorous, Total Kjeldahl Nitrogen, Total Ammonia Nitrogen (TAN), Chemical Oxygen Demand Organics: Acetone, Benzene, Ethylbenzene, Isopropyl alcohol, Methyl alcohol, Methylene Chloride, Methyl ethyl, ketone, Toluene, Xylene	Monthly	External Analysis
	Metals: Aluminum, Arsenic, Barium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Tin, Zinc	Quarterly	External Analysis
MBBR	DO, pH, Temperature, Ammonia[2a]	Daily	Online analyzers
	BOD, TSS, Alkalinity, Total Phosphorous[2a]	Bi-Weekly	External Analysis

[2a] *Not required by ECA 6045-ARDJS7*

2. Monitoring Data

ECA 6045-ARDJS7, Section 11.4 requires

(a). a summary and interpretation of all Influent and Imported Sewage monitoring data, including sewage characteristics, flow rates and a comparison to the values used in the design of the Works;

(b). a summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, loading and a comparison to the design objectives and compliance limits in this Approval, including an overview of the success and adequacy of the Works;

2.1 Sampling Frequency

Both raw sewage and effluent are sampled on a regular basis. The sampling types and frequencies are summarized in Tables 3, 4 and 5. The sampling frequencies either meet or exceed the requirements set out in ECA 6045-ARDJS7.

Table 3. Raw Sewage Monitoring – Sampling Frequencies as Required by Schedule D of ECA 6045-ARDJS7

Parameter	Sample Type	Minimum Frequency
BOD_5	Grab	Monthly
Total Suspended Solids	Grab	Monthly
Total Phosphorous	Grab	Monthly
Total Kjeldahl Nitrogen	Grab	Monthly

Table 4. Effluent Sampling Monitoring – Sampling Frequencies as Required by Schedule D of ECA 6045-ARDJS7

Parameters	Sample Type	Minimum Frequency
$CBOD_5$	8-hr Composite	Bi-weekly
Total Suspended Solids	8-hr Composite	Bi-weekly
Total Phosphorous	8-hr Composite	Bi-weekly
Total Ammonia Nitrogen (TAN)	8-hr Composite	Bi-weekly
E. Coli	Grab	Bi-weekly
pH	Grab	Bi-weekly
Temperature	Grab	Bi-weekly

Table 5. Imported Sewage Monitoring – Sampling Frequencies as Required by Schedule D of ECA 6045-ARDJS7

Parameters	Sample Type	Minimum Frequency
BOD_5	Grab	Monthly
Total Suspended Solids	Grab	Monthly
Total Phosphorous	Grab	Monthly
Total Kjeldahl Nitrogen	Grab	Monthly
Total Ammonia Nitrogen (TAN)	Grab	Monthly
Chemical Oxygen Demand	Grab	Monthly

Organics: Acetone, Benzene, Ethylbenzene, Isopropyl alcohol, Methyl alcohol, Methylene chloride, Methyl ethyl, ketone, Toluene, Xylene	Grab	Monthly
Metals: Aluminum, Arsenic, Barium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Tin, Zinc	Grab	Quarterly

2.2 Effluent Limits

The effluent limits that are to be met as per ECA 6045-ARDJS7 for the Wiarton Sewage Treatment Lagoon are found in Table 6.

Table 6. Effluent Limits as per Schedule C of ECA 6045-ARDJS7.

Effluent Parameter	Monthly Average Concentration (mg/L)[6a]	Monthly Average Waste Loading (kg/day)
$CBOD_5$	15	66
Total Suspended Solids	15	66
Total Phosphorous as P	0.3	1.32
Total Ammonia Nitrogen (May 1 to October 31)	3	13.2
Total Ammonia Nitrogen (November 1 to April 30)	6	26.4
pH	Maintained between 6.0 to 9.5, inclusive, at all times	
E. Coli	Not to exceed 200 cfu/100 mL geometric mean density from May 15 to September 15	

[6a] *Under ECA 6045-ARDJS7, "Monthly Average Effluent Concentration" means the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar month, weighted by the quantity of the Final Effluent discharged over the days deemed to be represented by each sample.*

2.3 Comparison of Data to Limits/Design Values

Analytical and monitoring data for the Wiarton Wastewater Treatment System is stored in OCWA's WISKI7 data management system. Annual and monthly averages for flows, $CBOD_5$, Suspended Solids, Total Phosphorous as P, Nitrogen-series and *E.coli* can be found in Appendix A. Comparisons of analytical data from effluent samples to the effluent limits show the following removal efficiencies:

Table 7. 2025 Effluent Annual Average Concentrations and Removal Efficiencies

Parameter	Annual Average Concentration	Annual Average Removal Efficiency
$CBOD_5$	3.48	n/a
Total Suspended Solids	7.79	93.5%
Total Phosphorous	0.11	95.5%

During the reporting period there was no reportable instance where the sewage lagoon system exceeded the effluent limits set out in the ECA. The following is a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Table 8.

Table 8. Comparison of Wiarton Wastewater Treatment System Monitoring Data to Effluent Limits, 2025

2025	$CBOD_5$[8a]				Total Suspended Solids[8a]				Total Phosphorous[8a]				Total Ammonia Nitrogen (TAN)[8a]				*E. Coli*	
	Monthly Average (mg/L)	**Within Limits** (15 mg/L)	**Monthly Average Loading** (kg/d)	**Within Limits** (66 kg/day)	**Monthly Average** (mg/L)	**Within Limits** (15 mg/L)	**Monthly Average Loading** (kg/d)	**Within Limits** (66 kg/day)	**Monthly Average** (mg/L)	**Within Limits** (0.3 mg/L)	**Monthly Average Loading** (kg/d)	**Within Limits** (1.32 kg/day)	**Monthly Average** (mg/L)	**Within Limits** (Nov 1 to Apr 1 - 6.0 mg/L & May 1 to Oct 31 – 3.0 mg/L)	**Monthly Average Loading** (kg/d)	**Within Limits** (May 1 to Oct 31 – 26.4 kg/day & Nov 1 to Apr 1 - 13.2 kg/day)	**Mean Geometric Density** (MPN/100 mL)	**Within Limits** (200 MPN/100 mL)
January	3.5	Yes	6.5	Yes	10.8	Yes	20.0	Yes	0.11	Yes	0.21	Yes	0.34	Yes	0.63	Yes	1.00	Yes
February	2.4	Yes	2.7	Yes	6.0	Yes	6.8	Yes	0.18	Yes	0.33	Yes	0.37	Yes	0.69	Yes	1.00	Yes
March	4.6	Yes	15.3	Yes	10.4	Yes	34.6	Yes	0.29	Yes	0.54	Yes	0.49	Yes	0.90	Yes	1.00	Yes
April	6.1	Yes	15.8	Yes	15.0	Yes	38.9	Yes	0.06	Yes	0.17	Yes	0.10	Yes	0.26	Yes	1.00	Yes
May	5.3	Yes	10.3	Yes	8.7	Yes	16.9	Yes	0.07	Yes	0.14	Yes	0.31	Yes	0.61	Yes	1.00	Yes
June	2.0	Yes	2.1	Yes	3.3	Yes	3.5	Yes	0.14	Yes	0.15	Yes	0.14	Yes	0.15	Yes	1.00	Yes
July	3.2	Yes	2.4	Yes	5.5	Yes	4.1	Yes	0.15	Yes	0.11	Yes	0.38	Yes	0.29	Yes	1.00	Yes
August	2.0	Yes	1.4	Yes	4.6	Yes	3.1	Yes	0.12	Yes	0.08	Yes	0.14	Yes	0.09	Yes	1.00	Yes
September	2.0	Yes	1.0	Yes	2.7	Yes	1.3	Yes	0.06	Yes	0.03	Yes	0.12	Yes	0.06	Yes	1.00	Yes
October	2.0	Yes	1.3	Yes	2.0	Yes	1.3	Yes	0.06	Yes	0.04	Yes	0.10	Yes	0.06	Yes	1.00	Yes
November	2.0	Yes	3.0	Yes	5.4	Yes	8.0	Yes	0.05	Yes	0.07	Yes	0.10	Yes	0.15	Yes	1.26	Yes
December	2.9	Yes	4.1	Yes	10.3	Yes	14.5	Yes	0.04	Yes	0.06	Yes	0.20	Yes	0.29	Yes	1.00	Yes

[8a]Under ECA 6045-ARDJS7, "Monthly Average Effluent Concentration" means the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar month, weighted by the quantity of the Final Effluent discharged over the days deemed to be represented by each sample. Appendix A results are the annual and monthly averages without the Final Effluent discharge taken into account.

Another measure of effluent quality is pH, as per ECA 6045-ARDJS7 the effluent pH is to remain within the range of 6.0 and 9.5 inclusive, at all times. In 2025, the effluent was within the effluent limits and ranged from 7.15 to 8.96 with an annual average of 7.76. A monthly summary of pH can be found in Table 9.

Table 9. Monthly Summary of pH for the Wiarton Wastewater Treatment System, 2025

Month	Average pH	Minimum pH	Maximum pH
January	7.75	7.57	8.00
February	7.64	7.56	7.69
March	8.24	7.69	8.96
April	8.55	8.38	8.72
May	7.65	7.42	7.90
June	8.07	7.72	8.24
July	7.61	7.36	7.73
August	7.17	6.39	7.47
September	7.15	6.85	7.44
October	7.70	7.44	8.03
November	7.50	7.30	7.91
December	7.93	7.30	8.65

2.4 Effluent Objectives

The effluent objectives as per ECA 6045-ARDJS7 for the Wiarton Wastewater Treatment Lagoon are found in Table 10.

Table 10. Effluent Objectives as per Schedule B of ECA 6045-ARDJS7.

Effluent Parameter	Monthly Average Concentration (mg/L)[10a]	Monthly Average Waste Loading (kg/day)[10b]
$CBOD_5$	10	n/a
Total Suspended Solids	10	n/a
Total Phosphorous as P	0.15	n/a
Total Ammonia Nitrogen (May 1 to October 31)	3.0	n/a
Total Ammonia Nitrogen (November 1 to April 30)	6.0	n/a

[10a]Under ECA 6045-ARDJS7, "Monthly Average Effluent Concentration" means the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar month, weighted by the quantity of the Final Effluent discharged over the days deemed to be represented by each sample.

[10b]ECA 6045-ARDJS7 does not contain Waste Loading Objectives, only limits, which can be found in Table 6 of this report.

2.5 Comparison of Data to Effluent Objectives

ECA 6045-ARDJS7, Section 11.4 requires:
b) a summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, loading and a comparison to the design objectives and compliance limits in this Approval, including an overview of the success and adequacy of the Works;)
g) a summary of efforts made to achieve the design objectives;

During the reporting period, the $CBOD_5$ monthly averages remained below the effluent objective of 10 mg/L, 100% of the time, producing an annual average of 3.16 mg/L and an annual average loading of 5.47 kg/d.

During the reporting period, the Total Suspended Solids monthly averages remained below the effluent objective of 10 mg/L, 66.7% of the time, producing an annual average of 7.05 mg/L and an annual average loading of 12.74 kg/d.

During the reporting period, the Total Phosphorus monthly averages remained below the effluent objective of 0.15 mg/L, 83.3% of the time, producing an annual average of 0.11 mg/L and an annual average loading of 0.16 kg/day.

During the reporting period, the Total Ammonia Nitrogen monthly averages remained below the effluent objectives of 3 mg/L (May 1 to October 31) and 6 mg/L (November 1 to April 30), 100% of the time, producing an annual average of 0.23 mg/L and an average loading of 0.35 kg/day.

ECA 6045-ARDJS7, Section 6.1 requires: The Owner shall design and operate the Sewage Treatment Plant in accordance with the following objectives:

> *(b) Final Effluent is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film or sheen or foam or discolouration on the receiving waters;*

OCWA used their best efforts to ensure that the effluent was essentially free of floating and settleable solids and did not contain oil or any other substance in amounts sufficient to create a visible film or sheen or foam or discolouration on the receiving waters throughout the reporting period.

ECA 6045-ARDJS7, Section 6.2 requires: The Owner shall make an assessment of the issues and recommendations for pro-active actions if any is required under the following situations and include in the annual report to the Water Supervisor:

> *(a) when any of the design objectives is not achieved more than 50% of the time in a year;*

The design objectives in the ECA for CBOD5 and Total Ammonia Nitrogen were achieved 100% of the time. The design objectives for Total Suspended Solids were achieved 66.7% of the time and 83.3% of the time for Total Phosphorus during the reporting period. Refer to Table 11 for detailed laboratory analysis results in comparison to the effluent objectives.

Table 11. Comparison of Wiarton Wastewater Treatment System Monitoring Data to Effluent Objectives, 2025

2025	$CBOD_5$		Total Suspended Solids		Total Phosphorous		Total Ammonia Nitrogen (TAN)	
	Monthly Average[11a] (mg/L)	Within Objective (10 mg/L)	Monthly Average[11a] (mg/L)	Within Objective (10 mg/L)	Monthly Average[11a] (mg/L)	Within Objective (0.15 mg/L)	Monthly Average[11b] (mg/L)	Within Objective[11b]
January	3.5	Yes	10.8	No	0.11	Yes	0.34	Yes
February	2.4	Yes	6.0	Yes	0.18	No	0.37	Yes
March	4.6	Yes	10.4	No	0.29	No	0.49	Yes
April	6.1	Yes	15.0	No	0.06	Yes	0.10	Yes
May	5.3	Yes	8.7	Yes	0.07	Yes	0.31	Yes
June	2.0	Yes	3.3	Yes	0.14	Yes	0.14	Yes
July	3.2	Yes	5.5	Yes	0.15	Yes	0.38	Yes
August	2.0	Yes	4.6	Yes	0.12	Yes	0.14	Yes
September	2.0	Yes	2.7	Yes	0.06	Yes	0.12	Yes
October	2.0	Yes	2.0	Yes	0.06	Yes	0.10	Yes
November	2.0	Yes	5.4	Yes	0.05	Yes	0.10	Yes
December	2.9	Yes	10.3	No	0.04	Yes	0.20	Yes

[11a]Under ECA 6045-ARDJS7, "Monthly Average Effluent Concentration" means the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar month, weighted by the quantity of the Final Effluent discharged over the days deemed to be represented by each sample.

[11b]TAN Objectives are: November 1 to April 1 - 6.0 mg/L and May 1 to October 31 – 3.0 mg/L

2.6 Effluent Flow Monitoring

The total effluent flow in 2025 was 529,198 m^3 with an annual average daily flow of 1,450 m^3/day. Total effluent and annual average daily flows in 2025 were both higher in comparison to 2024 (437,611 m^3 and 1,196 m^3/day in 2024).

2.7 Influent Monitoring

ECA 6045-ARDJS7, Section 11.4. a) a summary and interpretation of all Influent and Imported Sewage monitoring data, including sewage characteristics, flow rates and a comparison to the values used in the design of the Works;

Table 12: Influent Characteristics, 2025

Parameter	Minimum	Average	Maximum
BOD_5 (mg/L)	55	135	285
TSS (mg/L)	53	143	306
TKN (mg/L)	2.3	23.4	45.7
Total Phosphorous	1.22	2.96	6.26

In 2025, approximately 1,739 m^3 of septage was received by the Wiarton Wastewater Treatment System. This is higher than 2024 (1,147 m^3) but lower than 2023 (1,831 m^3) volumes. ECA 6045-ARDJS7 requires monthly septage samples to be tested for BOD_5, Total Suspended Solids, Total Phosphorous, Total Kjeldahl Nitrogen, Total Ammonia Nitrogen (TAN), Chemical Oxygen Demand, Organics and Metals (Quarterly). Biochemical Oxygen Demand (BOD_5), Total Phosphorus and Chemical Oxygen Demand are fairly stable; Total Suspended Solids, Total Kjeldahl Nitrogen (TKN) and Total Ammonia seem to vary significantly between samples. Refer to Appendix E for Septage Laboratory Results.

Table 13: Septage Receiving Characteristics, 2025

Parameter	Minimum	Maximum
Biochemical Oxygen Demand (BOD_5) [mg/L]	286	4980
Total Suspended Solids [mg/L]	60	5800
Chemical Oxygen Demand [mg/L]	530	12900
Ammonia + Ammonium (N) [mg/L]	6.8	692
Total Kjeldahl Nitrogen [as N mg/L]	36	1150
Phosphorus (total) [mg/L]	5.5	150
Isopropyl Alcohol [µg/L]	<5000	<5000
Methyl alcohol [µg/L]	<5000	<5000
Acetone [µg/L]	36	<1200
Benzene [µg/L]	<0.50	<20
Ethylbenzene [µg/L]	<0.50	<20
Methylene Chloride [ug/L]	<0.50	<20
Methyl ethyl ketone [µg/L]	39	<800
Toluene [µg/L]	13.6	169

Parameter	Minimum	Maximum
Xylene (total) [µg/L]	<0.50	<20
o-xylene [µg/L]	<0.50	<20
m/p-xylene [µg/L]	<0.50	<20
Aluminum (mg/L)	0.16	0.78
Arsenic (mg/L)	0.001	0.003
Barium (mg/L)	0.05	0.06
Cadmium (mg/L)	0.00004	0.00096
Calcium (mg/L)	89.9	240
Chromium (mg/L)	0.002	0.004
Cobalt (mg/L)	0.00041	0.00182
Copper (mg/L)	0.06	0.21
Iron (mg/L)	2.12	5.34
Lead (mg/L)	0.003	0.007
Magnesium (mg/L)	23.4	72.0
Manganese (mg/L)	0.173	0.483
Mercury (mg/L)	<0.00001	0.0001
Nickel (mg/L)	0.005	0.013
Potassium (mg/L)	26.6	280
Selenium (mg/L)	0.0006	0.0047
Silver (mg/L)	<0.0005	0.00013
Zinc (mg/L)	0.15	0.56

2.8 Additional Monitoring Parameters

The following parameters do not have effluent limits or objectives but are monitored on a regular basis (see Section 2.1 for sampling frequency) as required by ECA 6045-ARDJS7.

2.8.1 Flows

ECA 6045-ARDJS7 Section 6.2 requires: The Owner shall make an assessment of the issues and recommendations for pro-active actions if any is required under the following situations and include in the annual report to the Water Supervisor:

(b). when the Annual Average Daily Influent Flow reaches 80% of the Rated Capacity.

The total influent flow in 2025 was 562,096 m^3 with an annual average daily flow of 1,540 m^3/day, which is 35.0% of the recommended rated capacity of 4,400 m^3/day. Total influent flows and the average daily flow in 2025 have increased in comparison to 2024 (512,984 m^3 and 1,402 m^3/day). The daily influent flow remained within the recommended rated capacity 96.7% (i.e. 353 out of 365 days) of the time during 2025.

A summary of the average and maximum daily flows (including the Septage Receiving) on a monthly basis can be found in Table 14. It should be noted that a maximum or average day flow for the month does not indicate that the rated capacity was exceeded for every day of the entire

month. Daily flows, which exceeded the recommended rated capacity, were typically due to high precipitation. For more detailed information regarding flows, refer to Appendix A.

Table 14. Average Daily Raw Sewage Flows by Month for 2025

2025	Maximum Daily Raw Sewage Flow (m^3/d)	Average Daily Raw Sewage Flow (m^3/d)	Annual Average (m^3/d)	Within Limits of Rated Capacity *(4,400 m^3/d)*
January	2,957	1,520	1,540	Yes
February	1,757	1,177		
March	9,837	3,965		
April	5,371	2,678		
May	2,043	1,381		
June	2,438	1,178		
July	1,534	1,076		
August	1,358	961		
September	1,084	866		
October	1,441	872		
November	1,611	1,096		
December	4,106	1,665		

2.8.2 TKN

A parameter, which is monitored on a regular basis but does not have effluent limits or objectives, is TKN. The annual average of effluent TKN has decreased from 2024.

Table 15. Monitoring Parameters for Wiarton Wastewater Treatment System, 2025

Parameters	Average	Minimum	Maximum

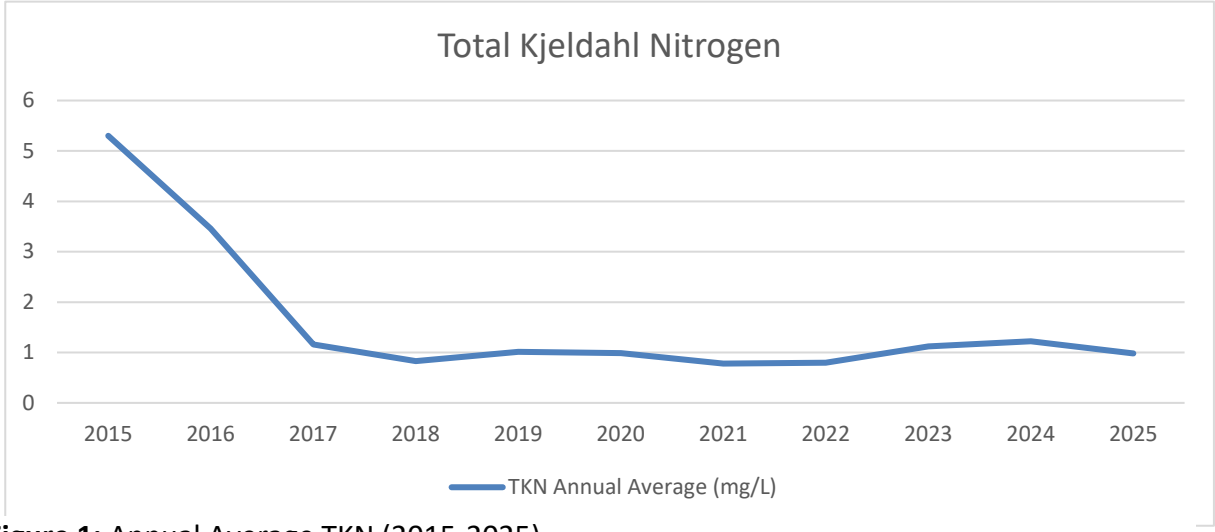

Figure 1: Annual Average TKN (2015-2025)

Total Kjeldahl Nitrogen (N mg/L)	0.98	0.60	2.10

2.9 Success & Adequacy of the System

Based upon a review of the analytical and monitoring data in comparison to the effluent limits it can be concluded that the Wiarton Wastewater Treatment System is performing adequately and successfully. Although the facility continues to meet all regulatory effluent limits, including compliance limits for Total Phosphorus (TP) and Total Suspended Solids (TSS), the system is not consistently meeting its internal process performance objectives for these parameters. This indicates that the treatment train is operating near the upper range of its treatment capability under current loading and seasonal conditions. Despite the presence of downstream sand filtration, the system showed variable phosphorus removal rates in February and March, indicating that the combination of lagoon treatment and chemical dosing may not reliably achieve the lower internal performance objectives.

TSS removal rates in January, March, April and December, suggesting that lagoon settling performance, solids retention characteristics, and hydraulic conditions (e.g., short-circuiting or higher velocities) may not be adequate to achieve the more stringent process objectives.

Elevated algae from lagoons can challenge the downstream sand filters. Lagoon systems, while offering polishing, can contribute seasonal solids loads, affecting both TSS and TP performance. Sand filtration improves effluent clarity; however, its performance is highly dependent on stable upstream solids quality, which is not consistently achieved during high-algae or high-hydraulic conditions. While the treatment system continues to meet all required effluent limits, the inability to consistently achieve the internal process objectives for phosphorus and TSS indicates that the current treatment may not provide sufficient robustness or process stability under present operating conditions. Additional optimization or operational adjustments, along with future system refurbishment such as replacement of aging sand media in the filtration system and lagoon sludge removal may be required to enhance reliability and improve overall phosphorus and solids removal performance..

3. Operating Challenges & Corrective Actions

ECA 6045-ARDJS7, Section 11.4. c) a summary of all operating issues encountered and corrective actions taken;

All required bypass reporting was completed and Operations staff were able to maintain good overall performance of the sewage lagoon system. See Section 10 for more information and Appendix D for Bypass Reports.

4. Major Maintenance & Emergency Repairs

ECA 6045-ARDJS7, Section 11.4. d) requires a summary of all normal and emergency repairs and maintenance activities carried out on any major structure, equipment, apparatus or mechanism forming part of the Works;

- Replaced contactor and fuses on compressor at Filter Building
- New motor installed on compressor at Filter Building
- Replaced automatic grease cartridge on mechanical screen
- Repaired leak on alum transfer pump

5. Effluent Quality Assurance/Control Measures

ECA 6045-ARDJS7, Section 11.4. e) requires a summary of any effluent quality assurance or control measures undertaken;

All laboratory raw sewage and effluent samples (Section 3.1) are analyzed by SGS Canada Inc., which is an ISO 17025 accredited laboratory. Calibrations and preventative maintenance are performed on facility equipment and monitoring equipment, see Section 6 for more details. In addition to sample analysis, preventative maintenance is scheduled for key equipment in the sewage lagoon system and pumping stations on at least a monthly basis. Maintenance activities were scheduled within the work management system.

OCWA as the Operating Authority (on behalf of the Owner) has made best efforts to control the effluent quality in a manner that it remains within the Effluent Objectives in the ECA. The measures taken to support these efforts include:

- Continuous monitoring equipment
- Regular plant inspections/checks
- Laboratory (3rd party) analysis of influent, effluent and septage receiving samples
- Data review
- Process optimization and adjustments (as required)
- Scheduled/preventative maintenance
- Repairs (as necessary)

6. Calibration & Maintenance

ECA 6045-ARDJS7, Section 11.4. f) requires a summary of the calibration and maintenance carried out on all Influent, Imported Sewage and Final Effluent monitoring equipment;

All in-house monitoring equipment was calibrated as per manufacturer's recommendations. Monitoring and metering equipment was also calibrated by a third party and is done so on an annual basis. In addition to sample analysis, preventative maintenance is scheduled for the equipment at the sewage lagoon system and pumping stations on at least a monthly basis. Maintenance activities were scheduled within the work management system (WMS).

On April 9, 2025, SCG Flowmetrix Technical Services performed an annual third party instrument verification of the influent, final effluent, Septage Receiving and sewage pumping station #1 and #2 flowmeters. All flow meters passed the annual verification with percent errors of less than 5%. All records for calibrations/ verifications can be found in Appendix B. On April 28, 2025, ClearTech performed an annual third party instrument verification of the DO probes, and pH analyzers. All instrumentation passed the annual verification. All records for calibrations/verifications can be found in Appendix B.

7. Sludge Generation and Handling

ECA 6045-ARDJS7, Section 11.4. h) requires a tabulation of the volume of sludge generated, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;

Since the facility is a sewage lagoon system, accumulated sludge is stored in the lagoon cells. No sludge was disposed of in 2025. PW Makar Coatings Inspection Ltd. was retained to complete a hydrographic acoustic sonar biosolids profiling survey, including volume modeling and distribution analysis, for Aerated Cells 1, 2, and 3 of the Wiarton Wastewater Lagoons. The intent of this survey was to determine the sediment volumes, identify sediment distribution patterns and loading areas within each Cell.

The sludge profiling volume computations were calculated from the sludge layer using the three transducer kHz frequency ranges of 200 kHz, 50 kHz, and 12 kHz transducers.

- Aerated Cell 1
  The total volume of sludge surveyed on October 30, 2025 in the Wiarton Wastewater Treatment Facility Aerated Cell 1 (South), is approximately 16629.64 m³ or 21750.75 yd³. Therefore, on this date the percentage of sludge buildup in the Wiarton Wastewater Treatment Facility Aerated Cell 1 (South) is approximately 37.12%..

- Aerated Cell 2
  The total volume of sludge surveyed on October 30, 2025 in the Wiarton Wastewater Treatment Facility Aerated Cell 2 (Middle), is approximately 15156.62 m³ or 19824.11 yd³. Therefore, on this date the percentage of sludge buildup in the Wiarton Wastewater Treatment Facility Aerated Cell 2 (Middle) is approximately 42.39%.

- Aerated Cell 3
  The total volume of sludge surveyed on October 30, 2025 in the Wiarton Wastewater Treatment Facility Aerated Cell 3 (North), is approximately 12120.29 m³ or 15852.74 yd³. Therefore, on this date the percentage of sludge buildup in the Wiarton Wastewater Treatment Facility Aerated Cell 3 (North) is approximately 33.02%.

8. Septage Receiving Works

In 2025, approximately 1,554 m^3 of septage was received by the Wiarton Wastewater Treatment System. The septage was received from various sources including:

- Owen Sound Septic Services
- Grey Bruce Septic Services
- Bluewater Sanitation

The total monthly volume of septage received can be found in Table 16.

Table 16. Total Volume of Septage Received in 2025

Month	Total Volume of Septage Received (m^3)
January	210.44
February	196.54
March	247.90
April	186.97
May	164.81
June	185.49
July	102.17
August	144.37
September	48.09
October	44.50
November	80.76
December	127.33

9. Community Complaints

ECA 6045-ARDJS7, Section 11.4. i) a summary of any complaints received and any steps taken to address the complaints;

During 2025, six (6) community complaints for the Wiarton Wastewater Treatment System were received. A detailed summary of the community complaints and the steps taken to address the complaint can be found in Appendix C, if applicable.

10. By-passes, Spills, Overflows and Abnormal Discharge Events

ECA 6045-ARDJS7, Section 11.4. j) requires a summary of all Bypasses, Overflows, spills within the meaning of Part X of EPA and abnormal discharge events, and other abnormal operating conditions;

Overall during the reporting period there was zero (0) spills or abnormal discharge events, zero (0) overflow events, and zero (0) reportable bypass events at the Wiarton Wastewater Treatment System. Refer to Table 17 and Table 18 for a summary and Appendix D for detailed bypass and overflow reports.

ECA 6045-ARDJS7 requires that Quarterly bypass/overflow reports be submitted to the Water Supervisor. All 2025 quarterly reports were submitted to the Water Supervisor by the deadlines specified in the ECA and have been included in Appendix D.

Table 17. Bypass Events

Date	Duration	Volume	Process Bypassed and Cause	Impact of Event	Mitigation
	HH:MM	(m^3)			
N/A	N/A	N/A	N/A	N/A	N/A

Table 18. Overflow Events

Date	Duration HH:MM	Volume and Receiver (m^3)	Disinfection Status and Reason	Impact of Event	Mitigation: Taken and Planned
N/A	N/A	N/A	N/A	N/A	N/A

11. Notice of Modifications

ECA 6045-ARDJS7, Section 11.4. k.) a copy of all Notice of Modifications to Sewage Works submitted to the Water Supervisor under paragraph 1.d. of Condition 10, with a summary report on status of implementation of all modification.

A Notice of Modification to Sewage Works was submitted during the reporting period for:

- Sewage Pump Station 2 Diesel Fuel Tank Replacement – the single wall welded fuel tank was replaced with a double bottom welded fuel tank of a similar capacity on July 3, 2025.

See Appendix F for the Notice of Modification to Sewage Works Forms that were submitted during the reporting period.

12. Municipal Sewage Collection System – Annual Performance Report

This report was prepared in accordance with the requirements of the Environmental Compliance Approval for a Municipal Sewage Collection Systems, Schedule E, Section 4.6.

Municipal Sewage Collection System ECA #	094-W601, Issue 1
Sewage Works	Wiarton Wastewater Collection System
Collection System Owner	The Corporation of the Town of South Bruce Peninsula
Reporting Period	January 1, 2025 to December 31, 2025

Is the Annual Report available to the public at no charge on a website on the Internet?

Yes

Note: As per Schedule E, Section 4.7.1 of CLI-ECA #094-W601, the annual performance report must be made available, on request and without charge, to members of the public who are served by the Authorized System; and 4.7.2 must be made available, by June 1st of the same reporting year, to members of the public without charge by publishing the report on the Internet, if the Owner maintains a website on the Internet.

Location where Annual Performance Report required under CLI-ECA #094-W601 Schedule E will be available for inspection. *(CLI-ECA #094-W601, Schedule E, Section 4.7.1 & 4.7.2):*

- Town of South Bruce Peninsula Municipal Office, 315 George St, Wiarton, ON N0H 2T0
- https://www.southbrucepeninsula.com/en/town-hall/water-and-sewer-reports.aspx

Pursuant to Schedule E, sections 4.6.3 to 4.6.9, this Annual Performance Report shall:

a) If applicable, includes a summary of all required monitoring data along with an interpretation of the data and any conclusion drawn from the data evaluation about the need for future modifications to the Authorized System or system operations.
b) If applicable, include a summary of any operating problems encountered and corrective actions taken.
c) Includes a summary of all calibration, maintenance, and repairs carried out on any major structure, Equipment, apparatus, mechanism, or thing forming part of the Municipal Sewage Collection System.
d) Include a summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints.
e) Include a summary of all Alterations to the Authorized System within the reporting period that are authorized by this Approval including a list of Alterations that pose a Significant Drinking Water Threat.
f) Include a summary of all Collection System Overflow(s) and Spill(s) of Sewage.
g) Includes a summary of efforts made to reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses.

