ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

March 28, 2025

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

RE: 2024 Wiarton Wastewater Treatment Plant Annual Sewage Performance Report (ECA #6045-ARDJS7) – Town of South Bruce Peninsula

Please see attached for the 2024 Annual Sewage Performance Report prepared by the Ontario Clean Water Agency on behalf of the Town of South Bruce Peninsula for the:

- Wiarton Wastewater Treatment Plant

This report was completed in accordance with the requirements set out in ECA 6045-ARDJS7, issued November 23, 2017, *Condition 11(4)*. 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 reported upon."

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

2024 ANNUAL SEWAGE PERFORMANCE REPORT

WIARTON WASTEWATER TREATMENT PLANT

For the period of

JANUARY 1, 2024 TO DECEMBER 31, 2024

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

Table of Contents

Appendices

1. System Description

The Wiarton Wastewater Treatment System is owned by the Corporation of the Town of South Bruce Peninsula and operated on behalf of the Owner by the Ontario Clean Water Agency (OCWA). It is responsible for the collection, transmission, treatment of sanitary sewage and disposal of 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.

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	ECA 6045-ARDJS7 Issued November 23, 2017
Certificate of Approval	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	Grab	Monthly

alcohol, Methylene chloride, Methyl ethyl, ketone, Toluene, Xylene		
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. 2024 Effluent Annual Average Concentrations and Removal Efficiencies

Parameter	Annual Average Concentration	Annual Average Removal Efficiency
$CBOD_5$	2.88	n/a
Total Suspended Solids	6.13	95.2%
Total Phosphorous	< 0.05	97.9%

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, 2024

2024	$CBOD_5$[8a]				Total Suspended Solids[8a]				Total Phosphorous[8a]				Total Ammonia Nitrogen (TAN)[8a]				*E. Coli*[8a]	
	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** (Nov 1 to Apr 1 - 13.2 kg/day & May 1 to Oct 31 – 26.4 kg/day)	**Mean Geometric Density** (cfu/100 mL)	**Within Limits** (200 cfu/100 mL)
January	3.3	Yes	4.7	Yes	6.2	Yes	9.0	Yes	0.03	Yes	0.04	Yes	0.07	Yes	0.10	Yes	<2.00	Yes
February	2.1	Yes	3.2	Yes	7.1	Yes	11.0	Yes	0.03	Yes	0.04	Yes	0.24	Yes	0.35	Yes	<2.00	Yes
March	3.4	Yes	4.9	Yes	8.0	Yes	11.4	Yes	0.04	Yes	0.06	Yes	0.11	Yes	0.16	Yes	<2.00	Yes
April	3.0	Yes	5.9	Yes	8.0	Yes	15.9	Yes	0.04	Yes	0.08	Yes	0.17	Yes	0.33	Yes	<2.00	Yes
May	5.1	Yes	6.3	Yes	8.7	Yes	10.7	Yes	0.08	Yes	0.10	Yes	1.35	Yes	1.67	Yes	<2.00	Yes
June	2.0	Yes	1.9	Yes	5.2	Yes	4.8	Yes	0.05	Yes	0.05	Yes	1.03	Yes	0.96	Yes	2.52	Yes
July	2.0	Yes	1.7	Yes	3.4	Yes	2.9	Yes	0.03	Yes	0.03	Yes	0.18	Yes	0.16	Yes	<2.00	Yes
August	2.0	Yes	1.6	Yes	3.5	Yes	2.9	Yes	0.03	Yes	0.02	Yes	0.10	Yes	0.08	Yes	<1.59	Yes
September	2.0	Yes	1.7	Yes	3.5	Yes	2.9	Yes	0.03	Yes	0.02	Yes	0.14	Yes	0.12	Yes	<2.00	Yes
October	2.3	Yes	1.3	Yes	5.0	Yes	2.8	Yes	0.04	Yes	0.02	Yes	0.16	Yes	0.09	Yes	3.46	Yes
November	2.1	Yes	1.8	Yes	4.2	Yes	3.6	Yes	0.06	Yes	0.05	Yes	0.10	Yes	0.09	Yes	2.00	Yes
December	2.7	Yes	5.0	Yes	6.6	Yes	12.2	Yes	0.09	Yes	0.17	Yes	0.22	Yes	0.41	Yes	2.52	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.

During the reporting period there was no reportable instance where the sewage lagoon system exceeded the effluent limits set out in the ECA.