12.1 Description of the Works

The Wiarton Wastewater Collection System is a separated system that serves the settlement area of the former Town of Wiarton.

The separate collection system consists of works for the collection and transmission of sewage, comprised of 24.5 kilometres of sanitary mains (0.12 km of bypass, 1.20 km of outfall, 0.43 km of outlet, 18.17 km of gravity main, and 4.10 km of pressurized main), two satellite pump stations (SPS No 1 and SPS Wiarton WTP) and two pump stations located within the property limits of the Wiarton Wastewater Treatment Plant (SPS No 2 and SPS Headworks building).

All raw sewage, including waste from the Wiarton Water Filtration Plant sewage pump station is collected at Sewage Pumping Station No. 1 (pumped to SPS No. 2) or collected at Sewage Pumping Station No. 2 (SPS No. 2). From there, the raw sewage is pumped to a three-cell MBBR system with eventual flow to a three-cell waste stabilization lagoon system.

The sewage pumping station in the Authorized system include:

- Sewage Pump Station No. 1 – located at 524 Taylor St. Consists of a wetwell, two pumps, a manual bar screen, a stand-by diesel generator and is connected to a 300mm diameter forcemain that discharges to Sewage Pump Station No. 2.
- Sewage Pumping Station Wiarton WTP Bayview Street – located at 897 Bayview St. Consists of a wetwell, 2 pumps, level control system, storage tank, stand-by diesel generator and is connected to a 100mm diameter forcemain discharging to the Wiarton Wastewater Collection System.

The identified sanitary sewer overflow points including pumping stations in the Authorized System are as follows:

- Sewage Pumping Station No. 1 at the end of Tyson Street
- Sewage Pumping Station No. 2 at the Taylor Street outlet at the bay
- Sewage Pumping Station Wiarton WTP

Other identified works are as identified:

- Septage Receiving Station – Consists of controlled access and magnetic flow meter and discharges to the MBBR.

The Wiarton Wastewater Collection System contains no combined sewage pumping stations, no combined sewage storage structures or combined storage tanks or no authorized combined sewer collection system overflow points.

On April 2, 2025, Municipal Sewage Collection System ECA Number 094-W601, Issue 1, was issued to the Town of South Bruce Peninsula for the Wiarton Wastewater Collection System incorporating all Pumping Stations, sewers, separate sewers and forcemains into one Consolidated Linear Infrastructure ECA. As such, all prior ECAs, issued by the Director for Sewage Works are considered revoked and replaced by ECA Number 094-W601.

12.2 Summary of Monitoring Data and Interpretation

No monitoring data was required within the municipal sewage collection system for the reporting period.

12.3 Summary of Operating Problems Encountered and Corrective Actions Taken

There were no operating problems encountered within the municipal sewage collection system for the reporting period.

12.4 Summary of Calibration, Maintenance and Repairs

All in-house monitoring equipment was calibrated as per manufacturer's recommendations. Monitoring and metering equipment was also calibrated by a third party and is done so on an annual basis. In addition to sample analysis, preventative maintenance is scheduled for all equipment at the sewage lagoon system and pumping stations on at least a monthly basis. Maintenance activities were scheduled within the work management system (WMS).

On April 9, 2025, SCG Flowmetrix Technical Services performed an annual third party instrument verification of the influent, final effluent, Septage Receiving and sewage pumping station #1 and #2 flowmeters. All flow meters passed the annual verification with percent errors of less than 5%. All records for calibrations/ verifications can be found in Appendix B. On April 28, 2025, ClearTech performed an annual third party instrument verification of the DO probes, and pH analyzers. All instrumentation passed the annual verification. All records for calibrations/verifications can be found in Appendix B.

Major maintenance activities for the authorized system can be found in section 12.6 of this report.

12.5 Community Complaints Received in Relation to the Sewage Works

During 2025, six (6) community complaints for the Wiarton Wastewater Treatment System were received related to sewer backups, sewer blockages and infrastructure hazards. A detailed summary of the community complaints and the steps taken to address the complaint can be found in Appendix C, if applicable.

12.6 Alterations to the Authorized System

For 2025, major maintenance activities that occurred within the Authorized System include:

- Repaired sewer lateral at 609 Gould St
- Replaced low level floats in PS1
- Replaced 10” stainless steel header at PS 2
- Installed new cleanout cap at 525 Frank/Taylor St.
- Diesel tank replaced at PS2
- Replaced generator batteries at PS2
- Repaired sanitary sewer lateral at Berford and Frank
- Replaced clean out cap at 192 George St
- Replaced sanitary sewer lateral at 517 Berford St
- Installed cleanout cap on sanitary line at 525 Frank St.

12.7 Summary of Collection System Overflow(s) and Spill(s) of Sewage

There were no collection system overflow or spill events that occurred during the reporting period.

12.8 Efforts Made to Reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses

The sewage pump stations are equipped with alarm monitoring for high flow events. Preventative maintenance procedures are in place to ensure the sewage pump stations are operating as designed and include:

- Wet well cleanouts
- Daily inspections of pump stations
- Annual cleanouts
- Pump inspections
- Alarm testing
- Generator inspection and maintenance

ONTARIO CLEAN WATER AGENCY
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Appendix A

Performance Assessment Report

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Performance Assessment Report Standard ECA

From 1/1/2025 to 12/31/2025

5620 WIARTON WASTEWATER TREATMENT LAGOON 110000819

	1 / 2025	2/ 2025	3/ 2025	4/ 2025	5/ 2025	6/ 2025	7/ 2025	8/ 2025	9/ 2025	10/ 2025	11/ 2025	12/ 2025	<--Total-->	<--Avg-->	<--Max-->	<-Criteria->
Flows																
Raw Flow: Total - Raw Sewage m³/d	46,900.00	32,760.00	122,901.90	80,351.97	42,795.81	35,162.00	33,357.17	29,800.37	25,972.09	27,020.50	32,873.76	51,608.33	561,503.90			0.00
Raw Flow: Avg - Raw Sewage m³/d	1,512.90	1,170.00	3,964.58	2,678.40	1,380.51	1,172.07	1,076.04	961.30	865.74	871.63	1,095.79	1,664.78		1,538.37		4,400.00
Raw Flow: Max - Raw Sewage m³/d	2,942.00	1,747.00	9,837.00	5,371.14	2,043.00	2,438.00	1,534.00	1,358.52	1,084.00	1,440.82	1,610.50	4,105.91			9,837.00	0.00
Raw Flow: Count - Raw Sewage m³/d	31.00	28.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00	365.00			0.00
Eff. Flow: Total - Effluent m³/d	57,453.00	31,751.00	103,562.00	77,939.00	60,162.00	31,547.00	23,184.00	20,990.00	14,614.00	19,840.00	44,575.00	43,581.00	529,198.00			0.00
Eff. Flow: Avg - Effluent m³/d	1,853.32	1,133.96	3,340.71	2,597.97	1,940.71	1,051.57	747.87	677.10	487.13	640.00	1,485.83	1,405.84		1,449.86		
Eff. Flow: Max - Effluent m³/d	2,770.00	1,770.00	4,924.00	4,329.00	5,670.00	1,846.00	1,474.00	5,192.00	1,802.00	1,896.00	7,583.00	1,775.00			7,583.00	0.00
Eff Flow: Count - Effluent m³/d	31.00	28.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00	365.00			0.00
Biochemical Oxygen Demand: BOD5																
Raw: Avg BOD5 - Raw Sewage mg/L	137.50	122.50	73.00	107.33	129.50	115.00	170.00	64.50	241.00	187.00	142.67	116.00		134.52	241.00	0.00
Raw: # of samples of BOD5 - Raw Sewage mg/L	2.00	2.00	2.00	3.00	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	27.00			0.00
Carbonaceous Biochemical Oxygen Demand: CBOD																
Eff: Avg cBOD5 - Final Effluent including Bypass mg/L	< 2.50	< 3.00	6.33	6.33	< 5.00	< 2.00	3.00	< 2.00	< 2.00	< 2.00	< 2.00	< 3.00		< 3.48	<	15.00
Eff: # of samples of cBOD5 - Final Effluent including Bypass mg/L	2.00	2.00	3.00	3.00	3.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	29.00			0.00
Loading: cBOD5 - Final Effluent including Bypass kg/d	< 4.633	< 3.402	21.158	16.454	< 9.704	< 2.103	2.244	< 1.354	< 0.974	< 1.280	< 2.972	< 4.218		< 5.05	< 21.16	66.000
Total Suspended Solids: TSS																
Raw: Avg TSS - Raw Sewage mg/L	133.00	106.00	78.50	112.00	125.50	133.50	176.00	69.00	250.00	192.00	177.67	144.00		142.96	250.00	0.00
Raw: # of samples of TSS - Raw Sewage mg/L	2.00	2.00	2.00	3.00	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	27.00			0.00
Eff: Avg TSS - Final Effluent including Bypass mg/L	7.50	6.00	15.67	13.67	8.33	3.50	5.67	6.50	4.50	< 2.00	5.00	10.50		7.79	15.67	15.00
Eff: # of samples of TSS - Final Effluent including Bypass mg/L	2.00	2.00	3.00	3.00	3.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	29.00			0.00
Loading: TSS - Final Effluent including Bypass kg/d	13.900	6.804	52.338	35.506	16.173	3.680	4.238	4.401	2.192	< 1.280	7.429	14.761		11.30	52.34	66.000
Total Phosphorus: TP																
Raw: Avg TP - Raw Sewage mg/L	3.04	2.23	1.29	1.73	2.57	3.39	3.45	1.99	5.13	4.11	3.79	2.76		2.96	5.13	0.00
Raw: # of samples of TP - Raw Sewage mg/L	2.00	2.00	2.00	3.00	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	27.00			0.00
Eff: Avg TP - Final Effluent including Bypass mg/L	0.10	0.24	0.18	0.05	0.08	0.14	0.15	0.12	0.09	0.08	0.05	0.04		0.11	0.24	0.30
Eff: # of samples of TP - Final Effluent including Bypass mg/L	2.00	2.00	3.00	3.00	3.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	29.00			0.00
Loading: TP - Final Effluent including Bypass kg/d	0.185	0.272	0.601	0.139	0.149	0.142	0.110	0.078	0.041	0.048	0.079	0.056		0.16	0.60	1.320
Nitrogen Series																

Raw: Avg TKN - Raw Sewage mg/L	21.60	19.20	10.55	13.43	15.10	25.10	28.30	18.55	40.85	33.55	31.43	21.30		23.37	40.85	0.00
Raw: # of samples of TKN - Raw Sewage mg/L	2.00	2.00	2.00	3.00	2.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	27.00			0.00
Eff: Avg TAN - Final Effluent including Bypass mg/L	< 0.15	0.50	< 0.27	< 0.10	< 0.37	< 0.10	0.40	< 0.85	< 0.15	< 0.10	< 0.10	< 0.20		< 0.27	< 0.85	6.00
Eff: # of samples of TAN - Final Effluent including Bypass mg/L	2.00	2.00	3.00	3.00	3.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	29.00			0.00
Loading: TAN - Final Effluent including Bypass kg/d	< 0.278	0.567	< 0.891	< 0.260	< 0.712	< 0.105	0.299	< 0.576	< 0.073	< 0.064	< 0.149	< 0.281		< 0.39	< 0.89	26.400
Eff: Avg NO3-N - Effluent mg/L	4.87	5.62	4.07	2.14	0.37	0.48	0.71	0.57	0.88	0.29	1.04	3.06		1.95	5.62	0.00
Eff: # of samples of NO3-N - Effluent mg/L	2.00	2.00	3.00	3.00	3.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	29.00			0.00
Eff: Avg NO2-N - Effluent mg/L	< 0.03	0.07	< 0.05	< 0.03	< 0.04	< 0.03	< 0.05	< 0.03	< 0.07	< 0.03	< 0.03	< 0.03		< 0.04	<	0.00
Eff: # of samples of NO2-N - Effluent mg/L	2.00	2.00	3.00	3.00	3.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	29.00			0.00
pH																
Eff: Min pH - Effluent ---	7.57	7.56	7.69	7.87	7.42	7.60	7.36	6.39	6.69	7.27	7.30	7.30				9.50
Eff: Max pH - Effluent ---	8.00	7.90	8.96	8.79	7.90	8.24	7.73	7.47	7.44	8.03	8.51	8.65			8.96	9.50
Disinfection																
Eff: GMD E. Coli MPN - Effluent MPN	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.26	1.00				
Eff: # of samples of E. Coli MPN - Effluent	2.00	2.00	3.00	3.00	3.00	2.00	3.00	2.00	2.00	2.00	3.00	2.00	29.00			0.00

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Appendix B
Calibration Reports

FLOWMETRIX
TECHNICAL SERVICES

Krohne
Verification Report

AS FOUND CERTIFICATION

FORWARD FLOW DIRECTION

PASS

CLIENT DETAIL

CUSTOMER	OCWA West Highlands - N&S Bruce
CONTACT	Leo Paul Frigault
	Sr. Operations Manager
	897 Bayview Street
	t: 519-534-1610
	c: 519-379-2225
	e: lfrigault@ocwa.com

VER. BY - FM *Art Pencilo*

Quality Management Standards Information - Reference equipment and instrumentation used to conduct this verification test is found in our AC-QMS document at the time this test was conducted.

EQUIPMENT DETAIL

[MUT] MANUFACTURER	Krohne
MODEL	IFC 010D
SERIAL NUMBER	A99 11651
FUSE	On board plug
PLANT ID	Wiarton SPS No1 (Taylor St)
METER ID	Station Flow
FIT ID	N/A
CLIENT TAG	OCWA# 165372
OTHER	ORG# 5620
GPS COORDINATES	N44 44.503 W081 08.018
VERIFICATION DATE	April 9th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	April 2026

PROGRAMMING PARAMETERS

DIAMETER (DN)	mm	200
F.S. FLOW - MAG	LPS	215.7
F.S. RANGE - O/P	LPS	200.0
CAL. k-FACTOR	GKL	4.50500
Zero Offset Flow	LPS	0

FORWARD TOTALIZER INFORMATION

AS FOUND	8895686	M3
AS LEFT	8895706	M3
DIFFERENCE	20	M3

TEST CRITERIA

AS FOUND CERTIFICATION TEST	Yes
FORWARD FLOW DIRECTION	Yes
ALLOWABLE [%] ERROR	5

COMPONENTS TESTED

CONVERTER DISPLAY	Yes
mA OUTPUT	Yes
TOTALIZER	Yes
ACCURACY BASED ON [% o.r.]	Yes

ERROR DOCUMENTED IN THIS REPORT; BASED ON % o.r.

FLOW TUBE SIMULATION

				0.0	**0.5**	**1.0**	**2.0**	**5.0**	**m/s**
				0.0	**5.0**	**10.0**	**20.0**	**50.0**	**% F.S. Flow**
				0.0	**5.4**	**10.8**	**21.6**	**53.9**	**% F.S. Range**
REF. FLOW RATE				**0.00**	**10.78**	**21.57**	**43.14**	**107.84**	LPS
MUT [Reading]				0.00	10.80	21.61	43.20	107.91	LPS
MUT [Difference]				0.00	0.02	0.04	0.06	0.07	LPS
MUT [% Error]				n/a	0.14	0.19	0.14	0.06	%
mA OUTPUT				**4.000**	**4.863**	**5.726**	**7.451**	**12.628**	mA
MUT [Reading]	min.	4.000	mA	4.138	5.014	5.858	7.584	12.729	mA
MUT [Difference]	max.	20.000	mA	0.138	0.151	0.132	0.133	0.101	mA
MUT [% Error]				3.45	3.11	2.31	1.78	0.80	%
TOTALIZER - REF. FLOW RATE								**107.845**	LPS
TOTALIZER [MUT]								8	M3
TEST TIME								74.18	SECONDS
CALC. TOTALIZER								8.000	M3
ERROR								0.00	%

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	KRO	1
PROCESS METER	DMM	22
ANALOG METER	AM	N/A
STOP WATCH	SW	YES

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	0.13	PASS
mA OUTPUT	2.29	PASS
TOTALIZER	0.00	PASS

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

FLOWMETRIX
TECHNICAL SERVICES

Krohne
Verification Report

AS FOUND CERTIFICATION

FORWARD FLOW DIRECTION

PASS

CLIENT DETAIL	
CUSTOMER	OCWA West Highlands - N&S Bruce
CONTACT	Leo Paul Frigault
	Sr. Operations Manager
	897 Bayview Street
	t: 519-534-1610
	c: 519-379-2225
	e: lfrigault@ocwa.com
VER. BY - FM	*Art Pencilo*

Quality Management Standards Information - Reference equipment and instrumentation used to conduct this verification test is found in our AC-QMS document at the time this test was conducted.

EQUIPMENT DETAIL		
[MUT] MANUFACTURER		Krohne
MODEL		IFC 010D
SERIAL NUMBER		A98 17181
FUSE		On board plug
PLANT ID		Wiarton SPS No2 (441048 Elm St)
METER ID		Station Flow
FIT ID		N/A
CLIENT TAG		OCWA# 165385
OTHER		ORG# 5620
GPS COORDINATES	N44 44.148	W81 08.008
VERIFICATION DATE		April 9th 2025
CAL. FREQUENCY		Annual
CAL. DUE DATE		April 2026

PROGRAMMING PARAMETERS		
DIAMETER (DN)	mm	250
F.S. FLOW - MAG	LPS	339.9
F.S. RANGE - O/P	LPS	250.0
CAL. k-FACTOR	GKL	4.54400
Zero Offset Flow	LPS	0.05

FORWARD TOTALIZER INFORMATION		
AS FOUND	3717950	M3
AS LEFT	3717978	M3
DIFFERENCE	28	M3

TEST CRITERIA	
AS FOUND CERTIFICATION TEST	Yes
FORWARD FLOW DIRECTION	Yes
ALLOWABLE [%] ERROR	5

COMPONENTS TESTED	
CONVERTER DISPLAY	Yes
mA OUTPUT	Yes
TOTALIZER	Yes
ACCURACY BASED ON [% o.r.]	Yes

ERROR DOCUMENTED IN THIS REPORT; BASED ON % o.r.

FLOW TUBE SIMULATION

				0.0	**0.5**	**1.0**	**2.0**	**5.0**	**m/s**
				0.0	**5.0**	**10.0**	**20.0**	**50.0**	**% F.S. Flow**
				0.0	**6.8**	**13.6**	**27.2**	**68.0**	**% F.S. Range**
REF. FLOW RATE				**0.05**	**17.05**	**34.04**	**68.04**	**170.02**	LPS
MUT [Reading]				0.06	17.03	34.02	67.95	169.90	LPS
MUT [Difference]				0.01	-0.02	-0.02	-0.09	-0.12	LPS
MUT [% Error]				20.00	-0.10	-0.07	-0.13	-0.07	%
mA OUTPUT				**4.000**	**5.091**	**6.179**	**8.354**	**14.881**	mA
MUT [Reading]	min.	4.000	mA	4.162	5.245	6.326	8.489	14.981	mA
MUT [Difference]	max.	20.000	mA	0.162	0.154	0.147	0.135	0.100	mA
MUT [% Error]				4.05	3.03	2.38	1.61	0.67	%
TOTALIZER - REF. FLOW RATE								**170.016**	LPS
TOTALIZER [MUT]								12	M3
TEST TIME								70.93	SECONDS
CALC. TOTALIZER								12.059	M3
ERROR								-0.49	%

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	KRO	1
PROCESS METER	DMM	22
ANALOG METER	AM	N/A
STOP WATCH	SW	YES

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	-0.09	PASS
mA OUTPUT	2.35	PASS
TOTALIZER	-0.49	PASS

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

Endress+Hauser
People for Process Automation

Verification report flowmeter

FLOWMETRIX
TECHNICAL SERVICES

Plant operator	OCWA-Grey Bruce
Device information	
Location Wiarton WWTP	**Device tag** FIT-104
Module name Promag L	**Nominal diameter** DN300 / 12"
Device name Promag 400	**Order code** 5L4C3H-2RW5/0
Serial number KC1E9919000	**Firmware version** 01.05.05
Calibration	
Calibration factor 1.3133	**Zero point** -4

Verification information	
Operating time 3255d05h03m07s	**Date/time** 09.04.25 02:48
Verification ID 10	
Verification results	
Overall result	☑ **Passed**
Detailed results	See next page

Overall result: Result of the complete device functionality test via Heartbeat Technology

Notes

Validity of the verification report is only given:
For devices with the Heartbeat Verification enabled software option
For verifications, carried out by the Endress+Hauser Service, or an authorized Endress+Hauser service provider

Date	Inspectors signature	Operator's signature

Endress+Hauser
People for Process Automation

Verification report flowmeter

Serial number: KC1E9919000
Verification detailed results Verification ID 10

Sensor	☑	**Passed**
Coil current shot time	☑	Passed
Coil hold voltage	☑	Passed
Coil current	☑	Passed
Sensor electronic module	☑	**Passed**
Reference voltage	☑	Passed
Linearity of electrode measuring circuit	☑	Passed
Offset of electrode measuring circuit	☑	Passed
I/O module	☑	**Passed**

Endress+Hauser
People for Process Automation

Verification report flowmeter

FLOWMETRIX
TECHNICAL SERVICES

Plant operator	OCWA-Grey Bruce
Device information	
Location Wiarton WWTP	**Device tag** FIT-105
Module name Promag L	**Nominal diameter** DN200 / 8"
Device name Promag 400	**Order code** 5L4C2H-3K91/0
Serial number KC1E9819000	**Firmware version** 01.05.05
Calibration	
Calibration factor 1.0880	**Zero point** 0

Verification information	
Operating time 3254d20h58m27s	**Date/time** 09.04.25 02:25
Verification ID 14	
Verification results	
Overall result	☑ **Passed**
Detailed results	See next page

Overall result: Result of the complete device functionality test via Heartbeat Technology

Notes

Validity of the verification report is only given:
For devices with the Heartbeat Verification enabled software option
For verifications, carried out by the Endress+Hauser Service, or an authorized Endress+Hauser service provider

Date	Inspectors signature	Operator's signature

Endress+Hauser
People for Process Automation

Verification report flowmeter

Serial number: KC1E9819000
Verification detailed results Verification ID 14

Sensor	☑	**Passed**
Coil current shot time	☑	Passed
Coil hold voltage	☑	Passed
Coil current	☑	Passed
Sensor electronic module	☑	**Passed**
Reference voltage	☑	Passed
Linearity of electrode measuring circuit	☑	Passed
Offset of electrode measuring circuit	☑	Passed
I/O module	☑	**Passed**

Endress+Hauser
People for Process Automation

Verification report flowmeter

FLOWMETRIX
TECHNICAL SERVICES

Plant operator	OCWA-Grey Bruce
Device information	
Location Wiarton WWTP	**Device tag** FIT-301
Module name Promag L	**Nominal diameter** DN100 / 4"
Device name Promag 400	**Order code** 5L4C1H-40D6/0
Serial number KC1EF119000	**Firmware version** 01.05.05
Calibration	
Calibration factor 1.3799	**Zero point** -4

Verification information	
Operating time 3255d14h21m42s	**Date/time** 09.04.25 03:06
Verification ID 10	
Verification results	
Overall result	☑ **Passed**
Detailed results	See next page

Overall result: Result of the complete device functionality test via Heartbeat Technology

Notes

Validity of the verification report is only given:
For devices with the Heartbeat Verification enabled software option
For verifications, carried out by the Endress+Hauser Service, or an authorized Endress+Hauser service provider

Date	Inspectors signature	Operator's signature

Endress+Hauser
People for Process Automation

Verification report flowmeter

Serial number: KC1EF119000
Verification detailed results Verification ID 10

Sensor	☑	**Passed**
Coil current shot time	☑	Passed
Coil hold voltage	☑	Passed
Coil current	☑	Passed
Sensor electronic module	☑	**Passed**
Reference voltage	☑	Passed
Linearity of electrode measuring circuit	☑	Passed
Offset of electrode measuring circuit	☑	Passed
I/O module	☑	**Passed**

FLOWMETRIX
TECHNICAL SERVICES

Rectangular Weir
W/End Contractions
Verification/Calibration Report

AS FOUND CERTIFICATION

PASS

CLIENT DETAIL

CUSTOMER	OCWA West Highlands - N&S Bruce
CONTACT	Leo Paul Frigault
	Sr. Operations Manager
	897 Bayview Street
	t: 519-534-1610
	c: 519-379-2225
	e: lfrigault@ocwa.com
VER. BY - FM	Art Pencilo

Quality Management Standards Information - Reference equipment and instrumentation used to conduct this verification test is found in our AC-QMS document at the time this test was conducted.

EQUIPMENT DETAIL

[MUT] MANUFACTURER	Milltronics
MODEL	MultiRanger
CONVERTER SERIAL NUMBER	05w023466
PLANT ID	Wiarton WWTP
METER ID	Final Effluent
FIT ID	1001
CLIENT TAG	OCWA# 209316
OTHER	ORG# 5620
GPS COORDINATES	N44 44.014 W081 07.965
VERIFICATION DATE	April 9th 2025
CAL. FREQUENCY	Annual
CAL. DUE DATE	April 2026

PROGRAMMING PARAMETERS

THROAT WIDTH, (exp 1.5)	m	1.010
EMPTY DISTANCE, TX to notch	m	0.5038
TRANSDUCER (TX), to sump flc	m	n/a
SUMP LEVEL, zero flow	m	n/a
MAX. HEAD	m	0.200
BLANKING DISTANCE	m	0.300
DEAD ZONE	m	0.304
MAX. FLOW	M3/H	574.1
F.S. RANGE - O/P	M3/H	574.1

Ultrasonic sensor installed to ensure full scale flow condition

TOTALIZER

AS FOUND	11082985.44	M3
AS LEFT	n/a	M3
DIFFERENCE	#VALUE!	M3

TEST CRITERIA

AS FOUND CERTIFICATION TEST	Yes
ALLOWABLE [%] ERROR	15

COMPONENTS TESTED

CONVERTER DISPLAY	yes
mA OUTPUT	yes
TOTALIZER	yes
ACCURACY BASED ON [% o.r.]	no

ERROR DOCUMENTED IN THIS REPORT; BASED ON % F.S.

AS FOUND TEST RESULTS

				0.0	12.9	36.1	65.6	100.0	% F.S. Range
				0.000	0.050	0.100	0.150	0.200	m
REF. FLOW RATE				**0.0**	**74.0**	**207.1**	**376.7**	**574.1**	M3/H
MUT [Reading]				0.0	68.5	199.0	372.0	574.9	M3/H
MUT [Difference]				0.0	-5.5	-8.1	-4.7	0.8	M3/H
MUT [% Error]				0.0	-1.0	-1.4	-0.8	0.1	%
mA OUTPUT				**4.000**	**6.062**	**9.773**	**14.499**	**20.000**	mA
MUT [Reading]	min.	4.000	mA	4.007	5.822	9.362	13.956	19.410	mA
MUT [Difference]	max.	20.000	mA	0.007	-0.240	-0.411	-0.543	-0.590	mA
MUT [% Error]				0.03	-1.20	-2.06	-2.72	-2.95	%
TOTALIZER - REF. FLOW RATE								**574.070**	M3/H
TOTALIZER [MUT]								18.96	M3
TEST TIME								118.39	SECONDS
CALC. TOTALIZER								18.879	M3
ERROR								0.43	%

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] LEVEL	Sim. BOARD	Yes
PROCESS METER	DMM	20
STOP WATCH	SW	Yes

RESULTS

TEST	AVG %FS	PASS FAIL
DISPLAY	-0.76	PASS
mA OUTPUT	-1.78	PASS
TOTALIZER	0.43	PASS

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

Verification/Calibration Report
CERTDOMETER

Unit #16 - 151 Brunel Road
Mississauga ON, L4Z 2H6
1-800-387-7503
www.cleartech.ca

Model #: DO meter
Serial #: 221682200095
Asset #: HQ2200
Customer: 702948 Ontario Clean Water Agency : Ontario Clean Water Agency
Location: 60 Mississauga

Method Used	Standard ID	Expiry
air/water saturation	air/water	10/1/2099

Sales Order #: SO153441
Test Date: 4/28/2025
Calib. Freq.: Annual
Calib. Due: 4/28/2026

Calibration Data

Description	Standard	Tolerance (+/-)	Reading	Variation	Variation (%)	Result
Air/water sat.	100	0.1	100	0.00	0.00%	PASS
slope(if applicable) %			99			

COMMENTS

Wiarton waste water plant

Calibration/Verification Procedure

Instrument verification conducted in accordance with the most current manufacturer's instructions applicable to the instrument model.

Eugen Luca
Eugen Luca C.Tech
Technical Service Representative
ClearTech Industries

Verification/Calibration Report
CERTLDOSC-2V

Model #: LDO Analyzer 2V
Serial #: 160630000026
Asset #: AIT204
Customer: 702948 Ontario Clean Water Agency : Ontario Clean Water Agency
Location: 60 Mississauga

Unit #16 - 151 Brunel Road
Mississauga ON, L4Z 2H6
1-800-387-7503
www.cleartech.ca

Method Used	Standard ID	Expiry
pH Bu□er (4)	AE5A1125	11/30/2025
pH Bu□er (7)	AE7A0126	1/31/2026
For DO/LDO.	air/water	10/1/2099
Conductivity 100 ms	BU1	6/1/2025
Conductivity 1413us	CT1	7/1/2026
ORP 200 mv	CW1	4/1/2026
Slope Measurements	Reference	1/1/2099
pH Bu□er (10)	ZG1A1125	11/1/2025

Sales Order #: SO153441
Test Date: 4/28/2025
Calib. Freq.: Annual
Calib. Due: 4/28/2026

Calibration Data

Description	Standard	Tolerance (+/-)	Reading	Variation	Variation (%)	Result
DO/LDO	100	0.1	100	0.00	0.00%	PASS
Slope			0.88			

COMMENTS

Wiarton waste water plant

Calibration/Verification Procedure

Instrument verification conducted in accordance with the most current manufacturer's instructions applicable to the instrument model.

Eugen Luca
Eugen Luca C.Tech
Technical Service Representative
ClearTech Industries

Verification/Calibration Report
CERTLDOSC-2V

Unit #16 - 151 Brunel Road
Mississauga ON, L4Z 2H6
1-800-387-7503
www.cleartech.ca

Model #: LDO Analyzer 2V
Serial #: 160630000021
Asset #: AIT203
Customer: 702948 Ontario Clean Water Agency : Ontario Clean Water Agency
Location: 60 Mississauga

Method Used	Standard ID	Expiry
pH Bu□er (4)	AE5A1125	11/30/2025
pH Bu□er (7)	AE7A0126	1/31/2026
For DO/LDO.	air/water	10/1/2099
Conductivity 100 ms	BU1	6/1/2025
Conductivity 1413us	CT1	7/1/2026
ORP 200 mv	CW1	4/1/2026
Slope Measurements	Reference	1/1/2099
pH Bu□er (10)	ZG1A1125	11/1/2025

Sales Order #: SO153441
Test Date: 4/28/2025
Calib. Freq.: Annual
Calib. Due: 4/28/2026

Calibration Data

Description	Standard	Tolerance (+/-)	Reading	Variation	Variation (%)	Result
DO/LDO	100	0.1	100	0.00	0.00%	PASS
Slope			0.80			

COMMENTS

Wiarton waste water plant

Calibration/Verification Procedure

Instrument verification conducted in accordance with the most current manufacturer's instructions applicable to the instrument model.

Eugen Luca
Eugen Luca C.Tech
Technical Service Representative
ClearTech Industries

Verification/Calibration Report
CERTLDOSC-2V

Unit #16 - 151 Brunel Road
Mississauga ON, L4Z 2H6
1-800-387-7503
www.cleartech.ca

Model #: LDO Analyzer 2V
Serial #: 160630000028
Asset #: AIT202
Customer: 702948 Ontario Clean Water Agency : Ontario Clean Water Agency
Location: 60 Mississauga

Method Used	Standard ID	Expiry
pH Bu□er (4)	AE5A1125	11/30/2025
pH Bu□er (7)	AE7A0126	1/31/2026
For DO/LDO.	air/water	10/1/2099
Conductivity 100 ms	BU1	6/1/2025
Conductivity 1413us	CT1	7/1/2026
ORP 200 mv	CW1	4/1/2026
Slope Measurements	Reference	1/1/2099
pH Bu□er (10)	ZG1A1125	11/1/2025

Sales Order #: SO153441
Test Date: 4/28/2025
Calib. Freq.: Annual
Calib. Due: 4/28/2026

Calibration Data

Description	Standard	Tolerance (+/-)	Reading	Variation	Variation (%)	Result
		+/-			%	
DO/LDO	100	0.1	100	0.00	0.00%	PASS
Slope			0.88			

COMMENTS

Wiarton waste water plant

Calibration/Verification Procedure

Instrument verification conducted in accordance with the most current manufacturer's instructions applicable to the instrument model.