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 2024, the effluent was within the effluent limits and ranged from 7.24 to 8.68 with an annual average of 7.93. A monthly summary of pH can be found in Table 9.

Table 9. Monthly Summary of pH for the Wiarton Wastewater Treatment System, 2024

Month	Average pH	Minimum pH	Maximum pH
January	9.37	7.84	8.68
February	8.00	7.68	8.57
March	8.24	8.03	8.58
April	8.08	7.92	8.23
May	7.88	7.84	7.91
June	8.24	7.88	8.53
July	7.55	7.24	7.95
August	7.48	7.33	7.62
September	7.92	7.76	8.01
October	7.88	7.58	8.09
November	7.73	7.69	7.79
December	7.76	7.64	7.93

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	n/a
Total Ammonia Nitrogen (November 1 to April 30)	6	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;*

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;*

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 2.88 mg/L and an annual average loading of 3.66 kg/d. During the 2015 reporting periods while operating without the MBBR, the Lagoon system produced an average $CBOD_5$ of 7.39 mg/L and an average loading of 13.30 kg/d. The addition of the MBBR process has helped decrease the annual average concentration by 61% and the average loading by 72% of $CBOD_5$.

During the reporting period, the Total Suspended Solids monthly averages remained below the effluent objective of 10 mg/L, 100% of the time, producing an annual average of 6.12 mg/L and an annual average loading of 8.21 kg/d. During the 2015 reporting periods while operating without the MBBR, the Lagoon system produced an average Total Suspended Solids result of 11.89 mg/L and an average loading of 17.50 kg/d. The addition of the MBBR process has helped decrease the annual average concentration by 49% and the average loading by 53% of Total Suspended Solids.

During the reporting period, the Total Phosphorus monthly averages remained below the effluent objective of 0.15 mg/L, 100% of the time, producing an annual average of 0.05 mg/L and an annual average loading of 0.06 kg/day. During the 2015 reporting periods while operating without the MBBR, the Lagoon system produced an average Total Phosphorus result of 0.31 mg/L and an average loading of 0.36 kg/day. The addition of the MBBR process has helped decrease the annual average concentration by 84% and the average loading by 83% of Total Phosphorus.

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 0.36 mg/L and an average loading of 0.36 kg/day. During the 2015 reporting period while operating without the MBBR, the Lagoon system produced an annual average Total Ammonia Nitrogen result of 4.20 mg/L and an average of 6.56 kg/day. The MBBR process helped decrease the annual average by 91% and the average loading by 95% of Total Ammonia Nitrogen.

As per ECA 6045-ARDJS7, Section 6 (1)(b), 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.

All of the design objectives in the ECA were achieved 100% of the time 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, 2024

2024	$CBOD_5$		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**[11a] (mg/L)	**Within Objective**[11b]
January	3.3	Yes	6.2	Yes	0.03	Yes	0.07	Yes
February	2.1	Yes	7.1	Yes	0.03	Yes	0.24	Yes
March	3.4	Yes	8.0	Yes	0.04	Yes	0.11	Yes
April	3.0	Yes	8.0	Yes	0.04	Yes	0.17	Yes
May	5.1	Yes	8.7	Yes	0.08	Yes	1.35	Yes
June	2.0	Yes	5.2	Yes	0.05	Yes	1.03	Yes
July	2.0	Yes	3.4	Yes	0.03	Yes	0.18	Yes
August	2.0	Yes	3.5	Yes	0.03	Yes	0.10	Yes
September	2.0	Yes	3.5	Yes	0.03	Yes	0.14	Yes
October	2.3	Yes	5.0	Yes	0.04	Yes	0.16	Yes
November	2.1	Yes	4.2	Yes	0.06	Yes	0.10	Yes
December	2.7	Yes	6.6	Yes	0.09	Yes	0.22	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 2024 was 437,611 m^3 with an annual average daily flow of 1,196 m^3/day. Total effluent and annual average daily flows in 2024 were both lower in comparison to 2023 (556,535 m^3 and 1,533 m^3/day in 2023).