Eugen Luca
Eugen Luca C.Tech
Technical Service Representative
ClearTech Industries

Verification/Calibration Report
CERTPHMeter

Unit #16 - 151 Brunel Road
Mississauga ON, L4Z 2H6
1-800-387-7503
www.cleartech.ca

Model #: pH Meter
Serial #: HA 05510247
Asset #: Hanna HI98108
Customer: 702948 Ontario Clean Water Agency : Ontario Clean Water Agency
Location: 60 Mississauga

Method Used	Standard ID	Expiry
pH Bu□er (4)	AE5A1125	11/30/2025
pH Bu□er (7)	AE7A0126	1/31/2026
Slope Measurements	Reference	1/1/2099
pH Bu□er (10)	ZG1A1125	11/1/2025

Sales Order #: SO153441
Test Date: 4/28/2025
Calib. Freq.: Annual
Calib. Due: 4/28/2026

Calibration Data

Description	Standard	Tolerance (+/-)	Reading	Variation	Variation (%)	Result
bu□er 4	4	0.1	3.96	-0.04	-1.00%	PASS
bu□er 7	7	0.1	7.08	0.08	1.14%	PASS
bu□er 10	10	0.1	10.06	0.06	0.60%	PASS
slope in mV/decade	57	54.43-60.34				
slope in percentage	100	92-102				

COMMENTS

Wiarton waste water plant

Calibration/Verification Procedure

Instrument verification conducted in accordance with the most current manufacturer's instructions applicable the the instrument model.Standards used are traceable to NIST, as per the Certificate of Analysis.

Eugen Luca
Eugen Luca C.Tech
Technical Service Representative
ClearTech Industries

Verification/Calibration Report
CERTPROBE-ADD PH

Unit #16 - 151 Brunel Road
Mississauga ON, L4Z 2H6
1-800-387-7503
www.cleartech.ca

Model #: PH Probe
Serial #: 221682200095
Asset #: HQ2200 - with DO and pH probes
Customer: 702948 Ontario Clean Water Agency : Ontario Clean Water Agency
Location: 60 Mississauga

Method Used	Standard ID	Expiry
pH Bu□er (4)	AE5A1125	11/30/2025
pH Bu□er (7)	AE7A0126	1/31/2026
Slope Measurements	Reference	1/1/2099
pH Bu□er (10)	ZG1A1125	11/1/2025

Sales Order #: SO153441
Test Date: 4/28/2025
Calib. Freq.: Annual
Calib. Due: 4/28/2026

Calibration Data

Description	Standard	Tolerance	Reading	Variation	Variation	Result
slope in mV/decade	57	54.43-60.34	58.19	1.19	2.09%	PASS
slope in percentage	100	92-102	98	-2.00	-2.00%	PASS
bu□er 7	7	0.1	7.1	0.10	1.43%	PASS
bu□er 10	10	0.1	10.05	0.05	0.50%	PASS
bu□er 4	4	0.1	4.05	0.05	1.25%	PASS

COMMENTS

Wiarton waste water plant

Calibration/Verification Procedure

verification conducted in accordance with the most current manufacturer's instructions applicable the instrument model. Standards used are traceable to NIST, as per the Certificate of Analysis.

Eugen Luca
Eugen Luca C.Tech
Technical Service Representative
ClearTech Industries

Verification/Calibration Report
CERTPROCESSPH

Model #: Online pH electrode
Serial #: 1603440861
Asset #: DPD2P1
Customer: 702948 Ontario Clean Water Agency : Ontario Clean Water Agency
Location: 60 Mississauga

Method Used	Standard ID	Expiry
pH Bu□er (4)	AE5A1125	11/30/2025

Unit #16 - 151 Brunel Road
Mississauga ON, L4Z 2H6
1-800-387-7503
www.cleartech.ca

Sales Order #: SO153441
Test Date: 4/28/2025
Calib. Freq.: Annual
Calib. Due: 4/28/2026

Calibration Data

Description	Standard	Tolerance (+/-)	Reading	Variation	Variation (%)	Result
bu□er 7	7	0.1	7.05	0.05	0.71%	PASS

COMMENTS

Wiarton waste water plant

Calibration/Verification Procedure

Calibration procedure: 2 point automatic recognition bu□ers Instrument verification conducted in accordance with the most current manufacturer's instructions applicable the the instrument model.Standards used are traceable to NIST, as per the Certificate of Analysis.

Eugen Luca
Eugen Luca C.Tech
Technical Service Representative
ClearTech Industries

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Appendix C

Community Complaints

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Georgian Highlands Logbook Report

Start: 2025-Jun-18 00:00:00
End: 2025-Jun-19 00:00:00
Run Time: 2026-Mar-02 11:18:32

WIARTON WWTL Logbook

Entry Time	Label	Attachments	Entry Text	Operator	Created Time
2025-06-18 00:00:00			07:00-15:30 Duty OIC: Daniel Caesar (dcaesar) 07:00-15:30 Duty OIC: Gary Campbell (gcampbell) 00:00-23:59 ORO: James Learn (jlearn) 07:00-07:20 OIT: Nikolay Shenurin (nshenurin)	Nikolay Shenurin	2025-06-18 07:23:33
2025-06-18 07:20:00	Community Complaint		OIT under the direction of the ORO/OIC On the evening 18:00 of June 17, a resident at 525 Frank Street reported a toilet backup affecting both the first and second floors of the home. Spoke with manager who advised to investigate. Upon inspection, a bit of water was found on the floor near the first-floor toilet and on the toilet rim. The residents had recently cleaned the second-floor bathroom. Earlier in the day, maintenance work had been performed on the property's sewer clean-out. Hydro vac was used to keep debris out of the sewer lateral and may have caused some toilet backup.	Nikolay Shenurin	2025-06-18 07:26:38
2025-06-18 09:10:00	Maintenance		Cleaned DO sensors of cells 1, 2 and 3 at the MBBR.	Gary Campbell	2025-06-18 09:54:03
2025-06-18 09:40:00	Facility Checks		Daily operations complete at PS 1, PS 2, Blower Building, MBBR and Filter Building. Review daily report and drain compressors.	Gary Campbell	2025-06-18 09:53:36
2025-06-18 09:45:00	Sampling		By weekly Sewage Samples collected.	Gary Campbell	2025-06-18 09:54:47

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Georgian Highlands Logbook Report

Start: 2025-Jun-28 00:00:00
End: 2025-Jun-29 00:00:00
Run Time: 2026-Mar-02 11:18:52

WIARTON WWTL Logbook

Entry Time	Label	Attachments	Entry Text	Operator	Created Time
2025-06-28 00:00:00			07:00-15:30 Duty OIC: Daniel Caesar (dcaesar) 07:00-11:00 Operator: Leo Paul Frigault (lfrigault) 00:00-23:59 ORO: James Learn (jlearn)	Leo Paul Frigault	2025-06-28 12:04:33
2025-06-28 09:00:00	Facility Checks		Daily operations complete at PS 1, PS 2, Blower Building, MBBR and Filter Building. Review daily report and drain compressors.	Daniel Caesar	2025-06-28 09:33:13
2025-06-28 11:05:00	Community Complaint		A resident from Issac Street reported a gurgling noise and clear water seeping from the toilet following after someone took a shower. The resident inquired about the possible cause of the issue. I advised the resident to contact a licensed plumber to investigate further, as the issue may be related to internal plumbing or problems within the property.	Leo Paul Frigault	2025-06-28 12:16:10

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Georgian Highlands Logbook Report

Start: 2025-Aug-09 00:00:00
End: 2025-Aug-10 00:00:00
Run Time: 2026-Mar-02 11:14:15

WIARTON WWTL Logbook

Entry Time	Label	Attachments	Entry Text	Operator	Created Time
2025-08-09 00:00:00			00:00-23:59 ORO: James Learn (jlearn) 07:00-11:00 Duty OIC: Gary Campbell (gcampbell)	Gary Campbell	2025-08-09 07:34:32
2025-08-09 09:30:00	Facility Checks		Daily operations complete at PS 1, PS 2, Blower Building, MBBR and Filter Building. Review daily report and drain compressors.	Gary Campbell	2025-08-09 11:27:03
2025-08-09 15:20:00	Call-in		Received call from resident at 839 Hunter St at 15:20 for basement shower drain backing up. Used camera and pushed from Sanitary Trunk Main on Mary back up Branch Main that runs parallel to Hunter Through 3 back yards, no blockage present. Attempted to camera from residents basement back to Branch Main but could not make the sub floor 90 degree turn with camera. Advised resident that blockage was between house and Branch Main.	Gary Campbell	2025-08-09 17:52:32

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Georgian Highlands Logbook Report

Start: 2025-Sep-12 00:00:00
End: 2025-Sep-13 00:00:00
Run Time: 2026-Mar-02 11:15:00

WIARTON WWTL Logbook

Entry Time	Label	Attachments	Entry Text	Operator	Created Time
2025-09-12 00:00:00			00:00-23:59 ORO: James Learn (jlearn) 07:00-15:30 Duty OIC: Daniel Caesar (dcaesar) 07:00-15:30 Duty OIC: Gary Campbell (gcampbell)	Gary Campbell	2025-09-12 07:38:13
2025-09-12 08:30:00	Maintenance		Weekly bar screen cleaning complete at PS 1.	Daniel Caesar	2025-09-12 10:03:13
2025-09-12 09:20:00	Facility Checks		Daily operations complete at PS1, PS2, Blower Building, MBBR, Filter Building. Filter Building remains offline.	Gary Campbell	2025-09-12 09:57:51
2025-09-12 11:20:00	Community Complaint		221 Division St. Sanitary Cleanout in front yard sitting proud presenting a tripping hazard. Cut down cleanout to flush with ground surface and installed new steel cap.	Gary Campbell	2025-09-12 11:34:01

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Georgian Highlands Logbook Report

Start: 2025-Sep-23 00:00:00
End: 2025-Sep-24 00:00:00
Run Time: 2026-Mar-02 11:15:33

WIARTON WWTL Logbook

Entry Time	Label	Attachments	Entry Text	Operator	Created Time
2025-09-23 00:00:00			00:00-23:59 ORO: James Learn (jlearn) 07:00-15:30 Duty OIC: Daniel Caesar (dcaesar) 07:00-15:30 Duty OIC: Gary Campbell (gcampbell)	Daniel Caesar	2025-09-23 07:38:19
2025-09-23 09:45:00	Facility Checks		Daily operations complete at PS 1, Ps 2, Blower Building, MBBR and Filter Building. Drain compressors. Weekly change over of duty pumps, duty blowers and flow charts.	Daniel Caesar	2025-09-23 10:07:45
2025-09-23 11:40:00	Maintenance, Sampling		by weekly sewage samples collected. DO, pH and temp taken from final effluent. Replaced automatic grease cartridge on the mechanical screen.	Daniel Caesar	2025-09-23 11:44:39
2025-09-23 14:30:00	Community Complaint		Attended 295 Frank St. for suspected sanitary service blockage. Inspected sanitary service with camera from Cleanout to center of Frank/Berford intersection.	Gary Campbell	2025-09-23 15:02:02

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Georgian Highlands Logbook Report

Start: 2025-Dec-01 00:00:00
End: 2025-Dec-02 00:00:00
Run Time: 2026-Mar-02 11:16:06

WIARTON WWTL Logbook

Entry Time	Label	Attachments	Entry Text	Operator	Created Time
2025-12-01 00:00:00			00:00-23:59 ORO: James Learn (jlearn) 07:00-15:30 Duty OIC: Gary Campbell (gcampbell) 07:00-15:30 Duty OIC: Daniel Caesar (dcaesar)	Daniel Caesar	2025-12-01 11:16:56
2025-12-01 10:30:00	Facility Checks, Inspection		Daily operations complete at PS 1, PS 2, Blower Building, MBBR and Filter Building. Drain compressors. Turned Alum transfer pump. Inspected 375 Gould St sanitary sewer lateral. Water was backing up through there sump pump pit. After pushing the camera there is standing water in the sewer lateral (27' to 37' from C/O in basement) and it is believed the weeping tile is tied into the lateral in the driveway. Sump pump is tied into the sewer lateral (temporarily). Homeowner is calling a plumber to address the issue.	Daniel Caesar	2025-12-01 11:21:20

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Appendix D

Effluent By-Pass Reports

From:	Karla Young
To:	"MECP-WATER-OSSAR@ontario.ca"
Cc:	"Graham, Robert G. (MECP)"; "Shannon, Rhonda (MECP)"; Leo-Paul Frigault; -GHRH-SPCM@ocwa.com (Mailing List); Caralynn McRae
Subject:	2025 Q1 - Bypass Overflow Event Summary - Wiarton WWTP (110000819) - Town of South Bruce Peninsula
Date:	May-06-25 3:58:00 PM

Good Afternoon,

Under ECA 6045-ARDJS7, a quarterly summary report shall be submitted for Bypass Event(s) and Overflows that occur at the Wiarton Wastewater Treatment Plant.

Bypass Events

The ECA requires the submission of a summary report of the Bypass Event(s) to the Water Supervisor on a quarterly basis, no later than each of the following dates for each calendar year: February 15, May 15, August 15, and November 15.

The summary reports shall contain, at a minimum:

- the date and time of the beginning of the Bypass;
- the location of the Bypass and the treatment process(es) bypassed;
- the reason(s) for the Bypass;
- the date and time of the end of the Bypass;
- the measured or estimated volume of Bypass;
- Samples collected;
- Assessment of the impact of the Event(s) on Final Effluent, plant operation and the receiver;
- Planned mitigation strategies, as appropriate.

Date	Duration	Volume	Process Bypassed and Reason	Impact of Event	Mitigation
	HH:MM	(m^3)			
n/a	n/a	n/a	n/a	n/a	n/a

Overflow Events

The ECA requires the submission of a summary report of the Overflow Event(s) to the Water Supervisor on a quarterly basis, no later than each of the following dates for each calendar year: February 15, May 15, August 15, and November 15.

The summary reports shall contain, at a minimum:

- the date and time of the beginning of the Overflow;
- the location of the Overflow and the receiver and disinfection status of the Overflow;
- the reason(s) for the Overflow;
- the date and time of the end of the Overflow;
- the measured or estimated volume of Overflow;
- the mitigation measures taken;
- Samples collected;
- Assessment of the impact of the Event(s) on plant operation and the receiver;
- Planned mitigation strategies, as appropriate.

Date	Duration	Volume and Receiver	Disinfection Status and Reason	Impact of Event	Mitigation: Taken and Planned
	HH:MM	(m^3)			
n/a	n/a	n/a	n/a	n/a	n/a

Thanks,

Karla

Karla Young
Process & Compliance Technician
Grey-Bruce/Bruce Hubs
Georgian Highlands Region
Ontario Clean Water Agency
kyoung@ocwa.com
(519) 374 - 5782

From:	Karla Young
To:	"MECP-WATER-OSSAR@ontario.ca"
Cc:	"Shannon, Rhonda (MECP)"; Leo-Paul Frigault; -GHRH-SPCM@ocwa.com (Mailing List); Caralynn McRae
Subject:	2025 Q2 - Bypass Overflow Event Summary - Wiarton WWTP (110000819) - Town of South Bruce Peninsula
Date:	August-11-25 1:57:00 PM

Good Afternoon,

Under ECA 6045-ARDJS7, a quarterly summary report shall be submitted for Bypass Event(s) and Overflows that occur at the Wiarton Wastewater Treatment Plant.

Bypass Events

The ECA requires the submission of a summary report of the Bypass Event(s) to the Water Supervisor on a quarterly basis, no later than each of the following dates for each calendar year: February 15, May 15, August 15, and November 15.

The summary reports shall contain, at a minimum:

- the date and time of the beginning of the Bypass;
- the location of the Bypass and the treatment process(es) bypassed;
- the reason(s) for the Bypass;
- the date and time of the end of the Bypass;
- the measured or estimated volume of Bypass;
- Samples collected;
- Assessment of the impact of the Event(s) on Final Effluent, plant operation and the receiver;
- Planned mitigation strategies, as appropriate.

Date	Duration	Volume	Process Bypassed and Reason	Impact of Event	Mitigation
	HH:MM	(m^3)			
n/a	n/a	n/a	n/a	n/a	n/a

Overflow Events

The ECA requires the submission of a summary report of the Overflow Event(s) to the Water Supervisor on a quarterly basis, no later than each of the following dates for each calendar year: February 15, May 15, August 15, and November 15.

The summary reports shall contain, at a minimum:

- the date and time of the beginning of the Overflow;
- the location of the Overflow and the receiver and disinfection status of the Overflow;
- the reason(s) for the Overflow;
- the date and time of the end of the Overflow;
- the measured or estimated volume of Overflow;
- the mitigation measures taken;
- Samples collected;
- Assessment of the impact of the Event(s) on plant operation and the receiver;
- Planned mitigation strategies, as appropriate.

Date	Duration	Volume and Receiver	Disinfection Status and Reason	Impact of Event	Mitigation: Taken and Planned
	HH:MM	(m^3)			
n/a	n/a	n/a	n/a	n/a	n/a

Thanks,

Karla

Karla Young
Process & Compliance Technician
Grey-Bruce/Bruce Hubs
Georgian Highlands Region
Ontario Clean Water Agency
kyoung@ocwa.com
(519) 374 - 5782

From:	Karla Young
To:	"MECP-WATER-OSSAR@ontario.ca"
Cc:	"Shannon, Rhonda (MECP)"; Leo-Paul Frigault; -GHRH-SPCM@ocwa.com (Mailing List); Caralynn McRae
Subject:	2025 Q3 - Bypass Overflow Event Summary - Wiarton WWTP (110000819) - Town of South Bruce Peninsula
Date:	November-04-25 2:40:00 PM

Good Afternoon,

Under ECA 6045-ARDJS7, a quarterly summary report shall be submitted for Bypass Event(s) and Overflows that occur at the Wiarton Wastewater Treatment Plant.

Bypass Events

The ECA requires the submission of a summary report of the Bypass Event(s) to the Water Supervisor on a quarterly basis, no later than each of the following dates for each calendar year: February 15, May 15, August 15, and November 15.

The summary reports shall contain, at a minimum:

- the date and time of the beginning of the Bypass;
- the location of the Bypass and the treatment process(es) bypassed;
- the reason(s) for the Bypass;
- the date and time of the end of the Bypass;
- the measured or estimated volume of Bypass;
- Samples collected;
- Assessment of the impact of the Event(s) on Final Effluent, plant operation and the receiver;
- Planned mitigation strategies, as appropriate.

Date	Duration HH:MM	Volume (m^3)	Process Bypassed and Reason	Impact of Event	Mitigation
n/a	n/a	n/a	n/a	n/a	n/a

Overflow Events

The ECA requires the submission of a summary report of the Overflow Event(s) to the Water Supervisor on a quarterly basis, no later than each of the following dates for each calendar year: February 15, May 15, August 15, and November 15.

The summary reports shall contain, at a minimum:

- the date and time of the beginning of the Overflow;
- the location of the Overflow and the receiver and disinfection status of the Overflow;
- the reason(s) for the Overflow;
- the date and time of the end of the Overflow;
- the measured or estimated volume of Overflow;
- the mitigation measures taken;
- Samples collected;
- Assessment of the impact of the Event(s) on plant operation and the receiver;
- Planned mitigation strategies, as appropriate.

Date	Duration	Volume and Receiver	Disinfection Status and Reason	Impact of Event	Mitigation: Taken and Planned
	HH:MM	(m^3)			
n/a	n/a	n/a	n/a	n/a	n/a

Thanks,

Karla

Karla Young
Process & Compliance Technician
Grey-Bruce/Bruce Hubs
Georgian Highlands Region
Ontario Clean Water Agency
kyoung@ocwa.com
(519) 374 - 5782

From:	Rebecca Burgess
To:	"MECP-WATER-OSSAR@ontario.ca"
Cc:	"Rhonda.Shannon@ontario.ca"; Leo-Paul Frigault; Caralynn McRae; -GHRH-SPCM@ocwa.com (Mailing List)
Subject:	2025 Q4 - Bypass Overflow Event Summary - Wiarton WWTP (110000819) - Town of South Bruce Peninsula
Date:	February-13-26 11:27:35 AM

Good Morning,

Under ECA 6045-ARDJS7, a quarterly summary report shall be submitted for Bypass Event(s) and Overflows that occur at the Wiarton Wastewater Treatment Plant.

Bypass Events

The ECA requires the submission of a summary report of the Bypass Event(s) to the Water Supervisor on a quarterly basis, no later than each of the following dates for each calendar year: February 15, May 15, August 15, and November 15.

The summary reports shall contain, at a minimum:

- the date and time of the beginning of the Bypass;
- the location of the Bypass and the treatment process(es) bypassed;
- the reason(s) for the Bypass;
- the date and time of the end of the Bypass;
- the measured or estimated volume of Bypass;
- Samples collected;
- Assessment of the impact of the Event(s) on Final Effluent, plant operation and the receiver;
- Planned mitigation strategies, as appropriate.

Date	Duration	Volume	Process Bypassed and Reason	Impact of Event	Mitigation
	HH:MM	(m^3)			
n/a	n/a	n/a	n/a	n/a	n/a

Overflow Events

The ECA requires the submission of a summary report of the Overflow Event(s) to the Water Supervisor on a quarterly basis, no later than each of the following dates for each calendar year: February 15, May 15, August 15, and November 15.

The summary reports shall contain, at a minimum:

- the date and time of the beginning of the Overflow;
- the location of the Overflow and the receiver and disinfection status of the Overflow;
- the reason(s) for the Overflow;
- the date and time of the end of the Overflow;
- the measured or estimated volume of Overflow;
- the mitigation measures taken;
- Samples collected;
- Assessment of the impact of the Event(s) on plant operation and the receiver;
- Planned mitigation strategies, as appropriate.

Date	Duration	Volume and Receiver	Disinfection Status and Reason	Impact of Event	Mitigation: Taken and Planned
	HH:MM	(m^3)			
n/a	n/a	n/a	n/a	n/a	n/a

This report is for the 2025 Q4 for Wiarton Waste Water Treatment Plant.

Thanks,

Rebecca Burgess
Process & Compliance Technician
Grey-Bruce
Georgian Highlands Region
Ontario Clean Water Agency
rburgess@ocwa.com
(519) 389-8671

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Appendix E

Septage Laboratory Results

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819
Project : PO#017018

20-January-2025

OCWA-Grey Bruce (Wiarton WPCP)
Attn : Karla Young

P.O. Box 760
Southampton, ON
N0H 2L0, Canada

Phone: 519-797-2561
Fax:pdf

Date Rec. : 15 January 2025
LR Report: **CA12400-JAN25**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sept Sept-Septage-Holding Tank
Sample Date & Time					14-Jan-25 10:50
Temperature Upon Receipt [°C]	---	---	---	---	4.0
Mercury (total) [ug/L]	17-Jan-25	15:19	20-Jan-25	08:30	< 0.01
Aluminum (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	0.198
Arsenic (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	0.0011
Barium (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	0.0542
Calcium (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	130
Cadmium (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	0.000044
Cobalt (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	0.000411
Chromium (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	0.00238
Copper (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	0.211
Iron (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	4.83
Potassium (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	40.2
Magnesium (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	36.8
Manganese (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	0.359
Sodium (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	313
Nickel (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	0.0055
Lead (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	0.00348
Selenium (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	0.00057
Tin (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	0.00140
Silver (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	0.00007
Zinc (total) [mg/L]	16-Jan-25	12:45	17-Jan-25	09:28	0.209

Hawley Anderson, Hon.B.Sc
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003993091

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819
Project : PO#017018

28-January-2025

OCWA-Grey Bruce (Wiarton WPCP)
Attn : Karla Young

P.O. Box 760
Southampton, ON
N0H 2L0, Canada

Phone: 519-797-2561
Fax:pdf

Date Rec. : 15 January 2025
LR Report: **CA12403-JAN25**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sept Sept-Septage-Holding Tank
Sample Date & Time					14-Jan-25 10:45
Temperature Upon Receipt [°C]	---	---	---	---	4.0
Biochemical Oxygen Demand (BOD5) [mg/L]	15-Jan-25	16:50	20-Jan-25	13:14	2040
Total Suspended Solids [mg/L]	16-Jan-25	09:58	17-Jan-25	10:25	400
Chemical Oxygen Demand [mg/L]	16-Jan-25	08:44	20-Jan-25	13:14	2500
Ammonia+Ammonium (N) [as N mg/L]	15-Jan-25	22:25	16-Jan-25	09:47	10.8
Total Kjeldahl Nitrogen [as N mg/L]	16-Jan-25	12:53	20-Jan-25	10:29	80
Phosphorus (total) [mg/L]	16-Jan-25	12:53	20-Jan-25	14:10	8.7
Isopropyl Alcohol [mg/L]	27-Jan-25	16:22	28-Jan-25	12:32	< 5
Methyl alcohol [mg/L]	27-Jan-25	16:22	28-Jan-25	12:32	< 5
Acetone [ug/L]	16-Jan-25	13:04	17-Jan-25	11:18	< 1200
Benzene [ug/L]	16-Jan-25	13:04	17-Jan-25	11:18	< 20
Ethylbenzene [ug/L]	16-Jan-25	13:04	17-Jan-25	11:18	< 20
Dichloromethane [ug/L]	16-Jan-25	13:04	17-Jan-25	11:18	< 20
Methyl ethyl ketone [ug/L]	16-Jan-25	13:04	17-Jan-25	11:18	< 800
Toluene [ug/L]	16-Jan-25	13:04	17-Jan-25	11:18	42.4
Xylene (total) [ug/L]	16-Jan-25	13:04	17-Jan-25	11:18	< 20
o-xylene [ug/L]	16-Jan-25	13:04	17-Jan-25	11:18	< 20
m/p-xylene [ug/L]	16-Jan-25	13:04	17-Jan-25	11:18	< 20

"Isopropyl Alcohol and Methyl alcohol were analyzed using an unaccredited method".

Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004000702

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819
Project : PO#017018

06-March-2025

OCWA-Grey Bruce (Wiarton WPCP)
Attn : Karla Young

P.O. Box 760
Southampton, ON
N0H 2L0, Canada

Phone: 519-797-2561
Fax:pdf

Date Rec. : 26 February 2025
LR Report: **CA13803-FEB25**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sept Sept-Septage-Holding Tank
Sample Date & Time					25-Feb-25 08:20
Temperature Upon Receipt [°C]	---	---	---	---	12.0
Biochemical Oxygen Demand (BOD5) [mg/L]	26-Feb-25	17:13	03-Mar-25	12:00	454
Total Suspended Solids [mg/L]	27-Feb-25	11:01	28-Feb-25	09:32	60
Chemical Oxygen Demand [mg/L]	27-Feb-25	08:43	03-Mar-25	12:00	1950
Ammonia+Ammonium (N) [as N mg/L]	26-Feb-25	18:42	27-Feb-25	13:12	6.8
Total Kjeldahl Nitrogen [as N mg/L]	27-Feb-25	07:57	28-Feb-25	15:03	47
Phosphorus (total) [mg/L]	27-Feb-25	07:57	28-Feb-25	13:41	6.0
Isopropyl Alcohol [mg/L]	04-Mar-25	15:47	05-Mar-25	17:42	< 5
Methyl alcohol [mg/L]	04-Mar-25	15:47	05-Mar-25	17:42	< 5
Acetone [ug/L]	28-Feb-25	12:54	03-Mar-25	10:52	36
Benzene [ug/L]	28-Feb-25	12:54	03-Mar-25	10:52	< 0.5
Ethylbenzene [ug/L]	28-Feb-25	12:54	03-Mar-25	10:52	< 0.5
Dichloromethane [ug/L]	28-Feb-25	12:54	03-Mar-25	10:52	< 0.5
Methyl ethyl ketone [ug/L]	28-Feb-25	12:54	03-Mar-25	10:52	39
Toluene [ug/L]	28-Feb-25	12:54	03-Mar-25	10:52	13.6
Xylene (total) [ug/L]	28-Feb-25	12:54	03-Mar-25	10:52	< 0.5
o-xylene [ug/L]	28-Feb-25	12:54	03-Mar-25	10:52	< 0.5
m/p-xylene [ug/L]	28-Feb-25	12:54	03-Mar-25	10:52	< 0.5

"Isopropyl Alcohol and Methyl alcohol were analyzed using an unaccredited method".

Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004036472

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819
Project : PO#017018

23-February-2024

OCWA-Grey Bruce (Wiarton WPCP)
Attn : Karla Young

P.O. Box 760
Southampton, ON
N0H 2L0, Canada

Phone: 519-797-2561
Fax:pdf

Date Rec. : 14 February 2024
LR Report: **CA13617-FEB24**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sept Sept-Septage-Holding Tank
Sample Date & Time					13-Feb-24 09:52
Temperature Upon Receipt [°C]	---	---	---	---	15.0
Biochemical Oxygen Demand (BOD5) [mg/L]	15-Feb-24	17:27	20-Feb-24	15:22	1120
Total Suspended Solids [mg/L]	15-Feb-24	09:43	16-Feb-24	11:13	240
Chemical Oxygen Demand [mg/L]	15-Feb-24	09:23	20-Feb-24	15:22	2250
Ammonia+Ammonium (N) [as N mg/L]	14-Feb-24	20:55	15-Feb-24	14:18	16.2
Total Kjeldahl Nitrogen [as N mg/L]	14-Feb-24	16:25	16-Feb-24	15:50	37.2
Phosphorus (total) [mg/L]	14-Feb-24	16:25	21-Feb-24	10:50	3.3
Isopropyl Alcohol [mg/L]	22-Feb-24	07:42	22-Feb-24	16:52	< 5
Methyl alcohol [mg/L]	22-Feb-24	07:42	22-Feb-24	16:52	< 5
Acetone [ug/L]	15-Feb-24	09:54	16-Feb-24	12:57	< 1200
Benzene [ug/L]	15-Feb-24	09:54	16-Feb-24	12:57	< 20
Ethylbenzene [ug/L]	15-Feb-24	09:54	16-Feb-24	12:57	< 20
Dichloromethane [ug/L]	15-Feb-24	09:54	16-Feb-24	12:57	< 20
Methyl ethyl ketone [ug/L]	15-Feb-24	09:54	16-Feb-24	12:57	< 800
Toluene [ug/L]	15-Feb-24	09:54	16-Feb-24	12:57	20.2
Xylene (total) [ug/L]	15-Feb-24	09:54	16-Feb-24	12:57	< 20
o-xylene [ug/L]	15-Feb-24	09:54	16-Feb-24	12:57	< 20
m/p-xylene [ug/L]	15-Feb-24	09:54	16-Feb-24	12:57	< 20

"Isopropyl Alcohol and Methyl alcohol were analyzed using an unaccredited method".

Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003627941

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819
Project : PO#017018

03-April-2025

OCWA-Grey Bruce (Wiarton WPCP)
Attn : Karla Young

P.O. Box 760
Southampton, ON
N0H 2L0, Canada

Phone: 519-797-2561
Fax:pdf

Date Rec. : 26 March 2025
LR Report: **CA12714-MAR25**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sept Sept-Septage-Holding Tank
Sample Date & Time					25-Mar-25 08:20
Temperature Upon Receipt [°C]	---	---	---	---	10.0
Biochemical Oxygen Demand (BOD5) [mg/L]	27-Mar-25	17:31	01-Apr-25	15:04	537
Total Suspended Solids [mg/L]	27-Mar-25	08:14	27-Mar-25	16:19	225
Chemical Oxygen Demand [mg/L]	27-Mar-25	09:50	01-Apr-25	15:04	1250
Ammonia+Ammonium (N) [as N mg/L]	27-Mar-25	18:44	28-Mar-25	13:34	10.4
Total Kjeldahl Nitrogen [as N mg/L]	27-Mar-25	12:04	31-Mar-25	18:41	41
Phosphorus (total) [mg/L]	27-Mar-25	12:04	31-Mar-25	17:52	7.8
Isopropyl Alcohol [mg/L]	02-Apr-25	11:57	03-Apr-25	13:27	< 5
Methyl alcohol [mg/L]	02-Apr-25	11:57	03-Apr-25	13:27	< 5
Acetone [ug/L]	28-Mar-25	13:47	01-Apr-25	10:36	< 1200
Benzene [ug/L]	28-Mar-25	13:47	01-Apr-25	10:36	< 20
Ethylbenzene [ug/L]	28-Mar-25	13:47	01-Apr-25	10:36	< 20
Dichloromethane [ug/L]	28-Mar-25	13:47	01-Apr-25	10:36	< 20
Methyl ethyl ketone [ug/L]	28-Mar-25	13:47	01-Apr-25	10:36	< 800
Toluene [ug/L]	28-Mar-25	13:47	01-Apr-25	10:36	< 20
Xylene (total) [ug/L]	28-Mar-25	13:47	01-Apr-25	10:36	< 20
o-xylene [ug/L]	28-Mar-25	13:47	01-Apr-25	10:36	< 20
m/p-xylene [ug/L]	28-Mar-25	13:47	01-Apr-25	10:36	< 20

"Isopropyl Alcohol and Methyl alcohol were analyzed using an unaccredited method".

Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004065657

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819
Project : PO#017018

25-April-2025

OCWA-Grey Bruce (Wiarton WPCP)
Attn : Karla Young

P.O. Box 760
Southampton, ON
N0H 2L0, Canada

Phone: 519-797-2561
Fax:pdf

Date Rec. : 23 April 2025
LR Report: **CA15356-APR25**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sept Sept-Septage-Holding Tank
Sample Date & Time					22-Apr-25 12:00
Temperature Upon Receipt [°C]	---	---	---	---	13.0
Mercury (total) [ug/L]	25-Apr-25	07:04	25-Apr-25	08:46	< 0.01
Aluminum (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	0.167
Arsenic (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	0.0012
Barium (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	0.0524
Calcium (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	106
Cadmium (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	0.000100
Cobalt (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	0.000424
Chromium (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	0.00150
Copper (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	0.063
Iron (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	5.34
Potassium (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	26.6
Magnesium (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	23.4
Manganese (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	0.345
Sodium (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	195
Nickel (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	0.0046
Lead (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	0.00733
Selenium (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	0.00054
Tin (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	0.00304
Silver (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	0.00013
Zinc (total) [mg/L]	23-Apr-25	22:35	24-Apr-25	12:12	0.149

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819

Project : PO#017018
LR Report : **CA15356-APR25**

Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819
Project : PO#017018

01-May-2025

OCWA-Grey Bruce (Wiarton WPCP)
Attn : Karla Young

P.O. Box 760
Southampton, ON
N0H 2L0, Canada

Phone: 519-797-2561
Fax:pdf

Date Rec. : 23 April 2025
LR Report: **CA15354-APR25**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sept Sept-Septage-Holding Tank
Sample Date & Time					22-Apr-25 11:55
Temperature Upon Receipt [°C]	---	---	---	---	13.0
Biochemical Oxygen Demand (BOD5) [mg/L]	24-Apr-25	15:01	29-Apr-25	10:57	1510
Total Suspended Solids [mg/L]	24-Apr-25	11:39	25-Apr-25	11:26	250
Chemical Oxygen Demand [mg/L]	24-Apr-25	09:18	29-Apr-25	10:57	1980
Ammonia+Ammonium (N) [as N mg/L]	24-Apr-25	17:12	25-Apr-25	12:29	17.8
Total Kjeldahl Nitrogen [as N mg/L]	24-Apr-25	10:07	28-Apr-25	14:20	64
Phosphorus (total) [mg/L]	24-Apr-25	10:07	28-Apr-25	13:30	7.7
Isopropyl Alcohol [mg/L]	25-Apr-25	14:27	30-Apr-25	16:25	< 5
Methyl alcohol [mg/L]	25-Apr-25	14:27	30-Apr-25	16:25	< 5
Acetone [ug/L]	24-Apr-25	09:50	25-Apr-25	11:04	< 1200
Benzene [ug/L]	24-Apr-25	09:50	25-Apr-25	11:04	< 20
Ethylbenzene [ug/L]	24-Apr-25	09:50	25-Apr-25	11:04	< 20
Dichloromethane [ug/L]	24-Apr-25	09:50	25-Apr-25	11:04	< 20
Methyl ethyl ketone [ug/L]	24-Apr-25	09:50	25-Apr-25	11:04	< 800
Toluene [ug/L]	24-Apr-25	09:50	25-Apr-25	11:04	22.6
Xylene (total) [ug/L]	24-Apr-25	09:50	25-Apr-25	11:04	< 20
o-xylene [ug/L]	24-Apr-25	09:50	25-Apr-25	11:04	< 20
m/p-xylene [ug/L]	24-Apr-25	09:50	25-Apr-25	11:04	< 20

"Isopropyl Alcohol and Methyl alcohol were analyzed using an unaccredited method".

Hawley Anderson, Hon.B.Sc
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004096585

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819
Project : PO#017018

13-May-2025

OCWA-Grey Bruce (Wiarton WPCP)
Attn : Karla Young

P.O. Box 760
Southampton, ON
N0H 2L0, Canada

Phone: 519-797-2561
Fax:pdf

Date Rec. : 07 May 2025
LR Report: **CA13346-MAY25**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sept Sept-Septage-Holding Tank
Sample Date & Time					06-May-25 13:15
Temperature Upon Receipt [°C]	---	---	---	---	16.0
Biochemical Oxygen Demand (BOD5) [mg/L]	08-May-25	16:40	13-May-25	13:06	1960
Total Suspended Solids [mg/L]	08-May-25	10:27	09-May-25	15:02	345
Chemical Oxygen Demand [mg/L]	09-May-25	10:00	13-May-25	13:06	2300
Ammonia+Ammonium (N) [as N mg/L]	08-May-25	20:28	09-May-25	14:22	28.0
Total Kjeldahl Nitrogen [as N mg/L]	08-May-25	16:43	12-May-25	12:04	105
Phosphorus (total) [mg/L]	08-May-25	16:43	12-May-25	14:10	13.1
Isopropyl Alcohol [mg/L]	08-May-25	14:16	12-May-25	09:52	< 5
Methyl alcohol [mg/L]	08-May-25	14:16	12-May-25	09:52	< 5
Acetone [ug/L]	08-May-25	14:01	09-May-25	11:02	< 1200
Benzene [ug/L]	08-May-25	14:01	09-May-25	11:02	< 20
Ethylbenzene [ug/L]	08-May-25	14:01	09-May-25	11:02	< 20
Dichloromethane [ug/L]	08-May-25	14:01	09-May-25	11:02	< 20
Methyl ethyl ketone [ug/L]	08-May-25	14:01	09-May-25	11:02	< 800
Toluene [ug/L]	08-May-25	14:01	09-May-25	11:02	< 20
Xylene (total) [ug/L]	08-May-25	14:01	09-May-25	11:02	< 20
o-xylene [ug/L]	08-May-25	14:01	09-May-25	11:02	< 20
m/p-xylene [ug/L]	08-May-25	14:01	09-May-25	11:02	< 20

"Isopropyl Alcohol and Methyl alcohol were analyzed using an unaccredited method".

Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004110730

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819
Project : PO#017018

30-June-2025

OCWA-Grey Bruce (Wiarton WPCP)
Attn : Karla Young

P.O. Box 760
Southampton, ON
N0H 2L0, Canada

Phone: 519-797-2561
Fax:pdf

Date Rec. : 24 June 2025
LR Report: **CA12912-JUN25**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sept Sept-Septage-Holding Tank
Sample Date & Time					23-Jun-25 09:40
Temperature Upon Receipt [°C]	---	---	---	---	24.0
Biochemical Oxygen Demand (BOD5) [mg/L]	25-Jun-25	17:32	30-Jun-25	15:15	942
Total Suspended Solids [mg/L]	25-Jun-25	10:26	26-Jun-25	10:16	338
Chemical Oxygen Demand [mg/L]	26-Jun-25	10:25	30-Jun-25	15:15	1500
Ammonia+Ammonium (N) [as N mg/L]	24-Jun-25	22:02	26-Jun-25	12:42	81.5
Total Kjeldahl Nitrogen [as N mg/L]	25-Jun-26	10:13	26-Jun-25	14:21	134
Phosphorus (total) [mg/L]	25-Jun-26	10:13	26-Jun-25	16:47	14.3
Isopropyl Alcohol [mg/L]	24-Jun-25	18:56	27-Jun-25	15:29	< 5
Methyl alcohol [mg/L]	24-Jun-25	18:56	27-Jun-25	15:29	< 5
Acetone [ug/L]	26-Jun-25	13:52	27-Jun-25	17:33	< 1200
Benzene [ug/L]	26-Jun-25	13:52	27-Jun-25	17:33	< 20
Ethylbenzene [ug/L]	26-Jun-25	13:52	27-Jun-25	17:33	< 20
Dichloromethane [ug/L]	26-Jun-25	13:52	27-Jun-25	17:33	< 20
Methyl ethyl ketone [ug/L]	26-Jun-25	13:52	27-Jun-25	17:33	< 800
Toluene [ug/L]	26-Jun-25	13:52	27-Jun-25	17:33	< 20
Xylene (total) [ug/L]	26-Jun-25	13:52	27-Jun-25	17:33	< 20
o-xylene [ug/L]	26-Jun-25	13:52	27-Jun-25	17:33	< 20
m/p-xylene [ug/L]	26-Jun-25	13:52	27-Jun-25	17:33	< 20

"Isopropyl Alcohol and Methyl alcohol were analyzed using an unaccredited method".

Hawley Anderson, Hon.B.Sc
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004167151

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819
Project : PO#017018

08-July-2025

OCWA-Grey Bruce (Wiarton WPCP)
Attn : Karla Young

P.O. Box 760
Southampton, ON
N0H 2L0, Canada

Phone: 519-797-2561
Fax:pdf

Date Rec. : 03 July 2025
LR Report: **CA13167-JUL25**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sept Sept-Septage-Holding Tank
Sample Date & Time					02-Jul-25 10:15
Temperature Upon Receipt [°C]	---	---	---	---	18.0
Mercury (total) [ug/L]	04-Jul-25	13:10	08-Jul-25	13:32	< 0.01
Aluminum (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	0.155
Arsenic (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	0.0009
Barium (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	0.0542
Calcium (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	89.9
Cadmium (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	0.000157
Cobalt (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	0.000731
Chromium (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	0.00197
Copper (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	0.139
Iron (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	2.12
Potassium (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	53.3
Magnesium (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	31.9
Manganese (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	0.173
Sodium (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	346
Nickel (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	0.0060
Lead (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	0.00284
Selenium (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	0.00100
Tin (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	0.00120
Silver (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	0.00009
Zinc (total) [mg/L]	04-Jul-25	19:23	08-Jul-25	13:32	0.214

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819

Project : PO#017018
LR Report : **CA13167-JUL25**

Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004174997

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819
Project : PO#017018

10-July-2025

OCWA-Grey Bruce (Wiarton WPCP)
Attn : Karla Young

P.O. Box 760
Southampton, ON
N0H 2L0, Canada

Phone: 519-797-2561
Fax:pdf

Date Rec. : 03 July 2025
LR Report: **CA13168-JUL25**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sept Sept-Septage-Holding Tank
Sample Date & Time					02-Jul-25 10:00
Temperature Upon Receipt [°C]	---	---	---	---	18.0
Biochemical Oxygen Demand (BOD5) [mg/L]	04-Jul-25	14:09	09-Jul-25	11:13	726
Total Suspended Solids [mg/L]	04-Jul-25	14:00	07-Jul-25	12:02	268
Chemical Oxygen Demand [mg/L]	04-Jul-25	08:21	09-Jul-25	11:13	1150
Ammonia+Ammonium (N) [as N mg/L]	03-Jul-25	19:49	07-Jul-25	15:49	111
Total Kjeldahl Nitrogen [as N mg/L]	07-Jul-25	11:14	09-Jul-25	12:53	146
Phosphorus (total) [mg/L]	07-Jul-25	11:14	09-Jul-25	13:17	16.4
Isopropyl Alcohol [mg/L]	08-Jul-25	18:40	10-Jul-25	11:04	< 5
Methyl alcohol [mg/L]	08-Jul-25	18:40	10-Jul-25	11:04	< 5
Acetone [ug/L]	04-Jul-25	14:12	07-Jul-25	11:36	< 1200
Benzene [ug/L]	04-Jul-25	14:12	07-Jul-25	11:36	< 20
Ethylbenzene [ug/L]	04-Jul-25	14:12	07-Jul-25	11:36	< 20
Dichloromethane [ug/L]	04-Jul-25	14:12	07-Jul-25	11:36	< 20
Methyl ethyl ketone [ug/L]	04-Jul-25	14:12	07-Jul-25	11:36	< 800
Toluene [ug/L]	04-Jul-25	14:12	07-Jul-25	11:36	24.1
Xylene (total) [ug/L]	04-Jul-25	14:12	07-Jul-25	11:36	< 20
o-xylene [ug/L]	04-Jul-25	14:12	07-Jul-25	11:36	< 20
m/p-xylene [ug/L]	04-Jul-25	14:12	07-Jul-25	11:36	< 20

"Isopropyl Alcohol and Methyl alcohol were analyzed using an unaccredited method".

OnLine LIMS

0004177799

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819

Project : PO#017018
LR Report : **CA13168-JUL25**

Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004177799

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819
Project : PO#017018

20-August-2025

OCWA-Grey Bruce (Wiarton WPCP)
Attn : Karla Young

P.O. Box 760
Southampton, ON
N0H 2L0, Canada

Phone: 519-797-2561
Fax:pdf

Date Rec. : 13 August 2025
LR Report: **CA12430-AUG25**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sept Sept-Septage-Holding Tank
Sample Date & Time					12-Aug-25 08:00
Temperature Upon Receipt [°C]	---	---	---	---	22.0
Biochemical Oxygen Demand (BOD5) [mg/L]	14-Aug-25	17:16	19-Aug-25	12:00	286
Total Suspended Solids [mg/L]	16-Aug-25	11:20	18-Aug-25	10:20	286
Chemical Oxygen Demand [mg/L]	15-Aug-25	10:54	19-Aug-25	12:01	620
Ammonia+Ammonium (N) [as N mg/L]	13-Aug-25	19:42	15-Aug-25	11:17	138
Total Kjeldahl Nitrogen [as N mg/L]	15-Aug-25	11:35	19-Aug-25	11:34	198
Phosphorus (total) [mg/L]	15-Aug-25	11:35	20-Aug-25	13:22	18.5
Isopropyl Alcohol [mg/L]	14-Aug-25	21:15	15-Aug-25	12:39	< 5
Methyl alcohol [mg/L]	14-Aug-25	21:15	15-Aug-25	12:39	< 5
Acetone [ug/L]	15-Aug-25	06:56	19-Aug-25	12:43	< 1200
Benzene [ug/L]	15-Aug-25	06:56	19-Aug-25	12:43	< 20
Ethylbenzene [ug/L]	15-Aug-25	06:56	19-Aug-25	12:43	< 20
Dichloromethane [ug/L]	15-Aug-25	06:56	19-Aug-25	12:43	< 20
Methyl ethyl ketone [ug/L]	15-Aug-25	06:56	19-Aug-25	12:43	< 800
Toluene [ug/L]	15-Aug-25	06:56	19-Aug-25	12:43	< 20
Xylene (total) [ug/L]	15-Aug-25	06:56	19-Aug-25	12:43	< 20
o-xylene [ug/L]	15-Aug-25	06:56	19-Aug-25	12:43	< 20
m/p-xylene [ug/L]	15-Aug-25	06:56	19-Aug-25	12:43	< 20

"Isopropyl Alcohol and Methyl alcohol were analyzed using an unaccredited method".

Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004226047

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819
Project : PO#017018

23-September-2025

OCWA-Grey Bruce (Wiarton WPCP)
Attn : Karla Young

P.O. Box 760
Southampton, ON
N0H 2L0, Canada

Phone: 519-797-2561
Fax:pdf

Date Rec. : 17 September 2025
LR Report: **CA14260-SEP25**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sept Sept-Septage-Holding Tank
Sample Date & Time					16-Sep-25 10:00
Temperature Upon Receipt [°C]	---	---	---	---	17.0
Biochemical Oxygen Demand (BOD5) [mg/L]	17-Sep-25	17:07	22-Sep-25	13:51	2370
Total Suspended Solids [mg/L]	18-Sep-25	09:20	18-Sep-25	16:15	5680
Chemical Oxygen Demand [mg/L]	19-Sep-25	09:47	22-Sep-25	13:51	12900
Ammonia+Ammonium (N) [as N mg/L]	17-Sep-25	18:56	18-Sep-25	15:47	346
Total Kjeldahl Nitrogen [as N mg/L]	18-Sep-25	10:43	22-Sep-25	12:11	499
Phosphorus (total) [mg/L]	18-Sep-25	10:43	22-Sep-25	11:20	119
Isopropyl Alcohol [mg/L]	19-Sep-25	14:33	23-Sep-25	13:03	< 5
Methyl alcohol [mg/L]	19-Sep-25	14:33	23-Sep-25	13:03	< 5
Acetone [ug/L]	18-Sep-25	13:39	19-Sep-25	13:50	< 1200
Benzene [ug/L]	18-Sep-25	13:39	19-Sep-25	13:50	< 20
Ethylbenzene [ug/L]	18-Sep-25	13:39	19-Sep-25	13:50	< 20
Dichloromethane [ug/L]	18-Sep-25	13:39	19-Sep-25	13:50	< 20
Methyl ethyl ketone [ug/L]	18-Sep-25	13:39	19-Sep-25	13:50	< 800
Toluene [ug/L]	18-Sep-25	13:39	19-Sep-25	13:50	64.0
Xylene (total) [ug/L]	18-Sep-25	13:39	19-Sep-25	13:50	< 20
o-xylene [ug/L]	18-Sep-25	13:39	19-Sep-25	13:50	< 20
m/p-xylene [ug/L]	18-Sep-25	13:39	19-Sep-25	13:50	< 20

"Isopropyl Alcohol and Methyl alcohol were analyzed using an unaccredited method".

Note: Sample portions visually different; a composite sample was made prior to analysis as per client instructions.

Hawley Anderson, Hon.B.Sc
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004267006

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819
Project : PO#017018

15-October-2025

OCWA-Grey Bruce (Wiarton WPCP)
Attn : Karla Young

P.O. Box 760
Southampton, ON
N0H 2L0, Canada

Phone: 519-797-2561
Fax:pdf

Date Rec. : 08 October 2025
LR Report: **CA13429-OCT25**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sept Sept-Septage-Holding Tank
Sample Date & Time					07-Oct-25 09:10
Temperature Upon Receipt [°C]	---	---	---	---	16.0
Biochemical Oxygen Demand (BOD5) [mg/L]	08-Oct-25	17:25	14-Oct-25	12:13	4980
Total Suspended Solids [mg/L]	09-Oct-25	15:47	10-Oct-25	14:24	5800
Chemical Oxygen Demand [mg/L]	15-Oct-25	08:14	15-Oct-25	11:19	11900
Ammonia+Ammonium (N) [as N mg/L]	13-Oct-25	12:50	14-Oct-25	14:35	692
Total Kjeldahl Nitrogen [as N mg/L]	10-Oct-25	12:16	15-Oct-25	13:53	1150
Phosphorus (total) [mg/L]	10-Oct-25	12:16	15-Oct-25	14:44	150
Isopropyl Alcohol [mg/L]	09-Oct-25	15:37	14-Oct-25	12:12	< 5
Methyl alcohol [mg/L]	09-Oct-25	15:37	14-Oct-25	12:12	< 5
Acetone [ug/L]	10-Oct-25	14:40	14-Oct-25	10:28	< 1200
Benzene [ug/L]	10-Oct-25	14:40	14-Oct-25	10:28	< 20
Ethylbenzene [ug/L]	10-Oct-25	14:40	14-Oct-25	10:28	< 20
Dichloromethane [ug/L]	10-Oct-25	14:40	14-Oct-25	10:28	< 20
Methyl ethyl ketone [ug/L]	10-Oct-25	14:40	14-Oct-25	10:28	< 800
Toluene [ug/L]	10-Oct-25	14:40	14-Oct-25	10:28	25.5
Xylene (total) [ug/L]	10-Oct-25	14:40	14-Oct-25	10:28	< 20
o-xylene [ug/L]	10-Oct-25	14:40	14-Oct-25	10:28	< 20
m/p-xylene [ug/L]	10-Oct-25	14:40	14-Oct-25	10:28	< 20

"Isopropyl Alcohol and Methyl alcohol were analyzed using an unaccredited method".

Note: Sample portions in PETs visually different; a composite sample was made prior to analysis with client's approval.

OnLine LIMS

0004291500

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819

Project : PO#017018
LR Report : **CA13429-OCT25**

Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004291500

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819
Project : PO#017018

16-October-2025

OCWA-Grey Bruce (Wiarton WPCP)
Attn : Karla Young

P.O. Box 760
Southampton, ON
N0H 2L0, Canada

Phone: 519-797-2561
Fax:pdf

Date Rec. : 08 October 2025
LR Report: **CA13410-OCT25**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sept Sept-Septage-Holding Tank
Sample Date & Time					07-Oct-25 09:20
Temperature Upon Receipt [°C]	---	---	---	---	16.0
Mercury (total) [ug/L]	15-Oct-25	11:18	15-Oct-25	16:51	0.10
Aluminum (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	0.78
Arsenic (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	0.003
Barium (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	0.0565
Calcium (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	240
Cadmium (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	0.00096
Cobalt (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	0.00182
Chromium (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	0.0045
Copper (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	0.16
Iron (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	4.22
Potassium (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	280
Magnesium (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	72.0
Manganese (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	0.483
Sodium (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	352
Nickel (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	0.013
Lead (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	0.0044
Selenium (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	0.0047
Tin (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	0.0027
Silver (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	< 0.0005
Zinc (total) [mg/L]	10-Oct-25	16:42	15-Oct-25	14:02	0.56

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819

Project : PO#017018
LR Report : **CA13410-OCT25**

Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819
Project : PO#017018

12-November-2025

Date Rec. : 05 November 2025
LR Report: **CA13096-NOV25**

Copy: #1

OCWA-Grey Bruce (Wiarton WPCP)
Attn : Karla Young

P.O. Box 760
Southampton, ON
N0H 2L0, Canada

Phone: 519-797-2561
Fax:pdf

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sept Sept-Septage-Holding Tank
Sample Date & Time					04-Nov-25 11:30
Temperature Upon Receipt [°C]	---	---	---	---	11.0
Biochemical Oxygen Demand (BOD5) [mg/L]	06-Nov-25	17:38	11-Nov-25	12:41	430
Total Suspended Solids [mg/L]	06-Nov-25	09:24	07-Nov-25	12:14	124
Chemical Oxygen Demand [mg/L]	10-Nov-25	08:14	11-Nov-25	12:41	1010
Ammonia+Ammonium (N) [as N mg/L]	05-Nov-25	17:40	07-Nov-25	13:34	130
Total Kjeldahl Nitrogen [as N mg/L]	06-Nov-25	12:02	10-Nov-25	11:53	147
Phosphorus (total) [mg/L]	06-Nov-25	12:02	10-Nov-25	14:15	22.4
Isopropyl Alcohol [mg/L]	10-Nov-25	08:50	12-Nov-25	09:34	< 5
Methyl alcohol [mg/L]	10-Nov-25	08:50	12-Nov-25	09:34	< 5
Acetone [ug/L]	07-Nov-25	15:26	10-Nov-25	09:57	< 1200
Benzene [ug/L]	07-Nov-25	15:26	10-Nov-25	09:57	< 20
Ethylbenzene [ug/L]	07-Nov-25	15:26	10-Nov-25	09:57	< 20
Dichloromethane [ug/L]	07-Nov-25	15:26	10-Nov-25	09:57	< 20
Methyl ethyl ketone [ug/L]	07-Nov-25	15:26	10-Nov-25	09:57	< 800
Toluene [ug/L]	07-Nov-25	15:26	10-Nov-25	09:57	169
Xylene (total) [ug/L]	07-Nov-25	15:26	10-Nov-25	09:57	< 20
o-xylene [ug/L]	07-Nov-25	15:26	10-Nov-25	09:57	< 20
m/p-xylene [ug/L]	07-Nov-25	15:26	10-Nov-25	09:57	< 20

"Isopropyl Alcohol and Methyl alcohol were analyzed using an unaccredited method".

Hawley Anderson, Hon.B.Sc
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004325876

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000819
Project : PO#017018

15-December-2025

OCWA-Grey Bruce (Wiarton WPCP)
Attn : Karla Young

P.O. Box 760
Southampton, ON
N0H 2L0, Canada

Phone: 519-797-2561
Fax:pdf

Date Rec. : 09 December 2025
LR Report: **CA12342-DEC25**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sept Sept-Septage-Holding Tank
Sample Date & Time					08-Dec-25 12:10
Temperature Upon Receipt [°C]	---	---	---	---	7.0
Biochemical Oxygen Demand (BOD5) [mg/L]	09-Dec-25	16:16	15-Dec-25	10:27	428
Total Suspended Solids [mg/L]	10-Dec-25	08:36	11-Dec-25	08:09	66
Chemical Oxygen Demand [mg/L]	11-Dec-25	09:50	15-Dec-25	10:27	530
Ammonia+Ammonium (N) [as N mg/L]	09-Dec-25	16:58	15-Dec-25	10:01	19.3
Total Kjeldahl Nitrogen [as N mg/L]	10-Dec-25	14:16	12-Dec-25	11:57	36
Phosphorus (total) [mg/L]	10-Dec-25	14:16	12-Dec-25	15:17	5.5
Isopropyl Alcohol [mg/L]	11-Dec-25	13:05	12-Dec-25	10:27	< 5
Methyl alcohol [mg/L]	11-Dec-25	13:05	12-Dec-25	10:27	< 5
Acetone [ug/L]	10-Dec-25	13:04	11-Dec-25	10:39	< 1200
Benzene [ug/L]	10-Dec-25	13:04	11-Dec-25	10:39	< 20
Ethylbenzene [ug/L]	10-Dec-25	13:04	11-Dec-25	10:39	< 20
Dichloromethane [ug/L]	10-Dec-25	13:04	11-Dec-25	10:39	< 20
Methyl ethyl ketone [ug/L]	10-Dec-25	13:04	11-Dec-25	10:39	< 800
Toluene [ug/L]	10-Dec-25	13:04	11-Dec-25	10:39	< 20
Xylene (total) [ug/L]	10-Dec-25	13:04	11-Dec-25	10:39	< 20
o-xylene [ug/L]	10-Dec-25	13:04	11-Dec-25	10:39	< 20
m/p-xylene [ug/L]	10-Dec-25	13:04	11-Dec-25	10:39	< 20

"Isopropyl Alcohol and Methyl alcohol were analyzed using an unaccredited method".

Hawley Anderson, Hon.B.Sc
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0004361956

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Appendix F

Notice of Modification to Sewage Works

Ontario

Ministry of the Environment, Conservation and Parks

Notice of Modification to Sewage Works

RETAIN COPY OF COMPLETED FORM AS PART OF THE ECA ON-SITE PRIOR TO THE SCHEDULED IMPLEMENTATION DATE.

Part 1 – Environmental Compliance Approval (ECA) with Limited Operational Flexibility

(Insert the ECA's owner, number and issuance date and notice number, which should start with "01" and consecutive numbers thereafter)

ECA Number	Issuance Date (mm/dd/yy)	Notice number (if applicable)
6045-ARDJS7	11/23/2017	

ECA Owner	Municipality
The Corporation of the Town of South Bruce Peninsula	Town of South Bruce Peninsula

Part 2: Description of the modifications as part of the Limited Operational Flexibility

(Attach a detailed description of the sewage works)

Replacement of Diesel Fuel Tank at Sewage Pump Station No 2, 441048 Elm Street, Wiarton.

Schedule E section 4.2.11 Replacement fuel strorage systems. Replacing the single wall welded fuel tank (capacity 908 L) with a 2.3 mm double bottom welded fuel tank (capacity 910 L).

Description shall include:
1. A detail description of the modifications and/or operations to the sewage works (e.g. sewage work component, location, size, equipment type/model, material, process name, etc.)
2. Confirmation that the anticipated environmental effects are negligible.
3. List of updated versions of, or amendments to, all relevant technical documents that are affected by the modifications as applicable, i.e. submission of documentation is not required, but the listing of updated documents is (design brief, drawings, emergency plan, etc.)

Part 3 – Declaration by Professional Engineer

I hereby declare that I have verified the scope and technical aspects of this modification and confirm that the design:
1. Has been prepared or reviewed by a Professional Engineer who is licensed to practice in the Province of Ontario;
2. Has been designed in accordance with the Limited Operational Flexibility as described in the ECA;
3. Has been designed consistent with Ministry's Design Guidelines, adhering to engineering standards, industry's best management practices, and demonstrating ongoing compliance with s.53 of the Ontario Water Resources Act; and other appropriate regulations.

I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate

Name (Print)	PEO License Number
Signature	**Date (mm/dd/yy)**
Name of Employer	

Part 4 – Declaration by Owner

I hereby declare that:
1. I am authorized by the Owner to complete this Declaration;
2. The Owner consents to the modification; and
3. This modifications to the sewage works are proposed in accordance with the Limited Operational Flexibility as described in the ECA.
4. The Owner has fulfilled all applicable requirements of the *Environmental Assessment Act*.

I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate

Name of Owner Representative (Print)	Owner representative's title (Print)
Brianna Collins	**Director of Public Works**
Owner Representative's Signature	**Date (mm/dd/yy)**
B Collins	06/27/25

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Appendix G

Biosolids Volume Modeling and Distribution Surveys

PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

OCWA
ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #1 (South)

Shallow Underwater Hydrographic Acoustic Sonar
Sludge Profiling - Volume Modeling and Distribution Survey

Date; October 30, 2025.

Image. OCWA – Wiarton Biosolids Aerated Cell 1.

Prepared For: **Léo-Paul Frigault**
Senior Operations Manager
Grey Bruce Hub
Richard Eagle
Senior Operations Manager – Capital Projects
Ontario Clean Water Agency (OCWA

Prepared By: Paul Makar
PW MAKAR COATINGS INSPECTION LTD.

PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

TABLE OF CONTENT

481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

1.0 INTRODUCTION

1.1 The Ontario Clean Water Agency contracted PW MAKAR COATINGS INSPECTION LTD. to conduct a hydrographic acoustic sonar biosolids profiling-volume modeling and distribution survey of the Wiarton Wastewater Treatment Facility Aerated Cell 1 (South).

1.2 The intent of this survey was to determine the sludge volumes, identify sludge distribution patterns and loading areas within the Wiarton Aerated Cell 1.

1.3 The survey was performed using a multi-frequency (200, 50 and a 12 kHz) acoustic sonar profiling system in the shallow waters of the Wiarton Aerated Cell 1.

1.3.1 The precision navigation was provided by the survey vessels on-board GPS system which is incorporated with the acoustic profiling system. Processing of the acoustic data provides both an indication of the present fluid depth and an image of the extent of biosolids between the fluid bottom (upper biosolids surface contour bathymetric) and the liner/clay bottom (sub-bottom liner/clay contour) of the Wiarton Aerated Cell 1 (South).

1.4 PW MAKAR had a two-person survey crew conducting the unmanned remotely controlled hydrographic survey.

1.4.1 One operator navigating the unmanned remotely controlled hydrographic survey vessel operator throughout the Wiarton Aerated Cell 1 (South).

1.4.2 PW MAKAR's Geographic Information Systems (GIS/Mapping) and Approvals Specialist was responsible for calibrating and setting the transduce frequencies based on sludge and water depths. Monitoring of the raw sonar data streaming in from the transducers and GPS to the onboard sonar profiling computer system, watching survey vessel tracking lines, and conducting baseline sludge sub-bottom/liner and bathymetry, sludge blanket depths for post-processing validation.

2.0 SITE DESCRIPTION

2.1 The Wiarton Wastewater Treatment Facility is located at 441048 Elm Street, Wiarton Ontario.

2.2 The Wiarton Wastewater Treatment Facility consists of three (3) wastewater – Biosolids Aeration Cells comprising of; Aeration Cell 1 (South), Aeration Cell 2 (Middle) and Aeration Cell 3 (North).

2.2.1 Aeration Cell 2 and Aeration Cell 3 were also surveyed on October 30, 2025; the hydrographic reports are not included with the Aeration Cell 1 report, but detailed in their own separate reports.

481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

2.3 Wiarton Wastewater Treatment Facility Aerated Cell 1.

2.3.1.1 There is a high level of vegetation around all of the three Cells. A power tool was used to cut vessel access points into the Cells.

2.3.1.1.1 There is a considerable number of numerous hoses, ropes and floating buoys within Aeration Cell 1, which made the navigation of the sonar vessel challenging.

2.3.1.1.2 There was an extreme amount of suspended biosolids within Aeration Cell 1, which did not settle at the time of the hydrographic survey.

2.3.1.1.3 There is a large amount of aquodic underwater plant life found within Aeration Cell 1 again, navigating the sonar vessel to avoid getting weeds tangled up in the sonar vessels propellers was difficult.

2.4 The underwater area surveyed within the Wiarton Wastewater Treatment Facility Aerated Cell 1 (South) – survey date; October 30, 2025 had a **Positive Planar Area** of **13665.96 m²** or **3.37 acres** or **1.37 ha**.

2.4.1.1 **Please note**; the area surveyed within the Wiarton Wastewater Treatment Facility Aerated Cell 1 is dependent on the water level at the time of the survey. Any obstruction within the pond i.e., dykes, aeration systems, rock outcrops above and below the water, vegetation and aquodic plant life around the base of the cell berm can affect the size of the survey area.