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, 2024

Parameter	Minimum	Average	Maximum
BOD_5 (mg/L)	34	132	352
TSS (mg/L)	41	134	339
TKN (mg/L)	3.4	20.8	36.9
Total Phosphorous	0.36	2.44	4.14

In 2024, approximately 2,225 m^3 of septage was received by the Wiarton Wastewater Treatment System. This is higher than 2023 (1,831 m^3) but lower than 2022 (2,467 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, 2024

Parameter	Minimum	Maximum
Biochemical Oxygen Demand (BOD_5) [mg/L]	341	4800
Total Suspended Solids [mg/L]	176	5630
Chemical Oxygen Demand [mg/L]	740	11900
Ammonia + Ammonium (N) [mg/L]	5.8	136
Total Kjeldahl Nitrogen [as N mg/L]	27.9	217
Phosphorus (total) [mg/L]	1.3	37.8
Isopropyl Alcohol [µg/L]	<5000	6600
Methyl alcohol [µg/L]	<5000	<5000
Acetone [µg/L]	<1200	<1200
Benzene [µg/L]	<20	<20
Ethylbenzene [µg/L]	<20	<20
Methylene Chloride [ug/L]	<20	<20
Methyl ethyl ketone [µg/L]	<800	<800
Toluene [µg/L]	<20	247

Parameter	Minimum	Maximum
Xylene (total) [µg/L]	<20	<20
o-xylene [µg/L]	<20	<20
m/p-xylene [µg/L]	<20	<20
Aluminum (mg/L)	65	140
Arsenic (mg/L)	0.4	1.3
Barium (mg/L)	48.4	209
Cadmium (mg/L)	0.04	0.06
Calcium (mg/L)	89.2	4800
Chromium (mg/L)	0.87	2.31
Cobalt (mg/L)	0.18	0.38
Copper (mg/L)	38	177
Iron (mg/L)	1.34	4.67
Lead (mg/L)	0.70	2.64
Magnesium (mg/L)	26.4	33.7
Manganese (mg/L)	0.11	0.27
Mercury (mg/L)	<0.01	<0.01
Nickel (mg/L)	3.8	6.9
Potassium (mg/L)	32.9	59.7
Selenium (mg/L)	0.22	0.87
Silver (µg/L)	<0.05	<0.05
Zinc (mg/L)	49	233

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

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 2024 was 512,984 m^3 with an annual average daily flow of 1,402 m^3/day, which is 31.9% of the recommended rated capacity of 4,400 m^3/day. Total influent flows and the average daily flow in 2024 have decreased in comparison to 2023 (550,582 m^3 and 1,508 m^3/day). The daily influent flow remained within the recommended rated capacity 98.9% (i.e. 362 out of 366 days) of the time during 2024.

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 2024

2024	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	2,738	1,666	1,402	Yes
February	3,052	1,844		
March	2,716	1,667		
April	6,583	2,351		
May	5,453	1,491		
June	2,081	1,076		
July	1,567	1,047		
August	1,657	1,040		
September	999	771		
October	813	696		
November	1,219	919		
December	7,298	2,264		

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 increased from 2023. Values still remain lower than 2015 (1.12 mg/L in 2023, 0.80 mg/L in 2022, 0.78 mg/L in 2021, 0.99 mg/L in 2020, 1.01 mg/L in 2019, 0.83 mg/L in 2018, 1.16 mg/L in 2017, 3.46 mg/L in 2016, and 4.75 mg/L in 2015).

Table 15. Monitoring Parameters for Wiarton Wastewater Treatment System, 2024

Parameters	Average	Minimum	Maximum
Total Kjeldahl Nitrogen (N mg/L)	1.22	0.50	3.30

2.9 Success & Adequacy of the System

Based upon a review of the analytical and monitoring data in comparison to the effluent limits and objectives it can be concluded that the Wiarton Wastewater Treatment System is performing adequately and successfully. The system shows a high removal efficiency and was within all final ECA effluent limits. Regular monitoring and necessary process changes will continue to be made to best optimize the system and enable the system to be within the effluent objectives for a greater period of time.

3. Operating Challenges & Corrective Actions

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

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 Sewage Pump Station No. 1 genset batteries
- Repaired MBBR backflow preventer
- Repaired Sewage Pump Station No. 2 sewer trunk main
- Replaced O_2 sensor on portable gas detector
- Replaced MBBR alum transfer pump
- Replaced MBBR wash press pump
- Installed guard on top of MBBR cells
- Replaced power supply for Lagoon UV system
- Replaced pump from 83 Division Sewage Pump Station
- Replaced DO sensors from MBBR cells
- Repaired sewer lateral at Public Works Building
- Repaired sewer lateral at 584 Gould Street
- Repaired sewer lateral at 584 Bayview
- Repaired inflow on sanitary sewer main at George and McNaughton
- Repaired sewer lateral at 524 Scott

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 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 May 28, 2024, SCG Flowmetrix 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 May 3, 2024, 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 2024 and no sludge is expected to be removed in 2025.