2.4.2 

Figure 1. A water table area reference qualifier was conducted by a polygon measurement made in Google Earth to a 05/09/2025 image of the Wiarton Wastewater Treatment Facility Aerated Cell 1 (South) the water table area was found to be approximately 3.94 Acres.[1]

[1] **Google Earth. – 05/09/2025.**

481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

3.0 DISCLAIMER

3.1 While PW MAKAR COATINGS INSPECTION LTD believes it has used best practice in obtaining the information contained in this report, in no event will PW MAKAR COATINGS INSPECTION LTD be liable for any commercial costs, damages, loss of profit, property damage or personal injury, including death sustained or suffered in connection with the use of data or subsequent processing of materials obtained during field efforts by PW MAKAR COATINGS INSPECTION LTD during this program, or consequential damages including, but not limited to those related to dredging, removal of sludge , disposal of sludge , or contamination resulting from use of data obtained from this report or efforts or conclusions drawn from this report.

3.2 PW MAKAR COATINGS INSPECTION LTD makes no warranty, either expressed or implied, regarding the suitability or fitness of any data or information contained in this report for a particular purpose or that the information will satisfy the requirement of any law, rule, specification, or contract.

3.3 The maximum liability of PW MAKAR COATINGS INSPECTION LTD. from all causes related to this work, field efforts, report or discussions about this effort is limited to the funding received by PW MAKAR COATINGS INSPECTION LTD for this work. Acceptance of this report signifies acceptance of this disclaimer.

3.4 This report shall be deemed accepted if no protest is received within 60 days of the issuance date of this report.

4.0 ABSTRACT

4.1 The shallow hydrographic underwater acoustic sonar survey was conducted on October 30, 2025; this report reflects the water content and sludge levels at the time of this hydrographic survey.

4.2 The hydrographic survey was performed by PW MAKAR COATINGS INSPECTION LTD's, (GIS/Mapping) and Approvals Specialist, the survey complies with IHO (International Hydrographic Organization) Standards.

4.3 Transducer sound calibration checks, manual sludge bathymetry, and probe measuring to the sub-bottom were performed prior to the start of the hydrographic survey in the Wiarton Wastewater Treatment Facility Aerated Cell 1 (South) to validate post processing of the raw data.

5.0 SLUDGE DEPTH EVALUATIONS

5.1 The sub-bottom contour in the Aerated Cell 1 (South), has a "hard pack" sub-bottom layer i.e., clay and/or hard pack soil, all three of our hydrographic acoustic sonar transducers were utilized to determine the bathymetric bottom and sub-bottom.

481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

5.1.1 The sludge profiling volume computations were calculated from the sludge layer using the three transducer kHz frequency ranges of 200 kHz, 50 kHz, and 12 kHz transducers.

5.1.2 The total volume of sludge surveyed on October 30, 2025 in the Wiarton Wastewater Treatment Facility Aerated Cell 1 (South), is approximately **16629.64 m^3** or **21750.75 yd^3**.

Notice to Reader; There was found to be a substantial amount of suspended biosolids within the Wiarton Wastewater Treatment Facility Aerated Cell 1 (South), the percentages of biosolids volumes will change/increase if water levels in the lagoon/cell fluctuates. In addition, if aluminum sulfate is added to the water and the suspended biosolids settles to the bathymetric layer of the cell this will add to the amount of biosolids sludge. As well, if there is an aeration system associated with the biosolids cell the amount of time in which the aeration system was shut down to allow for the suspended biosolids to settle, again will add to the total volume of biosolids build up.

5.1.2.1 To calculate a percentage of sludge, a grid volume computation was calculated from the bathymetric sludge bottom (defined as the top of the sludge) and the sub-bottom of the sludge i.e., the top of the pond liner. It was then divided by the grid volume computation calculated from the top of the liquid/water to the sub-bottom of the sludge of the pond liner. The two number sets are then multiplied by 100 to determine a percentage of the sludge.

5.1.2.1.1 Therefore, on this date the percentage of sludge buildup in the Wiarton Wastewater Treatment Facility Aerated Cell 1 (South) is approximately **37.12%.**

5.1.3 PW MAKAR COATINGS INSPECTION LTD. collected **26379** digitized data value points in the Wiarton Wastewater Treatment Facility Aerated Cell 1 (South). The digitized data value points represent both the bathymetric bottom (top of the sludge) and sub-bottom (top of the liner) values with GPS navigational values.

5.1.3.1 Each individual data value point consists of an XYZ value. X value is an Easting coordinate; Y value is a Northing coordinate and Z consists of a sludge elevation processed in meters.

5.1.3.2 The average depth of the sludge within Wiarton Wastewater Treatment Facility Aerated Cell 1 (South) on this date was approximately **1.21 m or 1210 mm or 47.63 in or 3.97 ft**.

PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

Reported by: Paul Makar
Paul Makar
PW MAKAR COATINGS INSPECTION LTD. NACE CERTIFIED COATINGS INSPECTOR #137.

OCWA
ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #1 (South)

Shallow Underwater Hydrographic Acoustic Sonar
Sludge Profiling - Volume Modeling and Distribution Survey

Date; October 30, 2025

Grid Volume Computations

Bathymetric (Upper) Sludge Surface
and Sub-Bottom (Lower) – Liner Surface.

Upper Surface

Grid File Name:	**C:\OCWA - Wiarton - Lagoon Surveys\Wiarton Cell 1 Mapping Reports\Wiarton Cell 1 - A Layer\Wiarton Cell 1 - A Layer Blanked Out.grd**
Grid Size:	106 rows x 162 columns
X Minimum:	489502.83
X Maximum:	489663.8
X Spacing:	0.9998136645961
Y Minimum:	4952974.06
Y Maximum:	4953078.85
Y Spacing:	0.99800000000035
Z Minimum:	-2.7031276701318
Z Maximum:	-0.51581397655142

Lower Surface

PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

Grid File Name: C:**OCWA - Wiarton - Lagoon Surveys\Wiarton Cell 1 Mapping Reports\Wiarton Cell 1 - B Layer\Wiarton Cell 1 - B Layer Blanked Out.grd**
Grid Size: 106 rows x 162 columns

X Minimum: 489502.83
X Maximum: 489663.8
X Spacing: 0.9998136645961

Y Minimum: 4952974.06
Y Maximum: 4953078.85
Y Spacing: 0.99800000000035

Z Minimum: -4.6550221836628
Z Maximum: -0.65344772201622

Volumes

Z Scale Factor: 1

Total Volumes by:

Trapezoidal Rule: 16629.645063612
Simpson's Rule: 16639.165828098
Simpson's 3/8 Rule: 16632.757388572

Cut & Fill Volumes

Positive Volume [Cut]: 16629.648110949 m^3 or 21750.75 yd^3.

Negative Volume [Fill]: 0.0030473371389976
Net Volume [Cut-Fill]: 16629.645063612

Areas

Planar Areas

Positive Planar Area [Cut]: 13665.969974171 m^2 or 3.7 acers or 1.37 ha
Negative Planar Area [Fill]: 0.091080241580038
No Data Planar Area: 3201.9852455906
Total Planar Area: 16868.046300003

Surface Areas

Positive Surface Area [Cut]: 13832.382059444
Negative Surface Area [Fill]: 0.1082033577648

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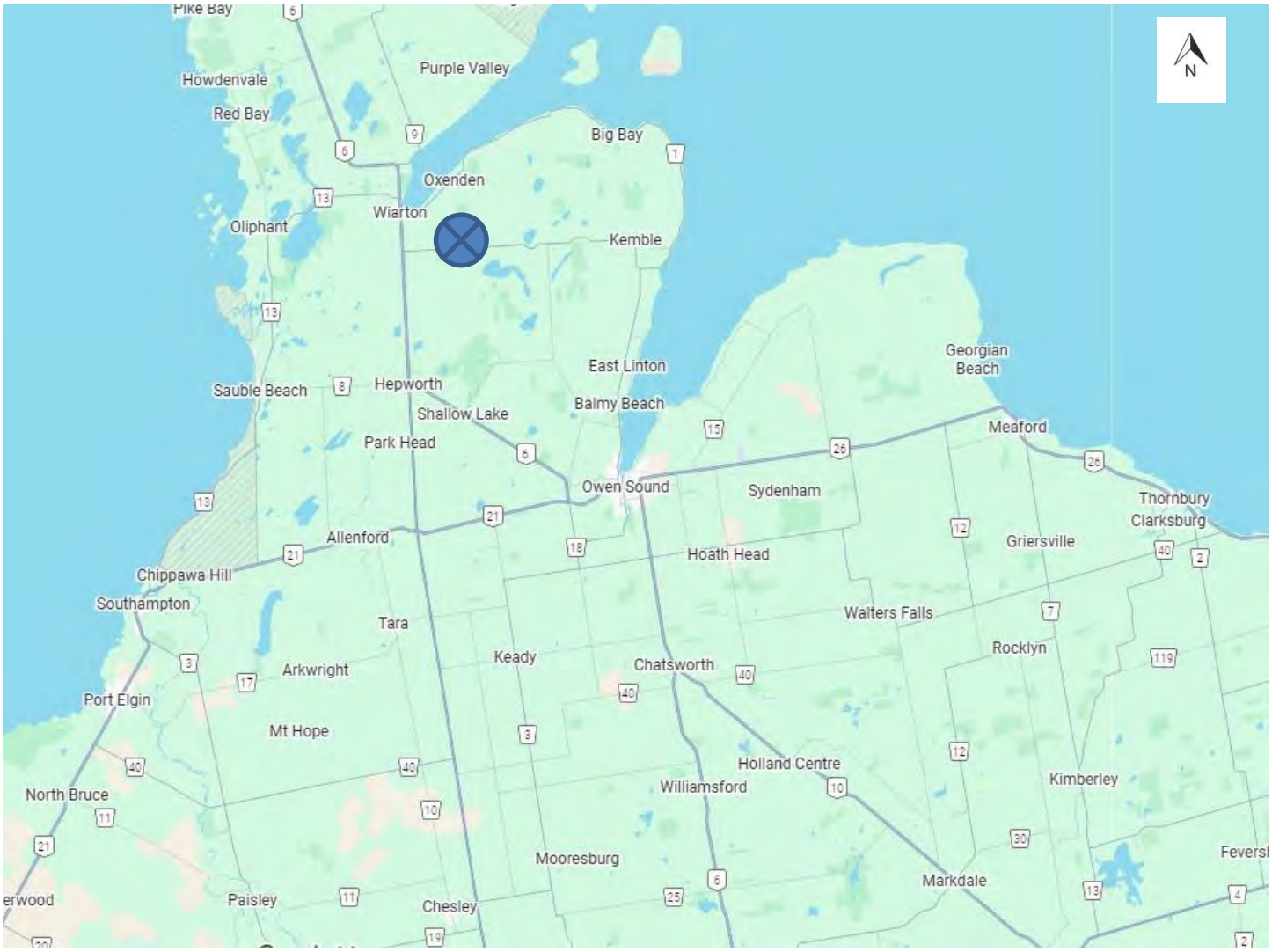
Coatings
Inspection
Ltd.

481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

Appended Figures and Maps

PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca



PW MAKAR INSPECTION SERVICES LTD. HAS A LICENCSING AGREEMENT WITH GOOGLE INC. TO REPRODUCE AND PUBLISH THE FOLLOWING IMAGE.NO FURTHER REPRODUCTION OR PUBLISHING OF THIS IMAGE IS PERMITTED UNLESS WRITEN CONSENT FROM PW MAKAR INSPECTION SERVICES LTD.	SITE MAP LOCATION Municipality of South Bruce Peninsula Bruce County, Ontario
SURVEY DATE; October 30, 2025	**FIGURE 2**

PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

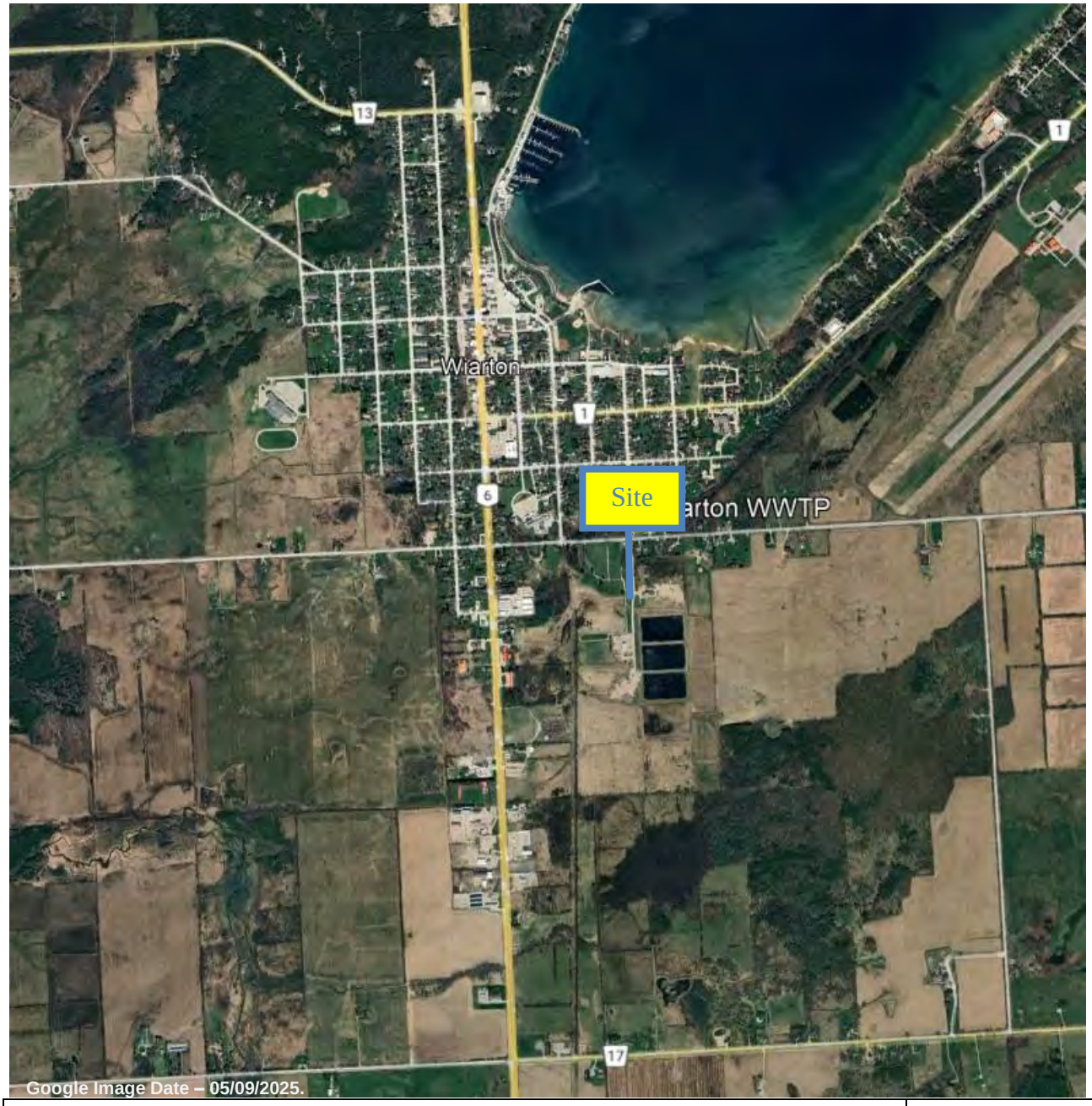


IMAGE DATE; 05/09/2025

SITE AERIAL MAP LOCATION

Municipality of South Bruce Peninsula
Bruce County, Ontario

FIGURE 3

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Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

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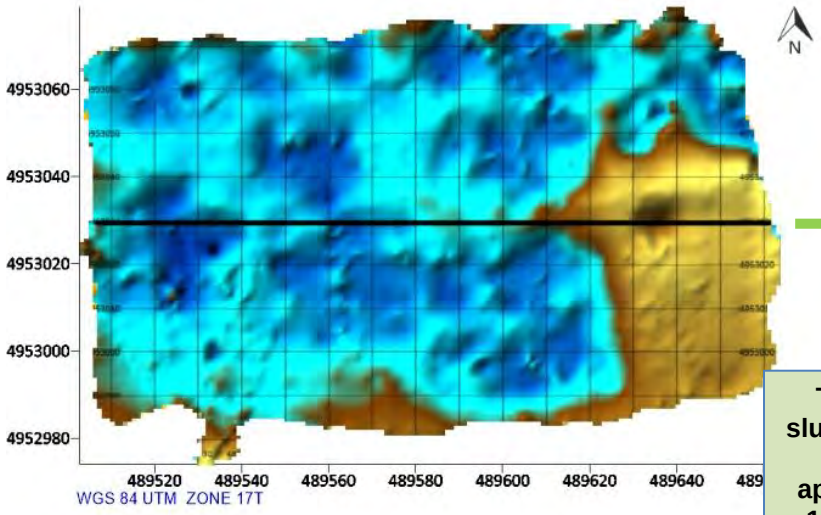
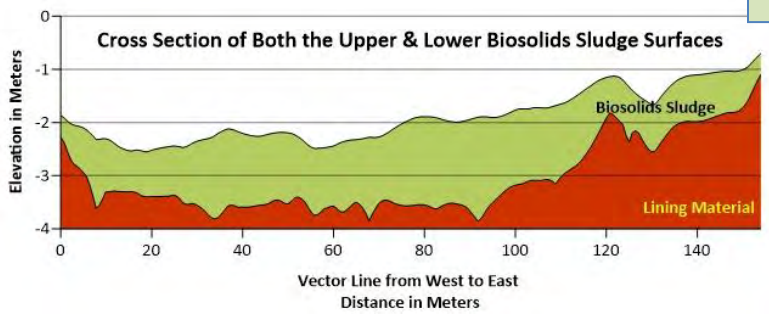
Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #1 (South)

Visual Representation of the Sludge Layer Along a Random Vector Line



The average depth of sludge in the Wiarton Cell 1 (South) is approximately 1.21 m or 1210 mm or 47.63 in or 3.97 ft.



Visual Representation of a Sludge Layer Sliced Randomly from East to West

Municipality of South Bruce Peninsula
Bruce County, Ontario

PLOT 1

Survey Date: October 30, 2025

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Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

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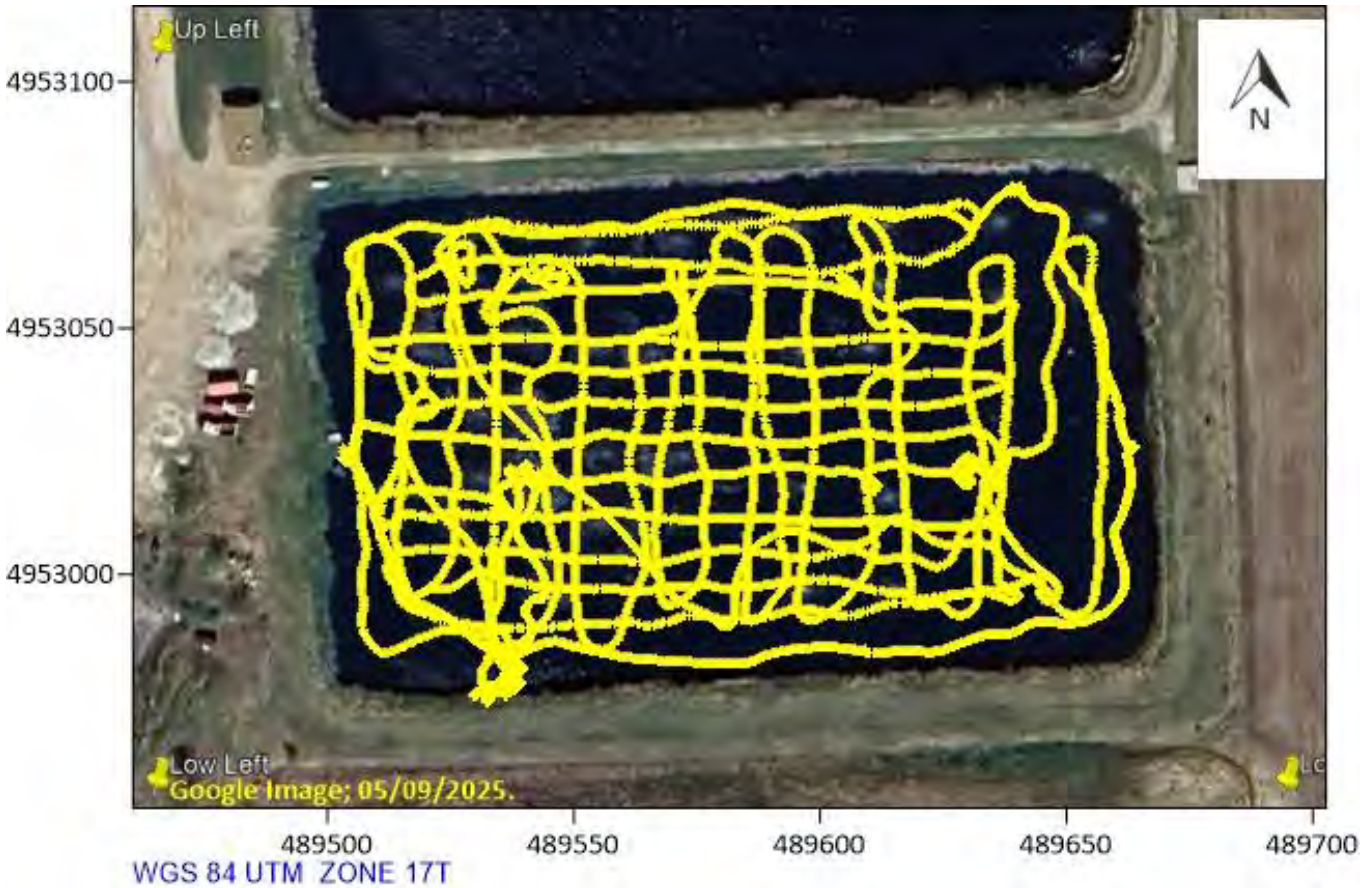
Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #1 (South)

Google Earth Georeferencing Image
Hydrographic Survey Vessel GPS Tracking Lines



Georeferencing Image and Hydrographic Survey Vessel Tracking Lines

Municipality of South Bruce Peninsula
Bruce County, Ontario

Plot 2

Survey Date: October 30, 2025

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Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

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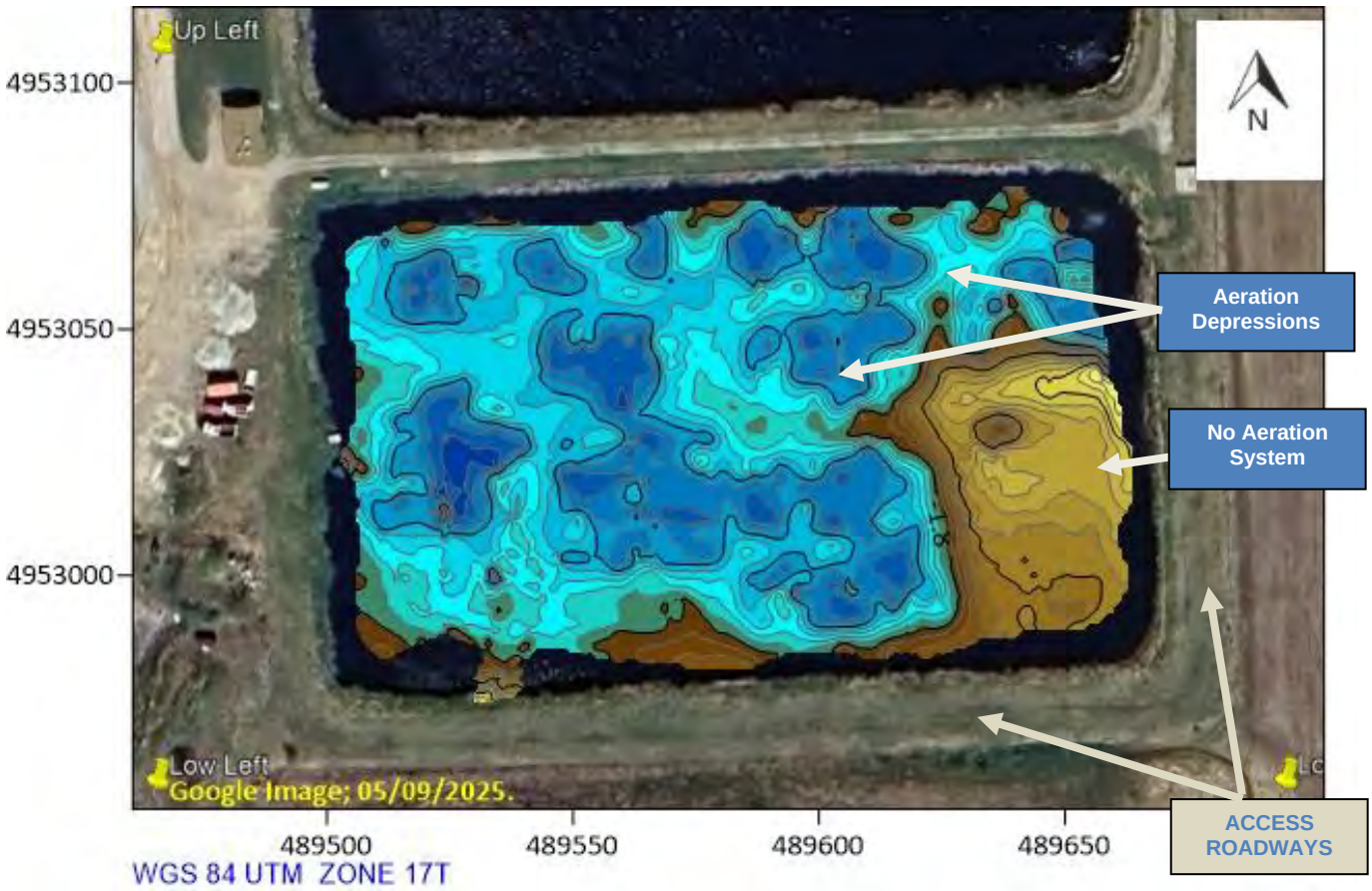
Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #1 (South)

Google Earth Georeferencing Image
Site Description



Georeferencing Image and Hydrographic Survey Site Description

Municipality of South Bruce Peninsula
Bruce County, Ontario

Plot 3

Survey Date: October 30, 2025

PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

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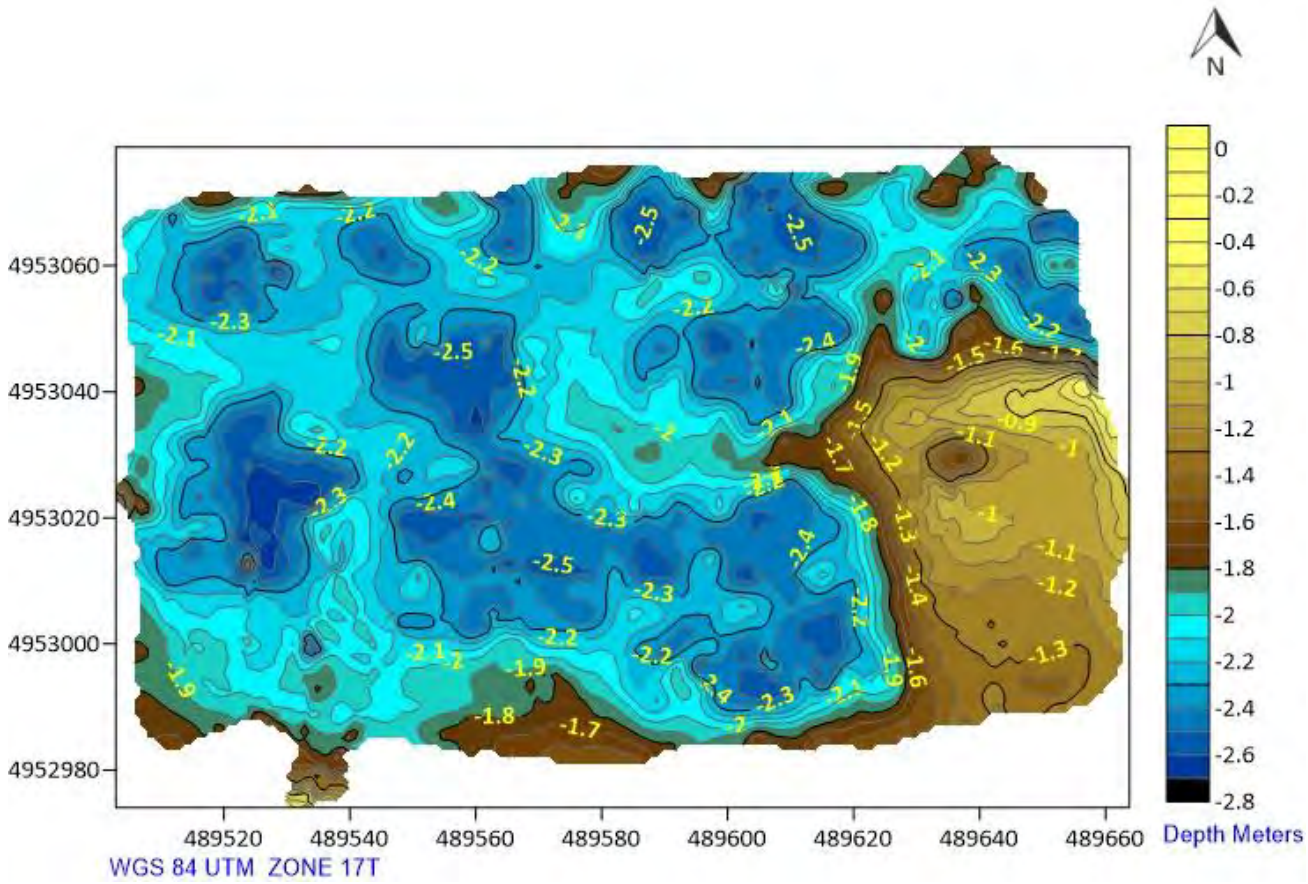
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #1 (South)

Bathymetric Upper Sludge Surface – Contour Map



Bathymetric (Upper Surface) Sludge Distribution – Contour Map

Municipality of South Bruce Peninsula
Bruce County, Ontario

PLOT 4

Survey Date: October 30, 2025

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Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

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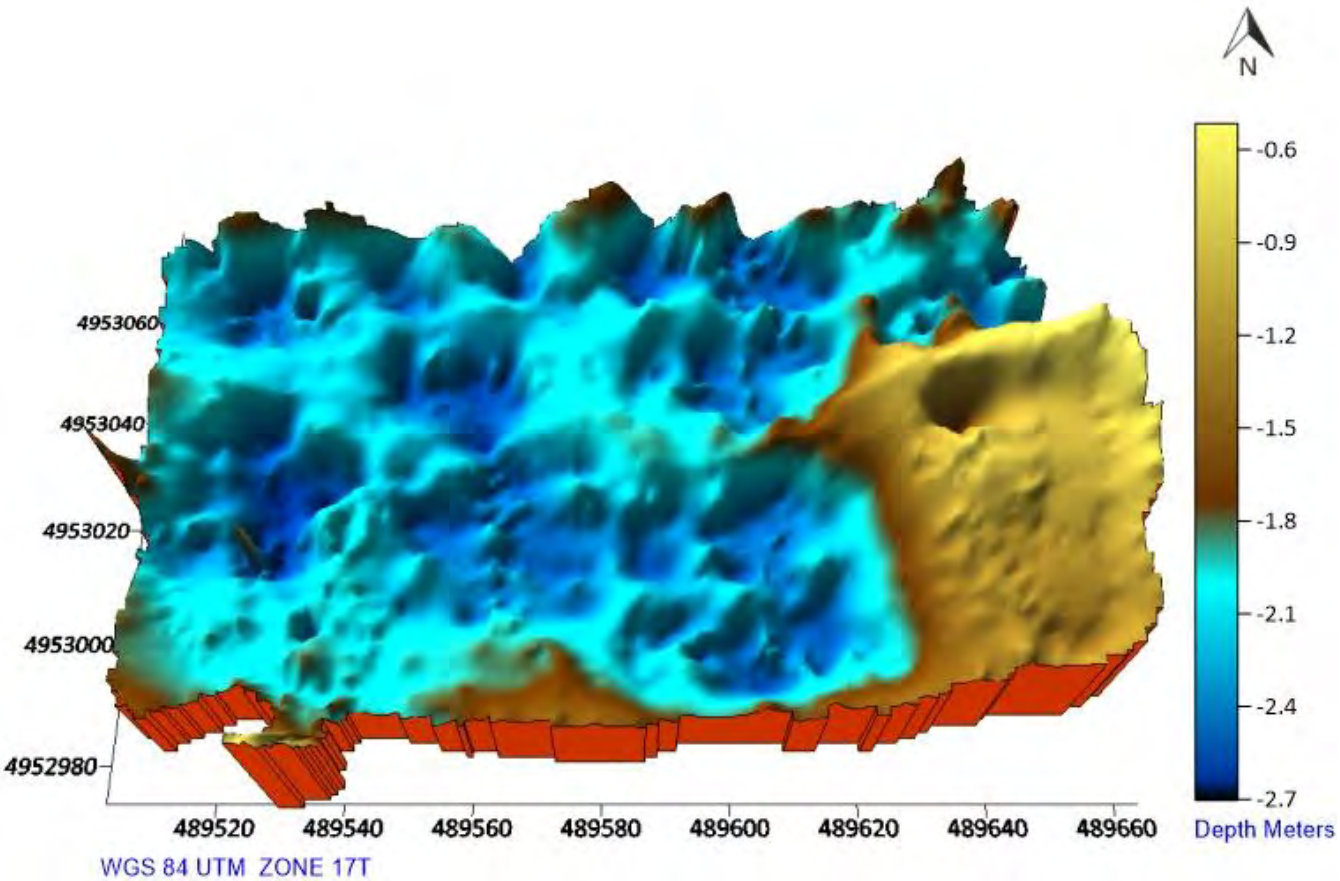
Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #1 (South)

Bathymetric Upper Sludge Surface – 3D Contour Map



Bathymetric (Upper Surface) Sludge Distribution – 3D Contour Map

Municipality of South Bruce Peninsula
Bruce County, Ontario

PLOT 5

Survey Date: October 30, 2025

PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

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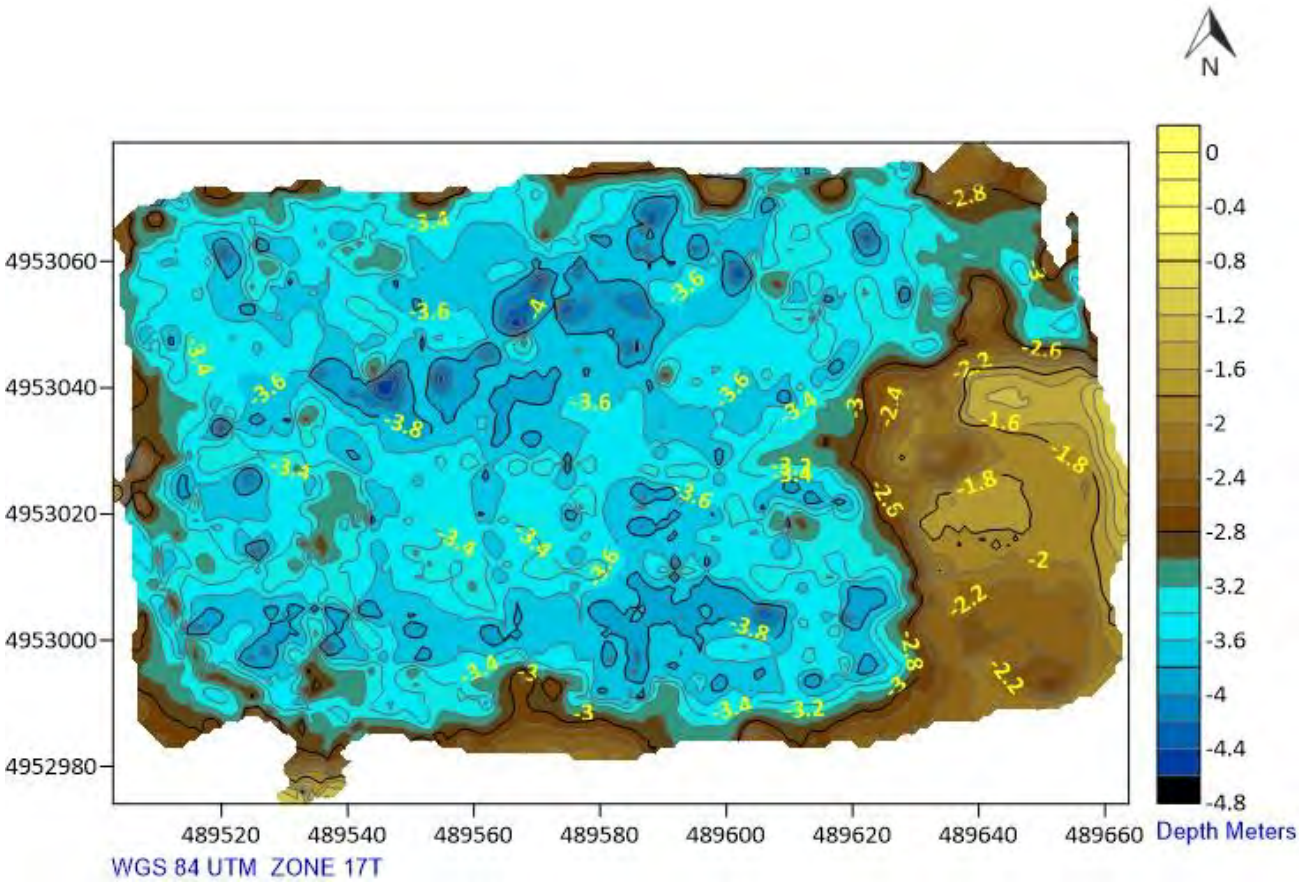
Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #1 (South)

Lower Sub-Bottom Liner Surface – Contour Map



Lower Sub-Bottom (Liner/Clay/Hard Packed Soil) – Contour Map

Municipality of South Bruce Peninsula
Bruce County, Ontario

PLOT 6

Survey Date: October 30, 2025

PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

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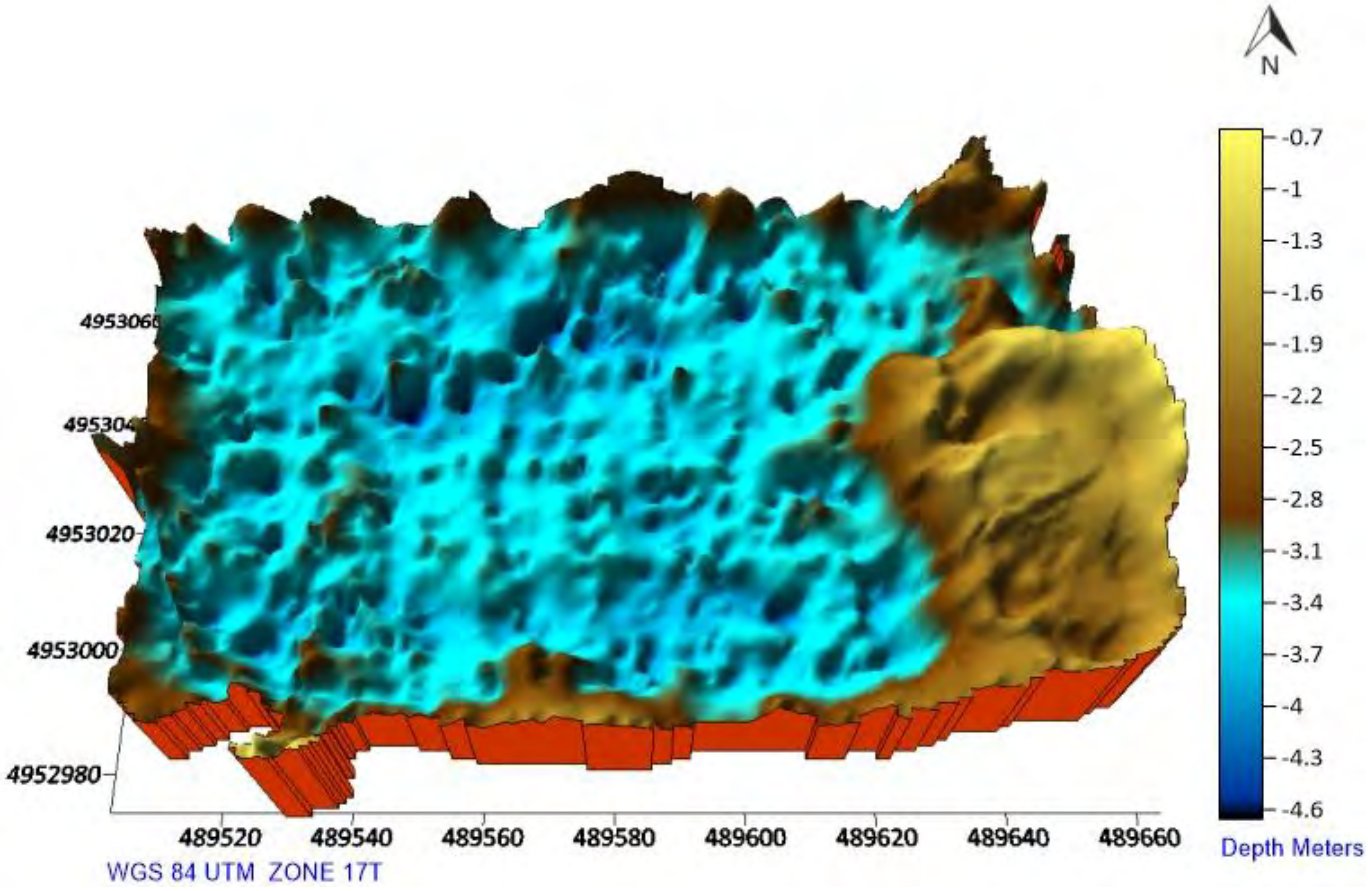
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #1 (South)

Lower Sub-Bottom Liner Surface – 3D Contour Map



Lower Sub-Bottom (Liner/Clay/Hard Packed Soil) – 3D Contour Map

Municipality of South Bruce Peninsula
Bruce County, Ontario

PLOT 7

Survey Date: October 30, 2025

PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

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ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #1 (South)

Hydrographic Acoustic Sonar
Biosolids Volume Modeling and Distribution Survey

Date; October 30, 2025

PICTORIAL REPORT

Digital Image 1. Wiarton Biosolids Aerated Cell #1 (South).

481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

Digital Image 2. Wiarton Biosolids Aerated Cell #1 (South).

Digital Image 3. Wiarton Biosolids Aerated Cell #1 (South).

PW MAKAR
Coatings Inspection Ltd.

481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

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AGENCE ONTARIENNE DES EAUX

Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #2 (Middle)

Shallow Underwater Hydrographic Acoustic Sonar
Sludge Profiling - Volume Modeling and Distribution Survey

Date; October 30, 2025.

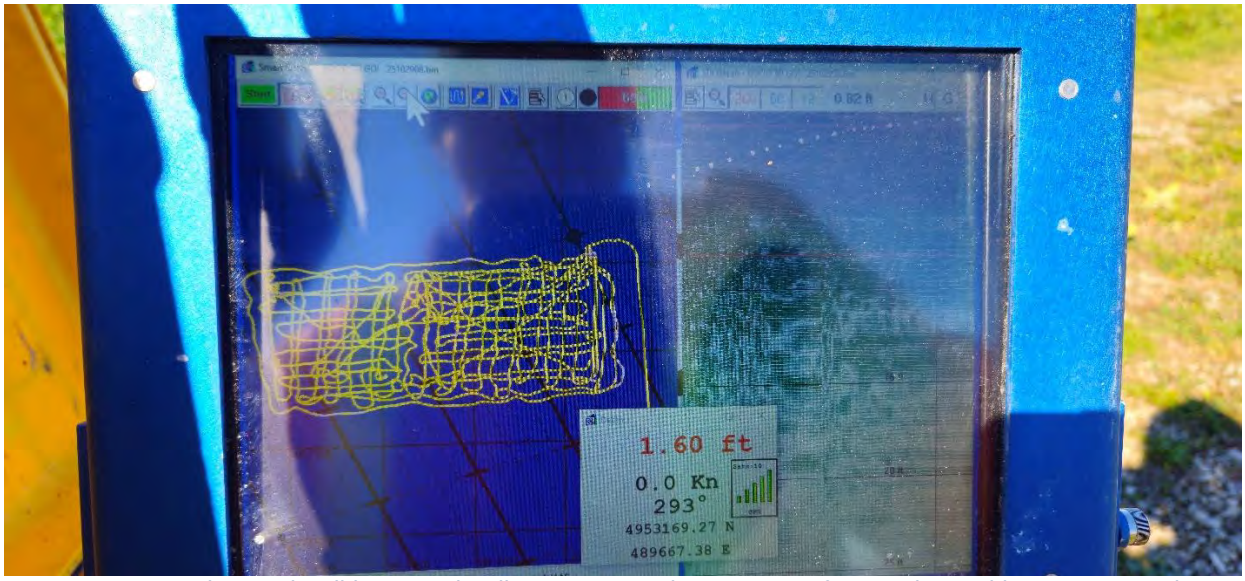

Image. OCWA – Wiarton Biosolids Aerated Cell 2. Raw Acoustic Sonar Data from Hydrographic Survey Vessel.

Prepared For: **Léo-Paul Frigault**
Senior Operations Manager
Grey Bruce Hub
Richard Eagle
Senior Operations Manager – Capital Projects
Ontario Clean Water Agency (OCWA

Prepared By: Paul Makar
PW MAKAR COATINGS INSPECTION LTD.

PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

TABLE OF CONTENT

481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

1.0 INTRODUCTION

1.1 The Ontario Clean Water Agency contracted PW MAKAR COATINGS INSPECTION LTD. to conduct a hydrographic acoustic sonar biosolids profiling-volume modeling and distribution survey of the Wiarton Wastewater Treatment Facility Aerated Cell 2 (Middle).

1.2 The intent of this survey was to determine the sludge volumes, identify sludge distribution patterns and loading areas within the Wiarton Aerated Cell 2.

1.3 The survey was performed using a multi-frequency (200, 50 and a 12 kHz) acoustic sonar profiling system in the shallow waters of the Wiarton Aerated Cell 2.

1.3.1 The precision navigation was provided by the survey vessels on-board GPS system which is incorporated with the acoustic profiling system. Processing of the acoustic data provides both an indication of the present fluid depth and an image of the extent of biosolids between the fluid bottom (upper biosolids surface contour bathymetric) and the liner/clay bottom (sub-bottom liner/clay contour) of the Wiarton Aerated Cell 2 (Middle).

1.4 PW MAKAR had a two-person survey crew conducting the unmanned remotely controlled hydrographic survey.

1.4.1 One operator navigating the unmanned remotely controlled hydrographic survey vessel operator throughout the Wiarton Aerated Cell 2 (Middle).

1.4.2 PW MAKAR's Geographic Information Systems (GIS/Mapping) and Approvals Specialist was responsible for calibrating and setting the transduce frequencies based on sludge and water depths. Monitoring of the raw sonar data streaming in from the transducers and GPS to the onboard sonar profiling computer system, watching survey vessel tracking lines, and conducting baseline sludge sub-bottom/liner and bathymetry, sludge blanket depths for post-processing validation.

2.0 SITE DESCRIPTION

2.1 The Wiarton Wastewater Treatment Facility is located at 441048 Elm Street, Wiarton Ontario.

2.2 The Wiarton Wastewater Treatment Facility consists of three (3) wastewater – Biosolids Aeration Cells comprising of; Aeration Cell 1 (South), Aeration Cell 2 (Middle) and Aeration Cell 3 (North).

2.2.1 Aeration Cell 1 and Aeration Cell 3 were also surveyed on October 30, 2025; the hydrographic reports are not included with the Aeration Cell 2 (South) report, but detailed in their own separate reports.

PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

2.3 Wiarton Wastewater Treatment Facility Aerated Cell 2 (Middle).

2.3.1.1 There is a high level of vegetation around all of the three Cells. A power tool was used to cut vessel access points into the Cells.

2.4 The underwater area surveyed within the Wiarton Wastewater Treatment Facility Aerated Cell 2 (Middle) – survey date; October 30, 2025 had a **Positive Planar Area** of **13820.01 m²** or **3.41 acres** or **1.38 ha**.

2.4.1.1 **Please note**; the area surveyed within the Wiarton Wastewater Treatment Facility Aerated Cell 2 is dependent on the water level at the time of the survey. Any obstruction within the pond i.e., dykes, aeration systems, rock outcrops above and below the water, vegetation and aquodic plant life around the base of the cell berm can affect the size of the survey area.

2.4.2

Figure 1. A water table area reference qualifier was conducted by a polygon measurement made in Google Earth to a 05/09/2025 image of the Wiarton Wastewater Treatment Facility Aerated Cell 2 (Middle) the water table area was found to be approximately 3.88 Acres.[1]

3.0 DISCLAIMER

3.1 While PW MAKAR COATINGS INSPECTION LTD believes it has used best practice in obtaining the information contained in this report, in no event will PW MAKAR COATINGS INSPECTION LTD be liable for any commercial costs, damages, loss of profit, property damage or personal injury, including death sustained or suffered in connection with the use of data or subsequent processing of materials obtained during field efforts by PW MAKAR COATINGS INSPECTION LTD during this program, or consequential damages including, but not limited to those related to dredging, removal of sludge , disposal of sludge , or contamination resulting from use of data obtained from this report or efforts or conclusions drawn from this report.

[1] **Google Earth. – 05/09/2025.**

481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

3.2 PW MAKAR COATINGS INSPECTION LTD makes no warranty, either expressed or implied, regarding the suitability or fitness of any data or information contained in this report for a particular purpose or that the information will satisfy the requirement of any law, rule, specification, or contract.

3.3 The maximum liability of PW MAKAR COATINGS INSPECTION LTD. from all causes related to this work, field efforts, report or discussions about this effort is limited to the funding received by PW MAKAR COATINGS INSPECTION LTD for this work. Acceptance of this report signifies acceptance of this disclaimer.

3.4 This report shall be deemed accepted if no protest is received within 60 days of the issuance date of this report.

4.0 ABSTRACT

4.1 The shallow hydrographic underwater acoustic sonar survey was conducted on October 30, 2025; this report reflects the water content and sludge levels at the time of this hydrographic survey.

4.2 The hydrographic survey was performed by PW MAKAR COATINGS INSPECTION LTD's, (GIS/Mapping) and Approvals Specialist, the survey complies with IHO (International Hydrographic Organization) Standards.

4.3 Transducer sound calibration checks, manual sludge bathymetry, and probe measuring to the sub-bottom were performed prior to the start of the hydrographic survey in the Wiarton Wastewater Treatment Facility Aerated Cell 2 (Middle) to validate post processing of the raw data.

5.0 SLUDGE DEPTH EVALUATIONS

5.1 The sub-bottom contour in the Aerated Cell 2 (Middle), has a "hard pack" sub-bottom layer i.e., clay and/or hard pack soil, all three of our hydrographic acoustic sonar transducers were utilized to determine the bathymetric bottom and sub-bottom.

5.1.1 The sludge profiling volume computations were calculated from the sludge layer using the three transducer kHz frequency ranges of 200 kHz, 50 kHz, and 12 kHz transducers.

5.1.2 The total volume of sludge surveyed on October 30, 2025 in the Wiarton Wastewater Treatment Facility Aerated Cell 2 (Middle), is approximately **15156.62 m³** or **19824.11 yd³**.

Notice to Reader; The percentages of biosolids volumes will change/increase if water levels in the lagoon/cell fluctuates. In addition, if aluminum sulfate is added to the water and the suspended biosolids settles to the bathymetric layer of the cell this will add to the amount of

481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

biosolids sludge. As well, if there is an aeration system associated with the biosolids cell the amount of time in which the aeration system was shut down to allow for the suspended biosolids to settle, again will add to the total volume of biosolids build up.

5.1.2.1 To calculate a percentage of sludge, a grid volume computation was calculated from the bathymetric sludge bottom (defined as the top of the sludge) and the sub-bottom of the sludge i.e., the top of the pond liner. It was then divided by the grid volume computation calculated from the top of the liquid/water to the sub-bottom of the sludge of the pond liner. The two number sets are then multiplied by 100 to determine a percentage of the sludge.

5.1.2.1.1 Therefore, on this date the percentage of sludge buildup in the Wiarton Wastewater Treatment Facility Aerated Cell 2 (Middle) is approximately **42.39%.**

5.1.3 PW MAKAR COATINGS INSPECTION LTD. collected **26379** digitized data value points in the Wiarton Wastewater Treatment Facility Aerated Cell 2 (Middle). The digitized data value points represent both the bathymetric bottom (top of the sludge) and sub-bottom (top of the liner) values with GPS navigational values.

5.1.3.1 Each individual data value point consists of an XYZ value. X value is an Easting coordinate; Y value is a Northing coordinate and Z consists of a sludge elevation processed in meters.

5.1.3.2 The average depth of the sludge within Wiarton Wastewater Treatment Facility Aerated Cell 2 (Middle) on this date was approximately **1.09 m or 1090 mm or 42.91 in or 3.58 ft**.

Reported by: Paul Makar
Paul Makar
PW MAKAR COATINGS INSPECTION LTD. NACE CERTIFIED COATINGS INSPECTOR #137.

PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

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ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #2 (Middle)

Shallow Underwater Hydrographic Acoustic Sonar
Sludge Profiling - Volume Modeling and Distribution Survey

Date; October 30, 2025

Grid Volume Computations

Bathymetric (Upper) Sludge Surface
and Sub-Bottom (Lower) – Liner Surface.

Upper Surface

Grid File Name:	**C:\OCWA - Wiarton - Lagoon Surveys\Wiarton Cell 2 - Mapping Reports\Cell 2 - A Layer\Cell 2 - A Layer Blanked Out.grd**
Grid Size:	99 rows x 168 columns
X Minimum:	489495.74
X Maximum:	489662.45
X Spacing:	0.99826347305402
Y Minimum:	4953090.19
Y Maximum:	4953187.3
Y Spacing:	0.99091836734086
Z Minimum:	-2.4631117837826
Z Maximum:	-0.40538190989973

Lower Surface

Grid File Name:	**C:\OCWA - Wiarton - Lagoon Surveys\Wiarton Cell 2 - Mapping Reports\Cell 2 - B Layer\Cell 2 - B Layer Blanked Out.grd**
Grid Size:	99 rows x 168 columns

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Corunna, ON., N0N 1G0
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X Minimum:	489495.74
X Maximum:	489662.45
X Spacing:	0.99826347305402
Y Minimum:	4953090.19
Y Maximum:	4953187.3
Y Spacing:	0.99091836734086
Z Minimum:	-3.1691918174069
Z Maximum:	-0.75469013548618

Volumes

Z Scale Factor: 1

Total Volumes by:

Trapezoidal Rule:	15156.51392822
Simpson's Rule:	15157.006085397
Simpson's 3/8 Rule:	15160.912465325

Cut & Fill Volumes

Positive Volume [Cut]:	**15156.626669478 m^3 or 19824.11 yd^3.**
Negative Volume [Fill]:	0.11274125780487
Net Volume [Cut-Fill]:	15156.51392822

Areas

Planar Areas

Positive Planar Area [Cut]:	**13820.019194086 m^2 or 3.4 acers or 1.38 ha**
Negative Planar Area [Fill]:	0.55522652887858
No Data Planar Area:	2368.6336792874
Total Planar Area:	16189.208099903

Surface Areas

Positive Surface Area [Cut]:	14065.400898312
Negative Surface Area [Fill]:	0.84690555988847

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Coatings
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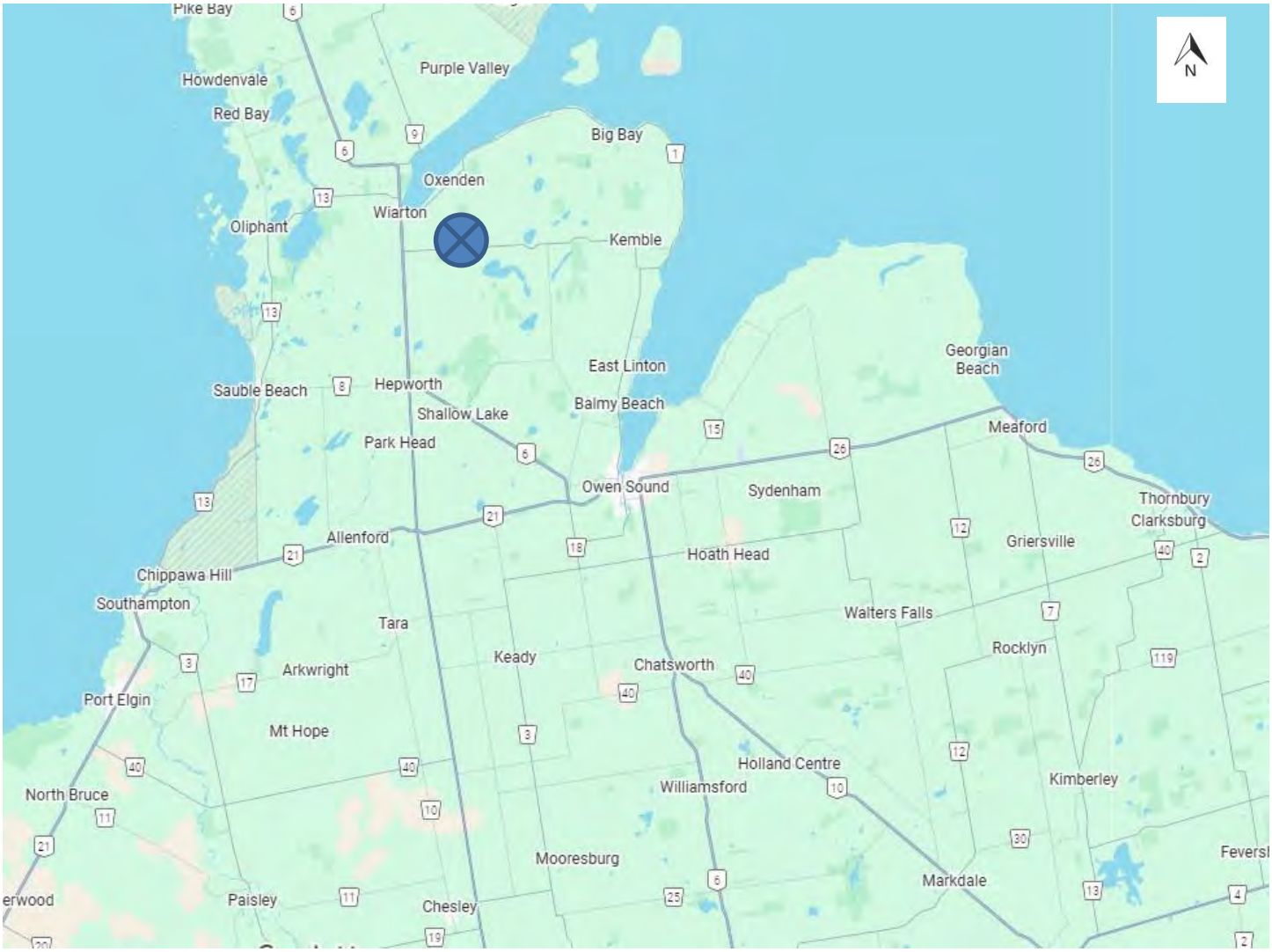
Ltd.

481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

Appended Figures and Maps

PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca



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SURVEY DATE; October 30, 2025	**FIGURE 2**

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Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

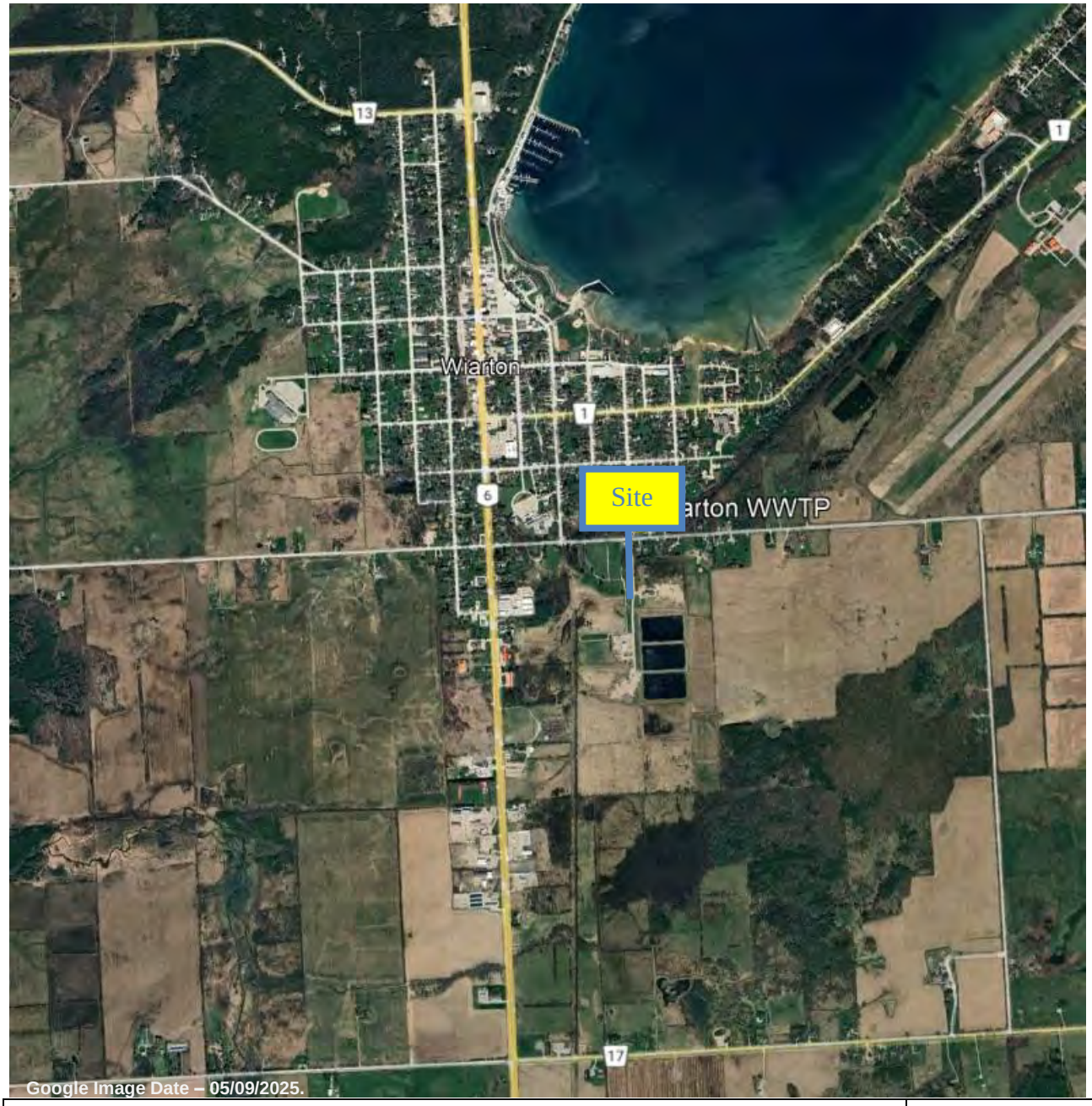

IMAGE DATE; 05/09/2025

SITE AERIAL MAP LOCATION

Municipality of South Bruce Peninsula
Bruce County, Ontario

FIGURE 3

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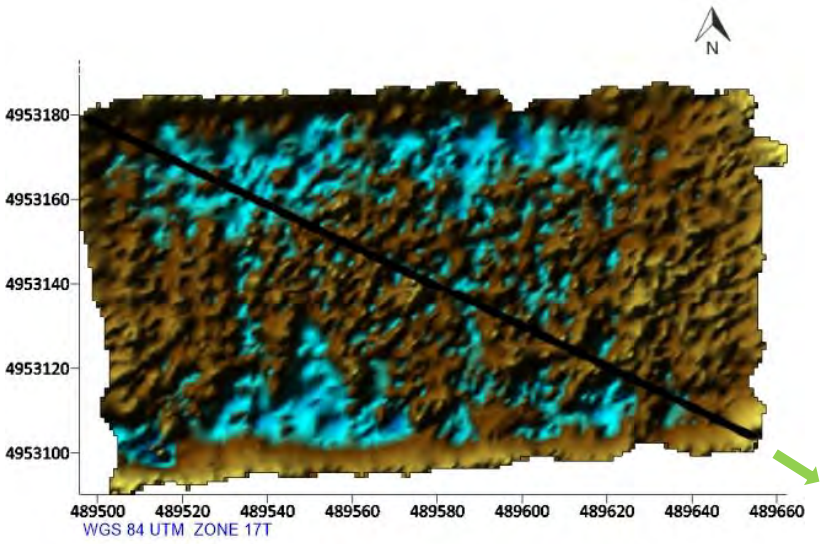
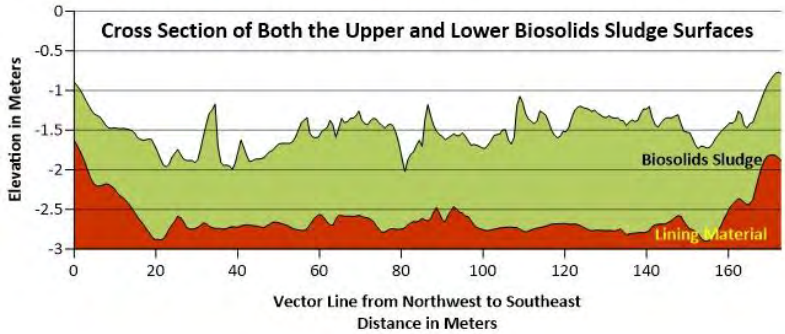
Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #2 (Middle)

Visual Representation of the Sludge Layer Along a Random Vector Line





The average depth of sludge in the Wiarton Cell 2 (Middle) is approximately 1.09 m or 1090 mm or 42.91 in or 3.58 ft.