8. Septage Receiving Works

In 2024, approximately 2,225 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 2024

Month	Total Volume of Septage Received (m^3)
January	185.33
February	221.48
March	202.66
April	132.24
May	195.54
June	174.86
July	280.70
August	248.97
September	138.20
October	140.74
November	98.21
December	205.74

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 2024, zero (0) 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 two (2) reportable bypass events at the Wiarton Wastewater Treatment System.

During the reporting period, two (2) bypass of final effluent (total volume of 1783.27 m^3) being discharged without receiving all of the required treatment was reported. All required information was recorded and the appropriate notifications were made to the Spills Action Centre, Ministry of Environment, Conservation and Parks (MECP), Ministry of Health and Long Term Care, the Town of South Bruce Peninsula and Environment Canada. 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 2024 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 HH:MM	Volume (m^3)	Process Bypassed and Cause	Impact of Event	Mitigation
2024/05/23 11:00 AM to 2024/05/24 10:00 AM	23 hours	1,779	• UV Treatment • Power bump	n/a	• Samples taken as required • Shut off flow and reset UV system before restarting the system • Rectified dialer issues • Verbal and written notification provided to SAC, MECP and GBHU on May 24 and May 28, 2024, respectively. • Incident #1-70CST0
2024/06/17 11:01 PM to 11:15 PM	14 minutes	4.27	• UV Treatment • Power bump	n/a	• Samples taken as required • Shut off flow and reset UV system before restarting the system • Verbal and written notification provided to SAC, MECP and GBHU on June 18, 2024 • Incident #1-7RDKOT

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.

An ECA application, #1000151170, was submitted for a new section of 375 mm sanitary main on Elm Street between Berford Street and Taylor Street to accommodate potential future residential development on the South West side of Town and to divert existing sanitary flow from sections of Gould, Elm and Berford Streets, located south of Elm Street. The Ministry concurred with installing the works while the ECA application was being reviewed, which allowed for the Town of South Bruce Peninsula to authorize the installation of this new section

of sanitary pipe. It was tied in to the existing 300 mm sanitary pipe on Berford Street and in to the existing sanitary manhole #267 located across from SPS #2. This new work was incorporated into the CLI-ECA application.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Appendix A

Performance Assessment Report

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Performance Assessment Report Standard ECA