Visual Representation of a Sludge Layer Sliced Randomly from East to West

Municipality of South Bruce Peninsula
Bruce County, Ontario

PLOT 1

Survey Date: October 30, 2025

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Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

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Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #2 (Middle)

Google Earth Georeferencing Image
Hydrographic Survey Vessel GPS Tracking Lines

Georeferencing Image and Hydrographic Survey Vessel Tracking Lines

Municipality of South Bruce Peninsula
Bruce County, Ontario

Plot 2

Survey Date: October 30, 2025

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481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

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Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #2 (Middle)

Google Earth Georeferencing Image
Site Description

Georeferencing Image and Hydrographic Survey Site Description

Municipality of South Bruce Peninsula
Bruce County, Ontario

Plot 3

Survey Date: October 30, 2025

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paul.makar@cogeco.ca

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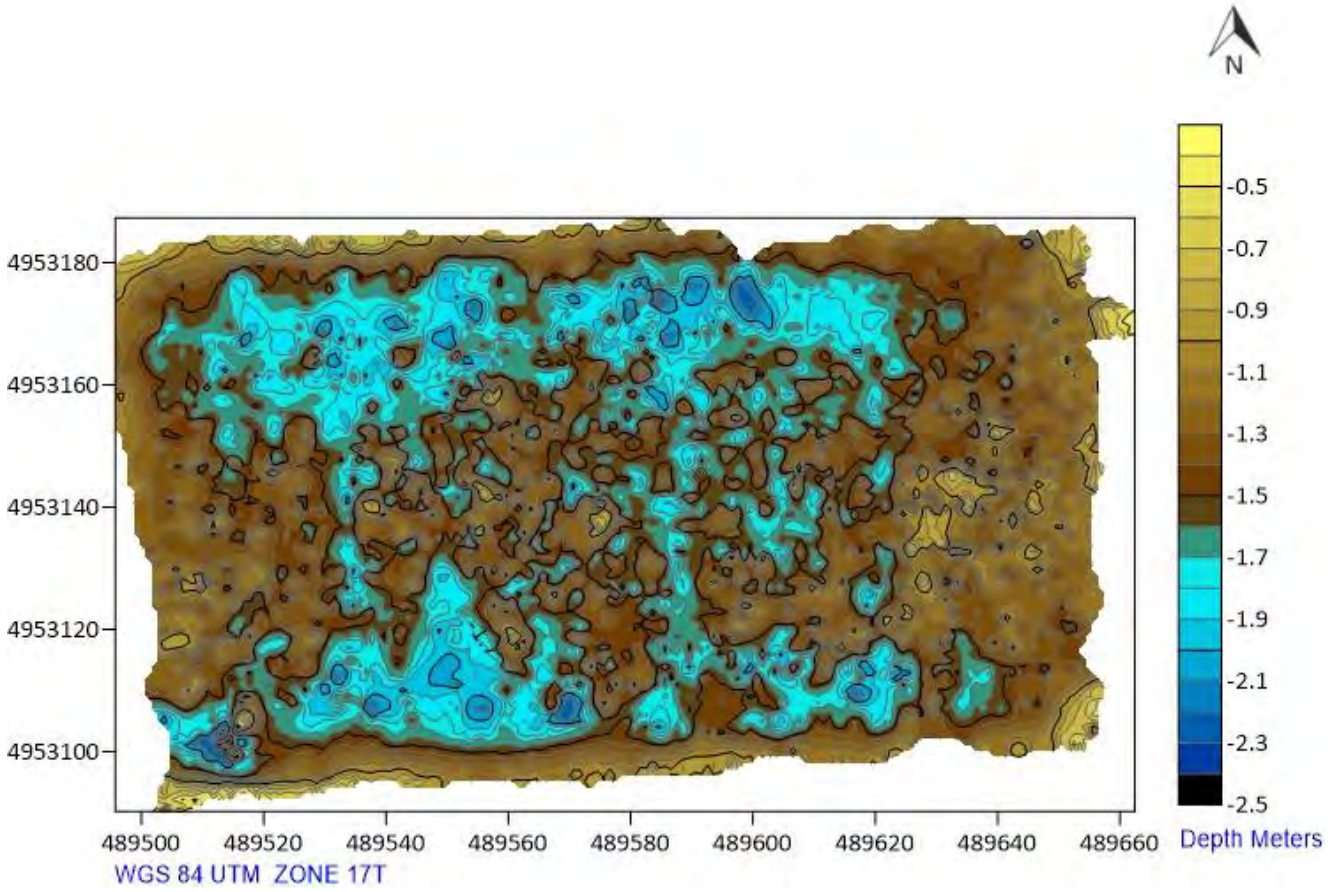
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #2 (Middle)

Bathymetric Upper Sludge Surface – Contour Map



Bathymetric (Upper Surface) Sludge Distribution – Contour Map

Municipality of South Bruce Peninsula
Bruce County, Ontario

PLOT 4

Survey Date: October 30, 2025

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paul.makar@cogeco.ca

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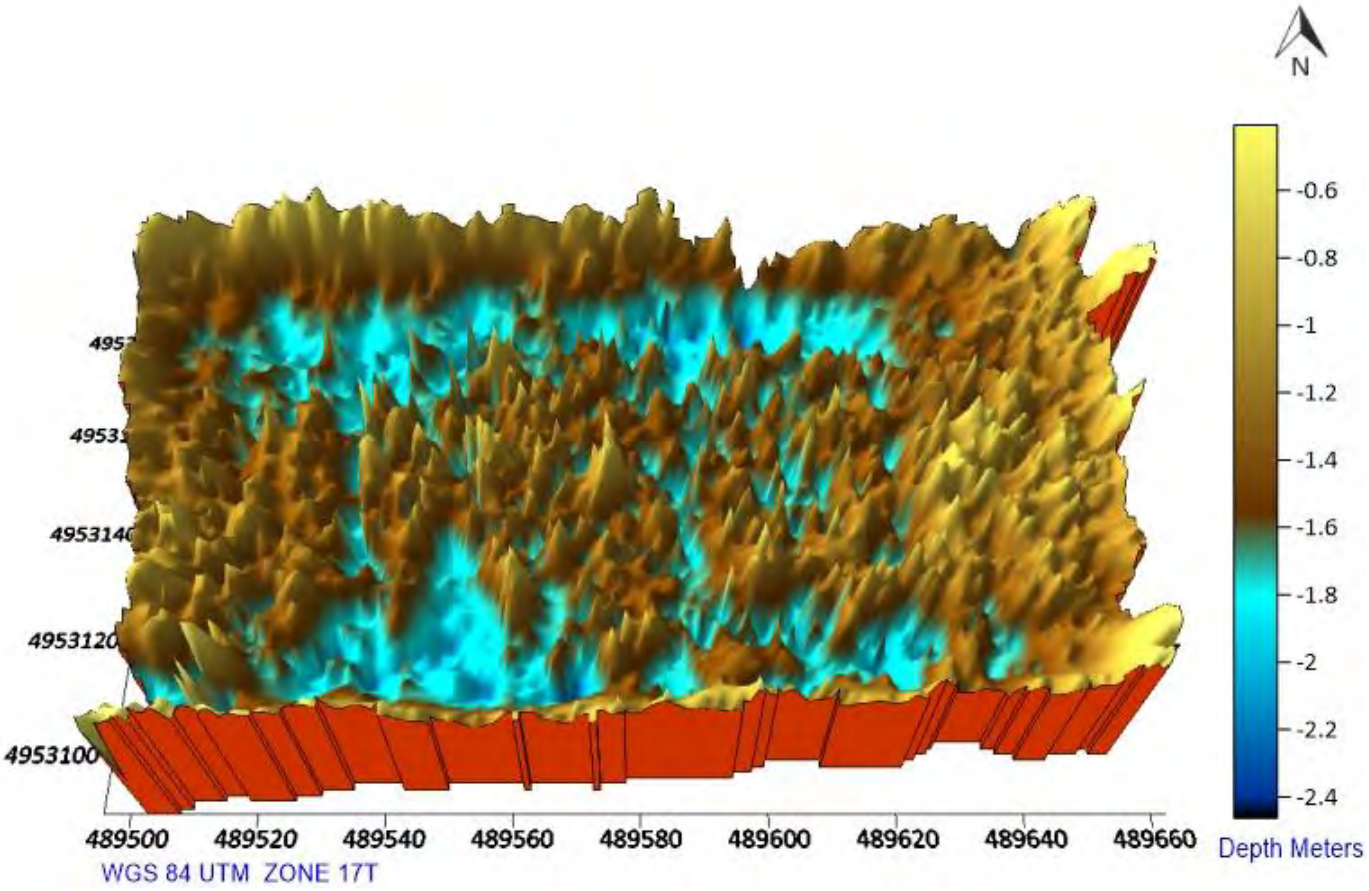
Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #2 (Middle)

Bathymetric Upper Sludge Surface – 3D Contour Map



Bathymetric (Upper Surface) Sludge Distribution – 3D Contour Map

Municipality of South Bruce Peninsula
Bruce County, Ontario

PLOT 5

Survey Date: October 30, 2025

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481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

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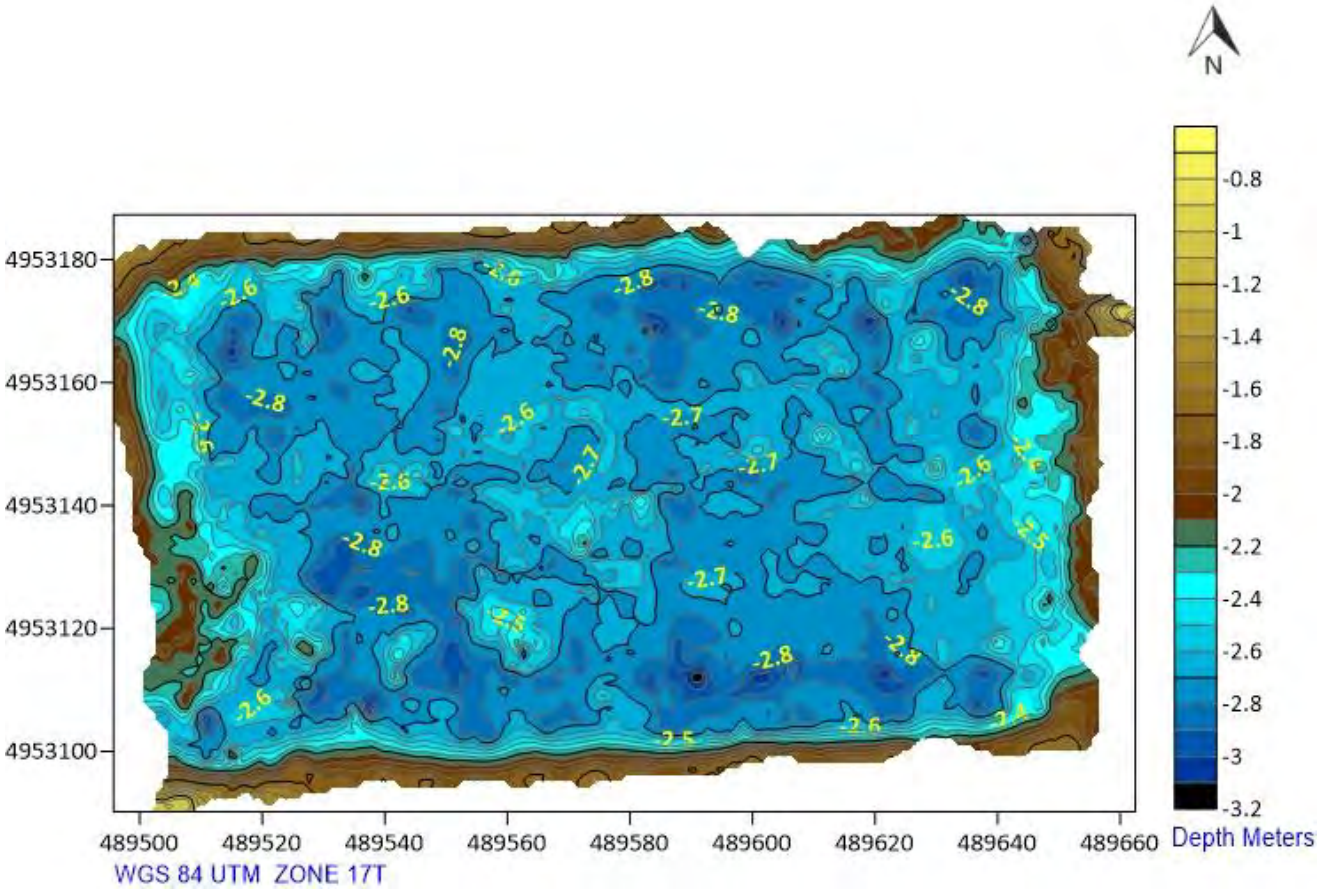
Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #2 (Middle)

Lower Sub-Bottom Liner Surface – Contour Map



Lower Sub-Bottom (Liner/Clay/Hard Packed Soil) – Contour Map

Municipality of South Bruce Peninsula
Bruce County, Ontario

PLOT 6

Survey Date: October 30, 2025

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paul.makar@cogeco.ca

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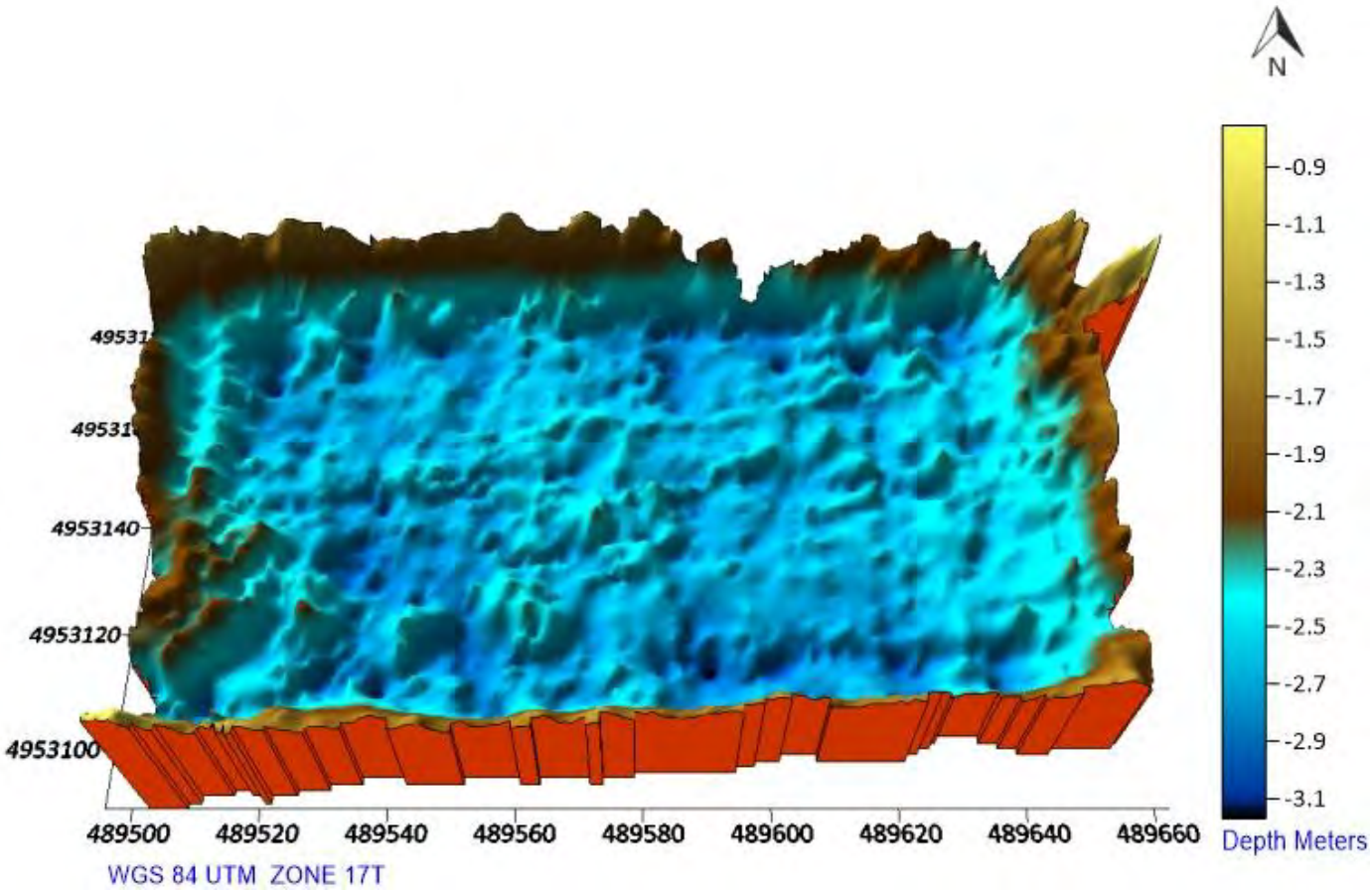
Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #2 (Middle)

Lower Sub-Bottom Liner Surface – 3D Contour Map



Lower Sub-Bottom (Liner/Clay/Hard Packed Soil) – 3D Contour Map

Municipality of South Bruce Peninsula
Bruce County, Ontario

PLOT 7

Survey Date: October 30, 2025

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Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

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Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #2 (Middle)

Hydrographic Acoustic Sonar
Biosolids Volume Modeling and Distribution Survey

Date; October 30, 2025
PICTORIAL REPORT

Digital Image 1. Wiarton Biosolids Aerated Cell #2 (Middle). Remotely Controlled Hydrographic Survey Vessel.

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481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

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Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #3 (North)

Shallow Underwater Hydrographic Acoustic Sonar
Sludge Profiling - Volume Modeling and Distribution Survey

Date; October 30, 2025.

Image. OCWA – Wiarton Biosolids Aerated Cell 3. Unmanned Remote Controlled Hydrographic Survey Vessel.

Prepared For: **Léo-Paul Frigault**
Senior Operations Manager
Grey Bruce Hub
Richard Eagle
Senior Operations Manager – Capital Projects
Ontario Clean Water Agency (OCWA

Prepared By: Paul Makar
PW MAKAR COATINGS INSPECTION LTD.

PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

TABLE OF CONTENT

481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

1.0 INTRODUCTION

1.1 The Ontario Clean Water Agency contracted PW MAKAR COATINGS INSPECTION LTD. to conduct a hydrographic acoustic sonar biosolids profiling-volume modeling and distribution survey of the Wiarton Wastewater Treatment Facility Aerated Cell 3 (North).

1.2 The intent of this survey was to determine the sludge volumes, identify sludge distribution patterns and loading areas within the Wiarton Aerated Cell 3.

1.3 The survey was performed using a multi-frequency (200, 50 and a 12 kHz) acoustic sonar profiling system in the shallow waters of the Wiarton Aerated Cell 3.

1.3.1 The precision navigation was provided by the survey vessels on-board GPS system which is incorporated with the acoustic profiling system. Processing of the acoustic data provides both an indication of the present fluid depth and an image of the extent of biosolids between the fluid bottom (upper biosolids surface contour bathymetric) and the liner/clay bottom (sub-bottom liner/clay contour) of the Wiarton Aerated Cell 3 (North).

1.4 PW MAKAR had a two-person survey crew conducting the unmanned remotely controlled hydrographic survey.

1.4.1 One operator navigating the unmanned remotely controlled hydrographic survey vessel operator throughout the Wiarton Aerated Cell 3 (North).

1.4.2 PW MAKAR's Geographic Information Systems (GIS/Mapping) and Approvals Specialist was responsible for calibrating and setting the transduce frequencies based on sludge and water depths. Monitoring of the raw sonar data streaming in from the transducers and GPS to the onboard sonar profiling computer system, watching survey vessel tracking lines, and conducting baseline sludge sub-bottom/liner and bathymetry, sludge blanket depths for post-processing validation.

2.0 SITE DESCRIPTION

2.1 The Wiarton Wastewater Treatment Facility is located at 441048 Elm Street, Wiarton Ontario.

2.2 The Wiarton Wastewater Treatment Facility consists of three (3) wastewater – Biosolids Aeration Cells comprising of; Aeration Cell 1 (South), Aeration Cell 2 (Middle) and Aeration Cell 3 (North).

2.2.1 Aeration Cell 1 and Aeration Cell 2 were also surveyed on October 30, 2025; the hydrographic reports are not included with the Aeration Cell 3 (North) report, but detailed in their own separate reports.

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Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

2.3 Wiarton Wastewater Treatment Facility Aerated Cell 3 (North).

2.3.1.1 There is a high level of vegetation around all of the three Cells. A power tool was used to cut vessel access points into the Cells.

2.1 The underwater area surveyed within the Wiarton Wastewater Treatment Facility Aerated Cell 3 (North) – survey date; October 30, 2025 had a **Positive Planar Area** of **13595.12 m²** or **3.35 acres** or **1.36 ha**.

2.1.1.1 **Please note**; the area surveyed within the Wiarton Wastewater Treatment Facility Aerated Cell 3 is dependent on the water level at the time of the survey. Any obstruction within the pond i.e., dykes, aeration systems, rock outcrops above and below the water, vegetation and aquodic plant life around the base of the cell berm can affect the size of the survey area.

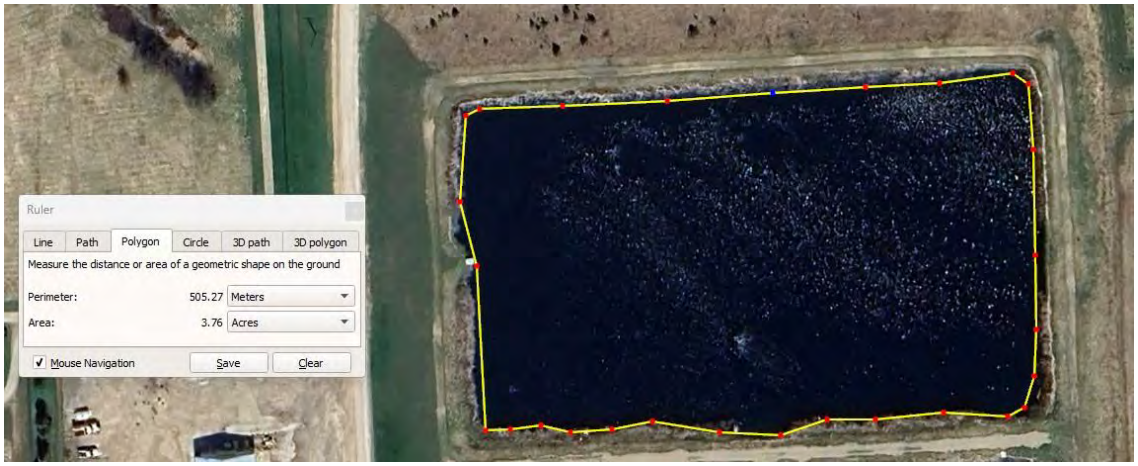
2.1.2 

Figure 1. A water table area reference qualifier was conducted by a polygon measurement made in Google Earth to a 05/09/2025 image of the Wiarton Wastewater Treatment Facility Aerated Cell 3 (North) the water table area was found to be approximately 3.76 Acres.[1]

3.0 DISCLAIMER

3.1 While PW MAKAR COATINGS INSPECTION LTD believes it has used best practice in obtaining the information contained in this report, in no event will PW MAKAR COATINGS INSPECTION LTD be liable for any commercial costs, damages, loss of profit, property damage or personal injury, including death sustained or suffered in connection with the use of data or subsequent processing of materials obtained during field efforts by PW MAKAR COATINGS INSPECTION LTD during this program, or consequential damages including, but not limited to those related to dredging, removal of sludge , disposal of sludge , or contamination resulting from use of data obtained from this report or efforts or conclusions drawn from this report.

[1] **Google Earth. – 05/09/2025.**

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Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

3.2 PW MAKAR COATINGS INSPECTION LTD makes no warranty, either expressed or implied, regarding the suitability or fitness of any data or information contained in this report for a particular purpose or that the information will satisfy the requirement of any law, rule, specification, or contract.

3.3 The maximum liability of PW MAKAR COATINGS INSPECTION LTD. from all causes related to this work, field efforts, report or discussions about this effort is limited to the funding received by PW MAKAR COATINGS INSPECTION LTD for this work. Acceptance of this report signifies acceptance of this disclaimer.

3.4 This report shall be deemed accepted if no protest is received within 60 days of the issuance date of this report.

4.0 ABSTRACT

4.1 The shallow hydrographic underwater acoustic sonar survey was conducted on October 30, 2025; this report reflects the water content and sludge levels at the time of this hydrographic survey.

4.2 The hydrographic survey was performed by PW MAKAR COATINGS INSPECTION LTD's, (GIS/Mapping) and Approvals Specialist, the survey complies with IHO (International Hydrographic Organization) Standards.

4.3 Transducer sound calibration checks, manual sludge bathymetry, and probe measuring to the sub-bottom were performed prior to the start of the hydrographic survey in the Wiarton Wastewater Treatment Facility Aerated Cell 3 (North) to validate post processing of the raw data.

5.0 SLUDGE DEPTH EVALUATIONS

5.1 The sub-bottom contour in the Aerated Cell 3 (North), has a "hard pack" sub-bottom layer i.e., clay and/or hard pack soil, all three of our hydrographic acoustic sonar transducers were utilized to determine the bathymetric bottom and sub-bottom.

5.1.1 The sludge profiling volume computations were calculated from the sludge layer using the three transducer kHz frequency ranges of 200 kHz, 50 kHz, and 12 kHz transducers.

5.1.2 The total volume of sludge surveyed on October 30, 2025 in the Wiarton Wastewater Treatment Facility Aerated Cell 3 (North), is approximately **12120.29 m^3** or **15852.74 yd^3**.

Notice to Reader; The percentages of biosolids volumes will change/increase if water levels in the lagoon/cell fluctuates. In addition, if aluminum sulfate is added to the water and the suspended biosolids settles to the bathymetric layer of the cell this will add to the amount of

481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

biosolids sludge. As well, if there is an aeration system associated with the biosolids cell the amount of time in which the aeration system was shut down to allow for the suspended biosolids to settle, again will add to the total volume of biosolids build up.

5.1.2.1 To calculate a percentage of sludge, a grid volume computation was calculated from the bathymetric sludge bottom (defined as the top of the sludge) and the sub-bottom of the sludge i.e., the top of the pond liner. It was then divided by the grid volume computation calculated from the top of the liquid/water to the sub-bottom of the sludge of the pond liner. The two number sets are then multiplied by 100 to determine a percentage of the sludge.

5.1.2.1.1 Therefore, on this date the percentage of sludge buildup in the Wiarton Wastewater Treatment Facility Aerated Cell 3 (North) is approximately **33.02%.**

5.1.3 PW MAKAR COATINGS INSPECTION LTD. collected **26379** digitized data value points in the Wiarton Wastewater Treatment Facility Aerated Cell 3 (North). The digitized data value points represent both the bathymetric bottom (top of the sludge) and sub-bottom (top of the liner) values with GPS navigational values.

5.1.3.1 Each individual data value point consists of an XYZ value. X value is an Easting coordinate; Y value is a Northing coordinate and Z consists of a sludge elevation processed in meters.

5.1.3.2 The average depth of the sludge within Wiarton Wastewater Treatment Facility Aerated Cell 3 (North) on this date was approximately **0.891 m or 891 mm or 35.0 in or 2.92 ft**.

Reported by: Paul Makar
Paul Makar
PW MAKAR COATINGS INSPECTION LTD. NACE CERTIFIED COATINGS INSPECTOR #137.

PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

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Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #3 (North)

Shallow Underwater Hydrographic Acoustic Sonar
Sludge Profiling - Volume Modeling and Distribution Survey

Date; October 30, 2025

Grid Volume Computations

Bathymetric (Upper) Sludge Surface
and Sub-Bottom (Lower) – Liner Surface.

Upper Surface

Grid File Name: **C:\OCWA - Wiarton - Lagoon Surveys\Wiarton Cell 3 Mapping Reports\Cell 3 - A Layer Maps\Cell 3 - A Layer Blanked Out.grd**
Grid Size: 102 rows x 164 columns

X Minimum: 489491.57
X Maximum: 489654
X Spacing: 0.99650306748462

Y Minimum: 4953208.34
Y Maximum: 4953308.97
Y Spacing: 0.99633663366226

Z Minimum: -2.4826747618709
Z Maximum: -0.44026157306053

Lower Surface

Grid File Name: **C:\OCWA - Wiarton - Lagoon Surveys\Wiarton Cell 3 Mapping Reports\Cell 3 - B Layer Maps\Cell 3 - B Layer Blanked Out.grd**
Grid Size: 102 rows x 164 columns

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paul.makar@cogeco.ca

X Minimum:	489491.57
X Maximum:	489654
X Spacing:	0.99650306748462
Y Minimum:	4953208.34
Y Maximum:	4953308.97
Y Spacing:	0.99633663366226
Z Minimum:	-3.2245791533912
Z Maximum:	-0.92594062549385

Volumes

Z Scale Factor: 1

Total Volumes by:

Trapezoidal Rule:	12120.295534722
Simpson's Rule:	12121.6405517
Simpson's 3/8 Rule:	12122.515073063

Cut & Fill Volumes

Positive Volume [Cut]:	**12120.295534722 m^3 or 15852.74 yd^3.**
Negative Volume [Fill]:	0
Net Volume [Cut-Fill]:	12120.295534722

Areas

Planar Areas

Positive Planar Area [Cut]:	**13595.129442595 m^2 or 3.5 acers or 1.36 ha**
Negative Planar Area [Fill]:	0
No Data Planar Area:	2750.2014573861
Total Planar Area:	16345.330899981

Surface Areas

Positive Surface Area [Cut]:	13824.399212624
Negative Surface Area [Fill]:	0

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Inspection
Ltd.

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Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

Appended Figures and Maps

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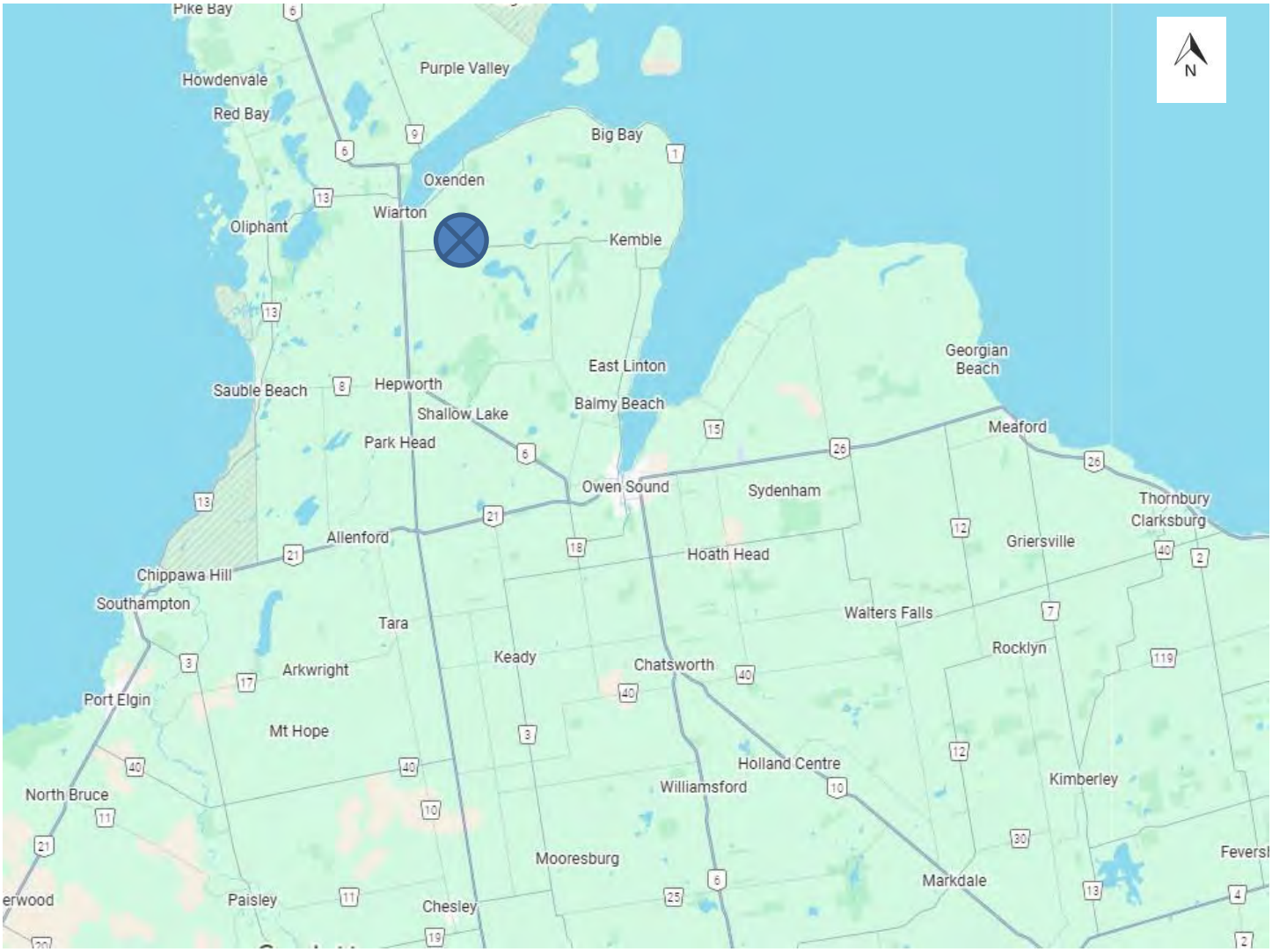
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca



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SURVEY DATE; October 30, 2025	**FIGURE 2**

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Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

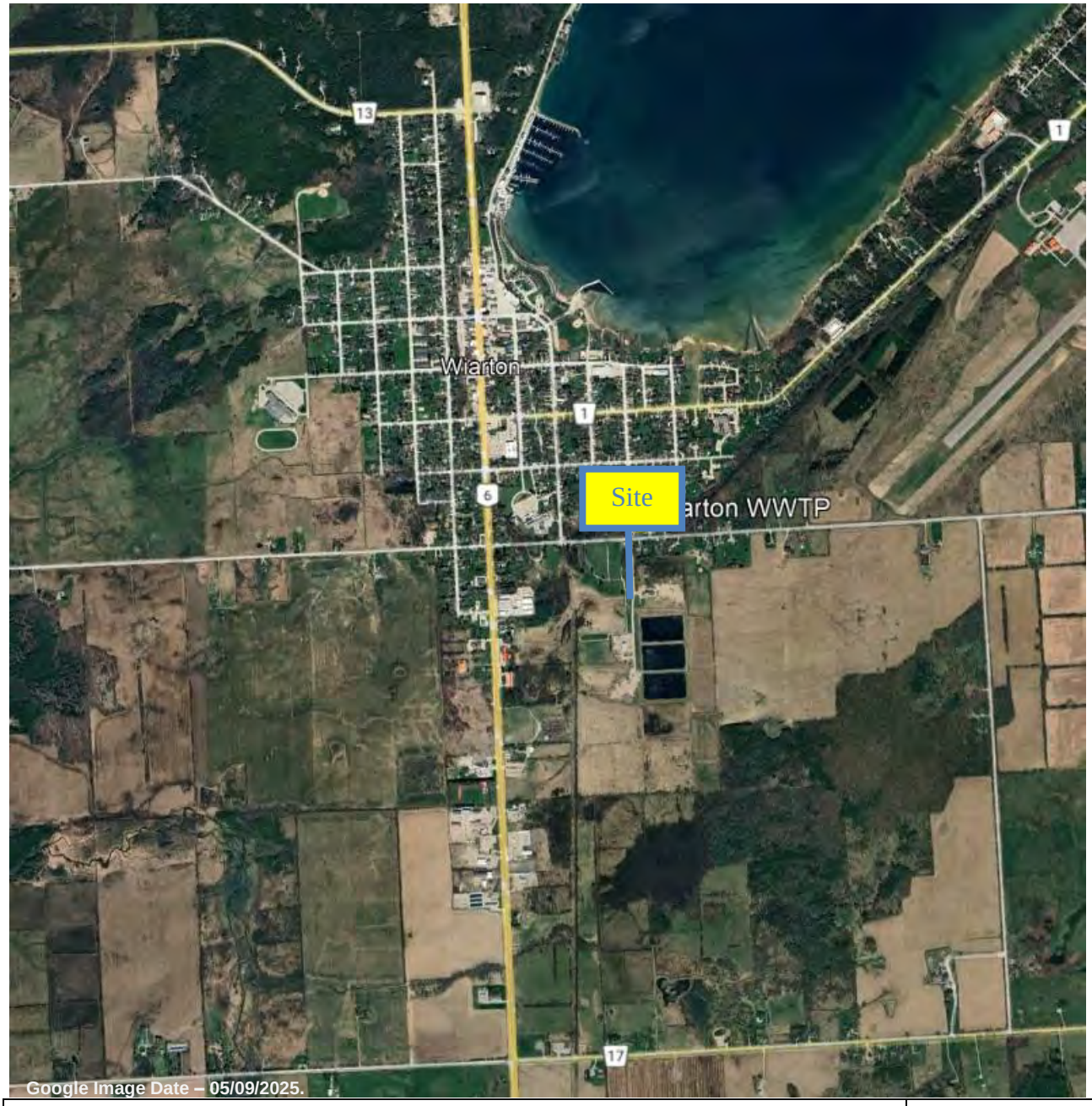

IMAGE DATE; 05/09/2025

SITE AERIAL MAP LOCATION

Municipality of South Bruce Peninsula
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FIGURE 3

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Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

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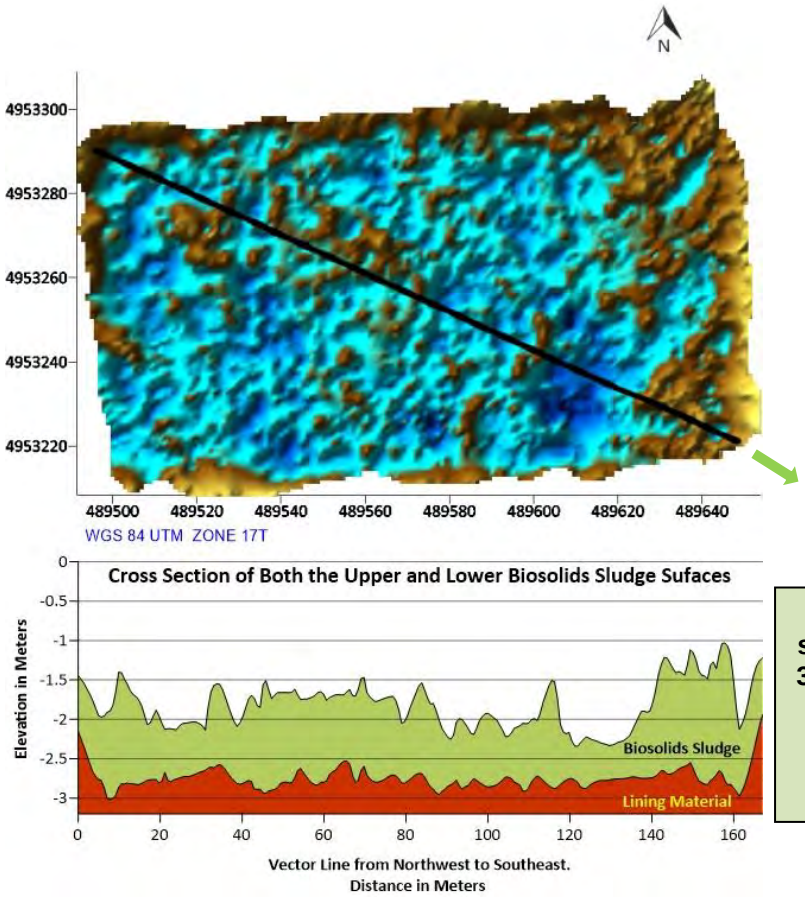
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #3 (North)

Visual Representation of the Sludge Layer Along a Random Vector Line



The average depth of sludge in the Wiarton Cell 3 (North) is approximately 0.891 m or 891 mm or 35.07 in or 2.92 ft.

Visual Representation of a Sludge Layer Sliced Randomly from East to West

Municipality of South Bruce Peninsula
Bruce County, Ontario

PLOT 1

Survey Date: October 30, 2025

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Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
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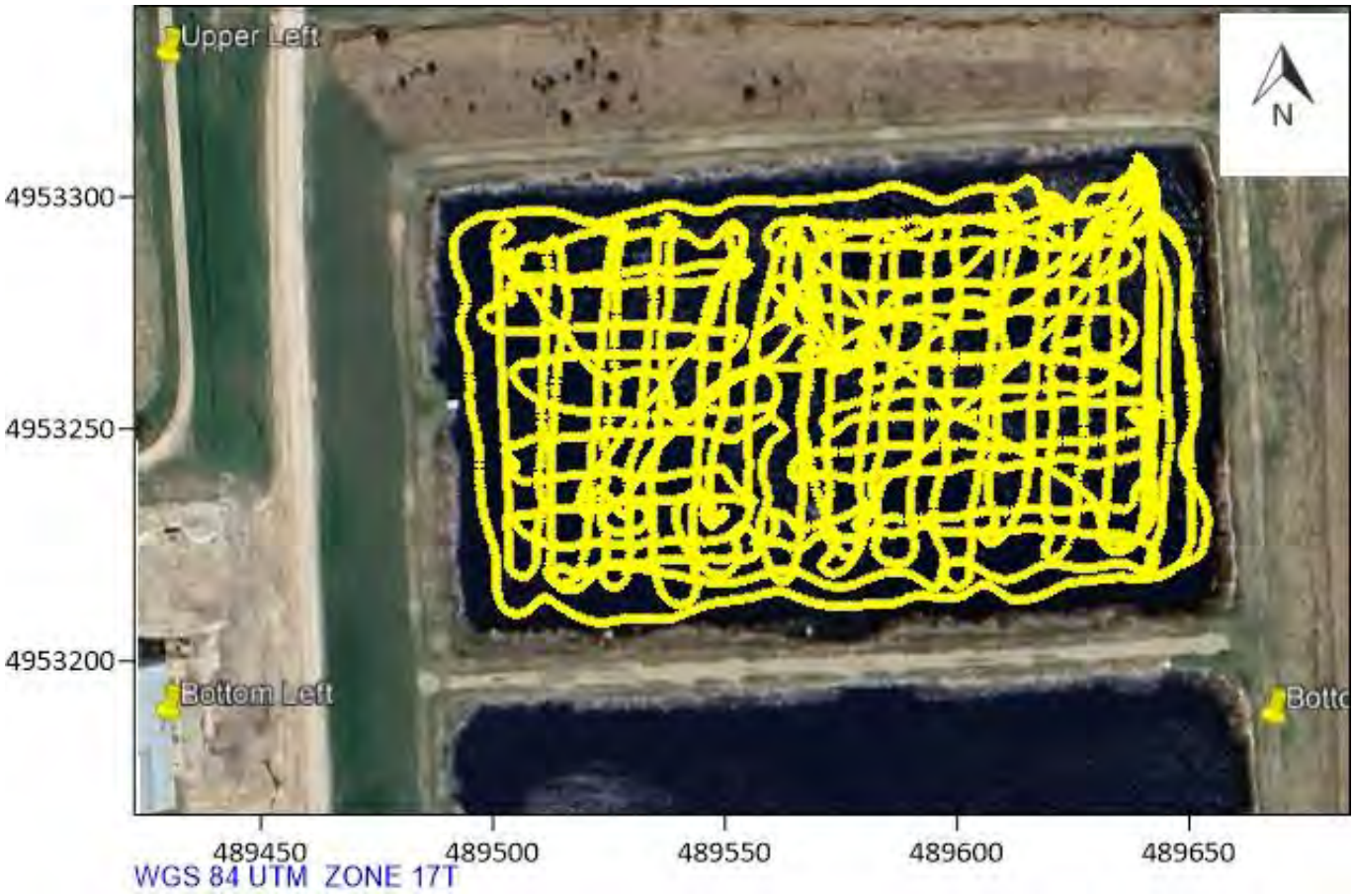
Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #3 (North)

Google Earth Georeferencing Image
Hydrographic Survey Vessel GPS Tracking Lines



Georeferencing Image and Hydrographic Survey Vessel Tracking Lines

Municipality of South Bruce Peninsula
Bruce County, Ontario

Plot 2

Survey Date: October 30, 2025

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Coatings Inspection Ltd.
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Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

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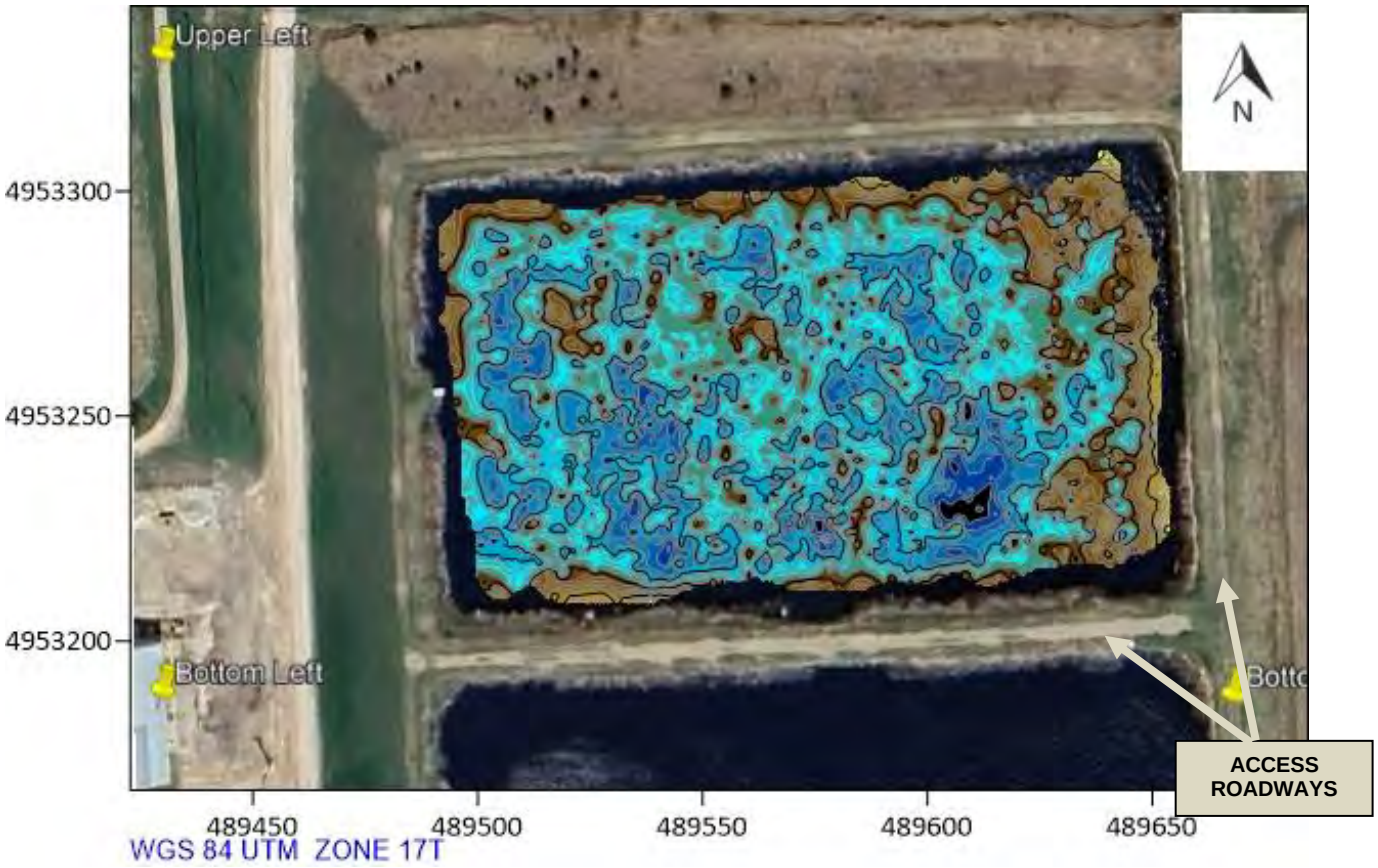
Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #3 (North)

Google Earth Georeferencing Image
Site Description



Georeferencing Image and Hydrographic Survey Site Description

Municipality of South Bruce Peninsula
Bruce County, Ontario

Plot 3

Survey Date: October 30, 2025

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Coatings Inspection Ltd.
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paul.makar@cogeco.ca

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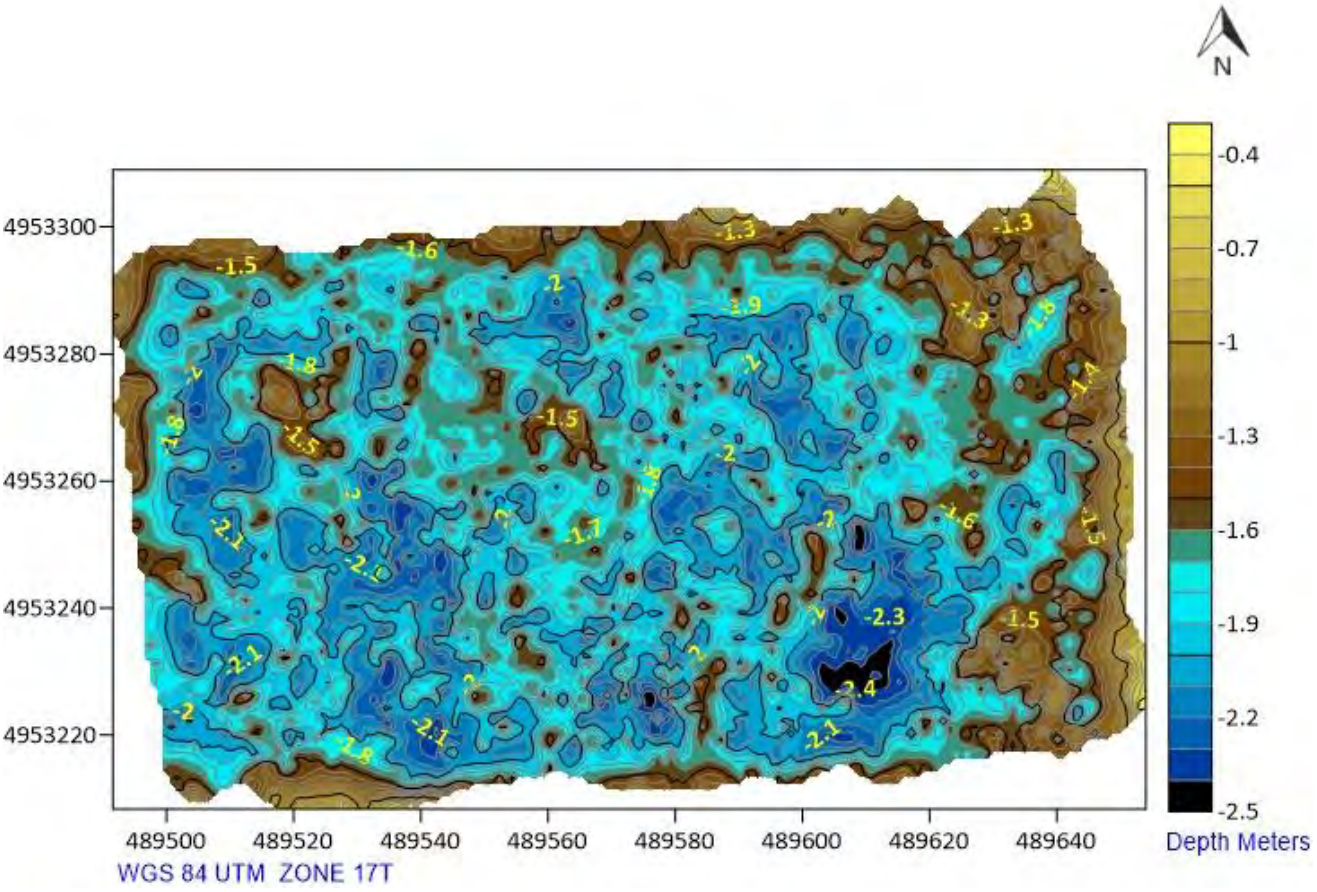
Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #3 (North)

Bathymetric Upper Sludge Surface – Contour Map



Bathymetric (Upper Surface) Sludge Distribution – Contour Map

Municipality of South Bruce Peninsula
Bruce County, Ontario

PLOT 4

Survey Date: October 30, 2025

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Coatings Inspection Ltd.
481 Murray Dr.
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paul.makar@cogeco.ca

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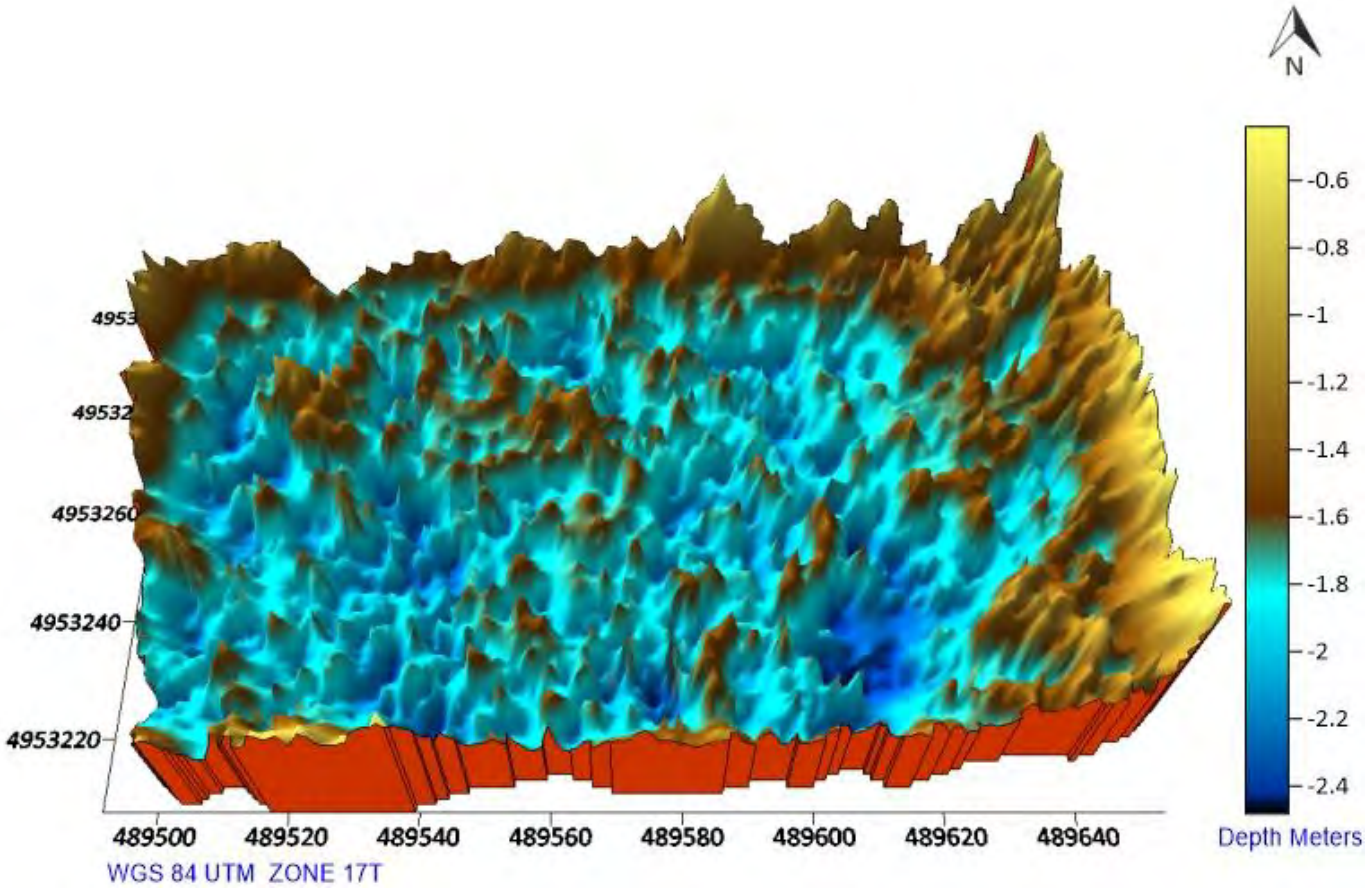
Wiarton Biosolids Aerated Cell #3 (North)

Bathymetric Upper Sludge Surface – 3D Contour Map



Bathymetric (Upper Surface) Sludge Distribution – 3D Contour Map

Municipality of South Bruce Peninsula
Bruce County, Ontario

PLOT 5

Survey Date: October 30, 2025

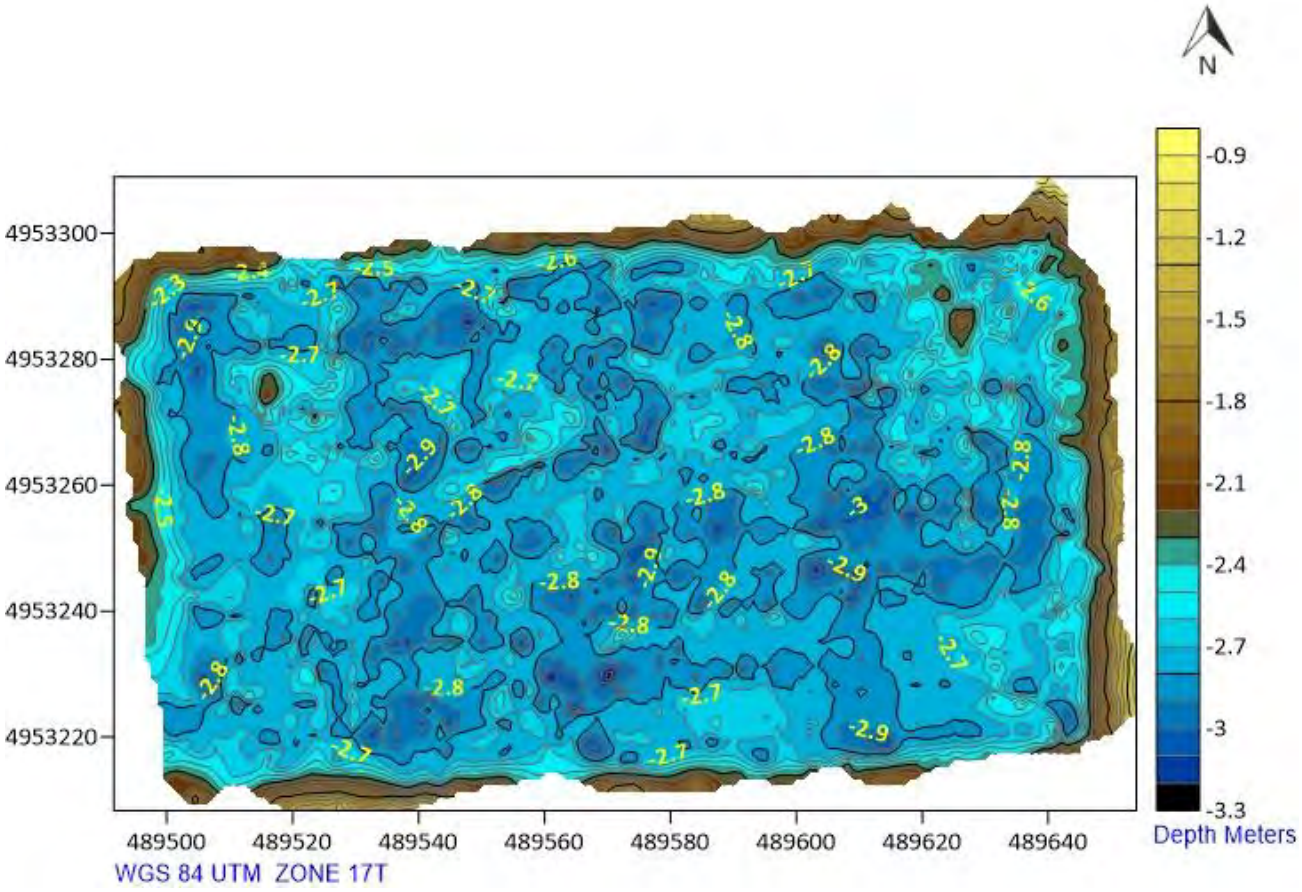
PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

OCWA
ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #3 (North)

Lower Sub-Bottom Liner Surface – Contour Map



Lower Sub-Bottom (Liner/Clay/Hard Packed Soil) – Contour Map

Municipality of South Bruce Peninsula
Bruce County, Ontario

PLOT 6

Survey Date: October 30, 2025

PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

OCWA
ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

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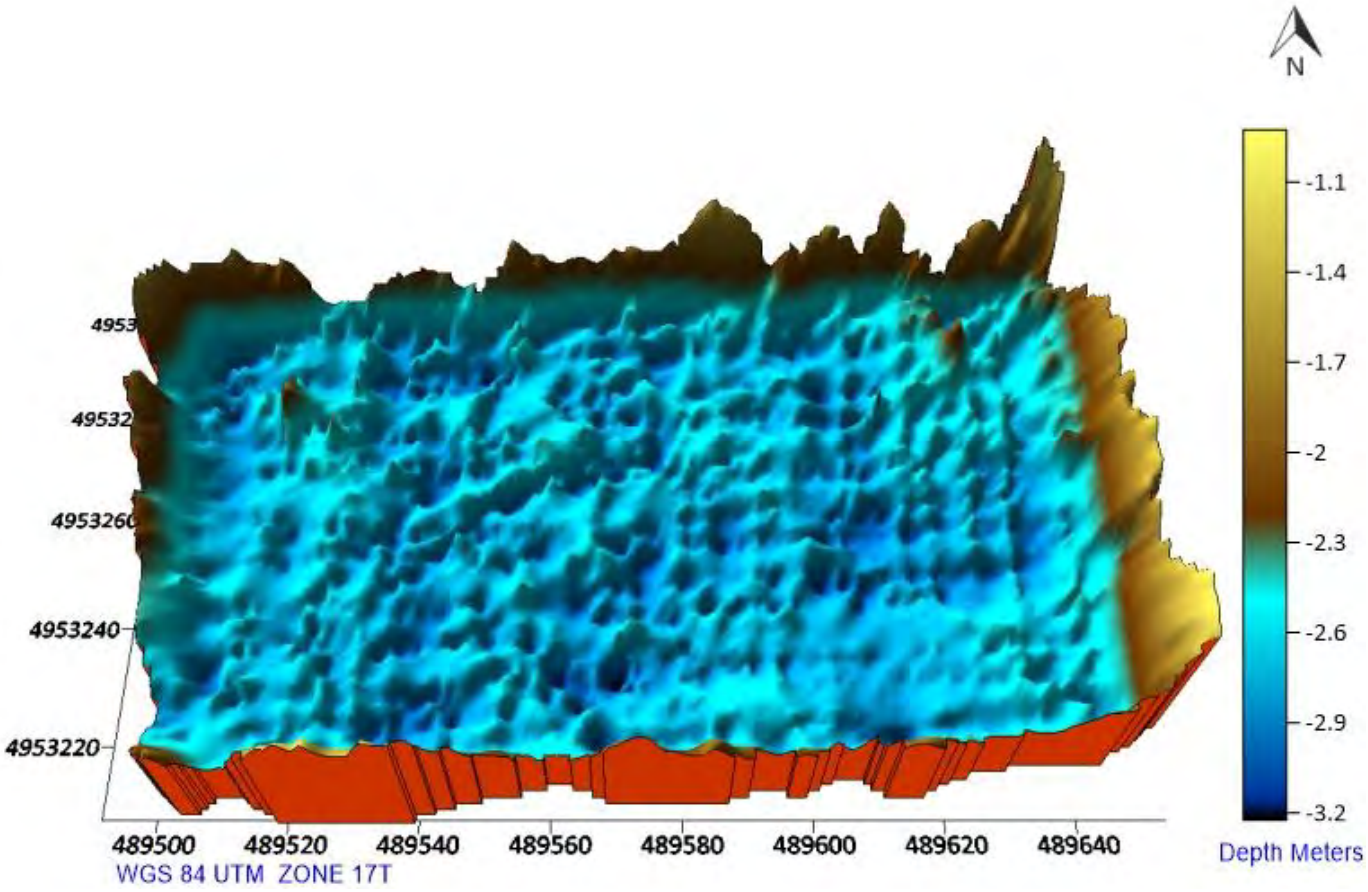
Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #3 (North)

Lower Sub-Bottom Liner Surface – 3D Contour Map



Lower Sub-Bottom (Liner/Clay/Hard Packed Soil) – 3D Contour Map

Municipality of South Bruce Peninsula
Bruce County, Ontario

PLOT 7

Survey Date: October 30, 2025

PW MAKAR
Coatings Inspection Ltd.
481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

OCWA
ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Municipality of South Bruce Peninsula
Bruce County, Ontario

Wiarton Wastewater Treatment Facility
Wiarton Biosolids Aerated Cell #3 (North)

Hydrographic Acoustic Sonar
Biosolids Volume Modeling and Distribution Survey

Date; October 30, 2025
PICTORIAL REPORT

Digital Image 1. Wiarton Biosolids Aerated Cell #3 (North). Remotely Controlled Hydrographic Survey Vessel.

481 Murray Dr.
Corunna, ON., N0N 1G0
paul.makar@cogeco.ca

Digital Image 2. Wiarton Biosolids Aerated Cell #3 (North). Remotely Controlled Hydrographic Survey Vessel.

Digital Image 3. Wiarton Biosolids Aerated Cell #3 (North). Remotely Controlled Hydrographic Survey Vessel.