From 1/1/2024 to 12/31/2024

5620 WIARTON WASTEWATER TREATMENT LAGOON 110000819

	1 / 2024	2/ 2024	3/ 2024	4/ 2024	5/ 2024	6/ 2024	7/ 2024	8/ 2024	9/ 2024	10/ 2024	11/ 2024	12/ 2024	<--Total-->	<--Avg-->	<--Max-->	<-Criteria->
Flows																
Raw Flow: Total - Raw Sewage m³/d	50,527.38	53,708.19	51,716.75	70,823.32	46,473.21	32,515.03	32,674.88	31,475.55	23,229.60	21,721.81	27,771.07	70,392.50	513,029.29			0.00
Raw Flow: Avg - Raw Sewage m³/d	1,684.25	1,852.01	1,668.28	2,360.78	1,499.14	1,083.83	1,054.03	1,049.19	774.32	700.70	925.70	2,270.73		1,409.42		4,400.00
Raw Flow: Max - Raw Sewage m³/d	2,753.76	3,081.23	2,716.60	6,613.31	5,453.09	2,096.95	1,567.02	1,673.78	999.28	815.20	1,221.35	7,298.48			7,298.48	0.00
Raw Flow: Count - Raw Sewage m³/d	30.00	29.00	31.00	30.00	31.00	30.00	31.00	30.00	30.00	31.00	30.00	31.00	364.00			0.00
Eff. Flow: Total - Effluent m³/d	44,543.00	45,177.00	44,463.00	59,942.00	38,259.00	27,943.00	26,953.00	25,149.00	24,762.00	17,282.00	25,718.00	57,420.00	437,611.00			0.00
Eff. Flow: Avg - Effluent m³/d	1,436.87	1,557.83	1,434.29	1,998.07	1,234.16	931.43	869.45	811.26	825.40	557.48	857.27	1,852.26		1,195.66		
Eff. Flow: Max - Effluent m³/d	2,194.00	2,579.00	2,088.00	4,181.00	3,968.00	1,493.00	1,075.00	1,038.00	1,015.00	808.00	1,195.00	2,837.00			4,181.00	0.00
Eff Flow: Count - Effluent m³/d	31.00	29.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00	366.00			0.00
Biochemical Oxygen Demand: BOD5																
Raw: Avg BOD5 - Raw Sewage mg/L	106.67	116.00	90.00	123.00	183.00	214.33	104.25	129.00	65.50	114.00	174.50	149.00		130.77	214.33	0.00
Raw: # of samples of BOD5 - Raw Sewage mg/L	3.00	2.00	2.00	2.00	2.00	3.00	4.00	2.00	2.00	2.00	2.00	3.00	29.00			0.00
Carbonaceous Biochemical Oxygen Demand: CBOD																
Eff: Avg cBOD5 - Final Effluent including Bypass mg/L	< 3.00	< 2.50	3.50	4.50	< 5.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.50	< 2.00	< 3.00		< 2.88	< 5.00	15.00
Eff: # of samples of cBOD5 - Final Effluent including Bypass mg/L	3.00	2.00	2.00	2.00	4.00	4.00	4.00	2.00	2.00	2.00	2.00	3.00	32.00			0.00
Loading: cBOD5 - Final Effluent including Bypass kg/d	< 4.311	< 3.895	5.020	8.991	< 6.171	< 1.863	< 1.739	< 1.623	< 1.651	< 1.394	< 1.715	< 5.557		< 3.44	< 8.99	66.000
Total Suspended Solids: TSS																
Raw: Avg TSS - Raw Sewage mg/L	99.00	162.00	110.00	156.00	185.00	185.00	97.25	146.50	73.50	119.00	223.00	95.33		137.63	223.00	0.00
Raw: # of samples of TSS - Raw Sewage mg/L	3.00	2.00	2.00	2.00	2.00	3.00	4.00	2.00	2.00	2.00	2.00	3.00	29.00			0.00
Eff: Avg TSS - Final Effluent including Bypass mg/L	7.00	6.00	8.50	11.00	9.00	4.50	3.50	3.00	3.50	5.50	4.00	8.00		6.13	11.00	15.00
Eff: # of samples of TSS - Final Effluent including Bypass mg/L	3.00	2.00	2.00	2.00	4.00	4.00	4.00	2.00	2.00	2.00	2.00	3.00	32.00			0.00
Loading: TSS - Final Effluent including Bypass kg/d	10.058	9.347	12.191	21.979	11.107	4.191	3.043	2.434	2.889	3.066	3.429	14.818		7.32	21.98	66.000
Total Phosphorus: TP																
Raw: Avg TP - Raw Sewage mg/L	2.03	2.12	2.01	2.62	2.99	3.69	2.63	2.84	2.10	2.38	2.28	1.50		2.43	3.69	0.00
Raw: # of samples of TP - Raw Sewage mg/L	3.00	2.00	2.00	2.00	2.00	3.00	4.00	2.00	2.00	2.00	2.00	3.00	29.00			0.00
Eff: Avg TP - Final Effluent including Bypass mg/L	< 0.03	< 0.04	0.04	0.05	0.08	< 0.04	< 0.03	< 0.03	< 0.03	< 0.04	0.06	0.10		< 0.05	< 0.10	0.30
Eff: # of samples of TP - Final Effluent including Bypass mg/L	3.00	2.00	2.00	2.00	4.00	4.00	4.00	2.00	2.00	2.00	2.00	3.00	32.00			0.00
Loading: TP - Final Effluent including Bypass kg/d	< 0.043	< 0.055	0.057	0.090	0.096	< 0.037	< 0.026	< 0.024	< 0.025	< 0.022	0.051	0.185		< 0.06	< 0.19	1.320
Nitrogen Series																

Raw: Avg TKN - Raw Sewage mg/L	20.13	17.85	15.10	17.80	21.70	29.47	24.23	27.35	18.15	20.20	21.25	13.13		20.53	29.47	0.00
Raw: # of samples of TKN - Raw Sewage mg/L	3.00	2.00	2.00	2.00	2.00	3.00	4.00	2.00	2.00	2.00	2.00	3.00	29.00			0.00
Eff: Avg TAN - Final Effluent including Bypass mg/L	< 0.17	0.15	< 0.15	< 0.20	1.45	< 0.43	< 0.15	< 0.10	0.20	0.10	< 0.10	0.30		< 0.36	< 1.45	6.00
Eff: # of samples of TAN - Final Effluent including Bypass mg/L	3.00	2.00	2.00	2.00	4.00	4.00	4.00	2.00	2.00	2.00	2.00	3.00	32.00			0.00
Loading: TAN - Final Effluent including Bypass kg/d	< 0.239	0.234	< 0.215	< 0.400	1.790	< 0.396	< 0.130	< 0.081	0.165	0.056	< 0.086	0.556		< 0.43	< 1.79	26.400
Eff: Avg NO3-N - Effluent mg/L	4.26	4.19	3.46	1.56	0.14	0.94	0.75	5.10	0.21	0.69	1.37	2.96		2.13	5.10	0.00
Eff: # of samples of NO3-N - Effluent mg/L	3.00	2.00	2.00	2.00	4.00	4.00	4.00	2.00	2.00	2.00	2.00	3.00	32.00			0.00
Eff: Avg NO2-N - Effluent mg/L	< 0.08	0.09	< 0.03	< 0.03	< 0.05	< 0.15	< 0.03	< 0.24	< 0.03	< 0.03	< 0.03	0.04		< 0.07	< 0.24	0.00
Eff: # of samples of NO2-N - Effluent mg/L	3.00	2.00	2.00	2.00	4.00	4.00	4.00	2.00	2.00	2.00	2.00	3.00	32.00			0.00
Disinfection																
Eff: GMD E. Coli - Effluent cfu/100mL	2.00	2.00	2.00	2.00	2.00	2.52	2.00	1.59	2.00	3.46	2.00	2.52				200.00

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Appendix B
Calibration Reports

SCG FLOWMETRIX

AS FOUND CERTIFICATION

FORWARD FLOW DIRECTION

PASS

CLIENT DETAIL	
CUSTOMER	OCWA - Georgian Highlands - Grey Bruce Hub
CONTACT	Léo-Paul Frigault
	Sr. Operations Manager
	897 Bayview Street
	t: 519-534-1610
	c: 519-379-2225
	e: lfrigault@ocwa.com
VER. BY - FM	Paris Machuk

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	May 28, 2024
CAL. FREQUENCY	Annual
CAL. DUE DATE	May, 2025

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	8440604	M3
AS LEFT	8440627	M3
DIFFERENCE	23	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	10.84	21.61	43.13	107.93	LPS
MUT [Difference]				0.00	0.06	0.04	-0.01	0.09	LPS
MUT [% Error]				n/a	0.51	0.19	-0.02	0.08	%
mA OUTPUT				**4.000**	**4.863**	**5.726**	**7.451**	**12.628**	mA
MUT [Reading]	min.	4.000	mA	4.141	5.016	5.854	7.592	12.728	mA
MUT [Difference]	max.	20.000	mA	0.141	0.153	0.128	0.141	0.100	mA
MUT [% Error]				3.53	3.15	2.24	1.89	0.80	%
TOTALIZER - REF. FLOW RATE								**107.845**	LPS
TOTALIZER [MUT]								14	M3
TEST TIME								129.84	SECONDS
CALC. TOTALIZER								14.003	M3
ERROR								-0.02	%

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	KRO	1
PROCESS METER	DMM	20
ANALOG METER	AM	N/A
STOP WATCH	SW	YES

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	0.19	PASS
mA OUTPUT	2.32	PASS
TOTALIZER	-0.02	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.

Krohne
Verification Report

SCG FLOWMETRIX

AS FOUND CERTIFICATION

FORWARD FLOW DIRECTION

PASS

CLIENT DETAIL

CUSTOMER OCWA - Georgian Highlands - Grey Bruce Hub
CONTACT Léo-Paul Frigault
Sr. Operations Manager
897 Bayview Street
t: 519-534-1610
c: 519-379-2225
e: lfrigault@ocwa.com

VER. BY - FM Paris Machuk

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	May 28, 2024
CAL. FREQUENCY	Annual
CAL. DUE DATE	May, 2025

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	3244542	M3
AS LEFT	3244571	M3
DIFFERENCE	29	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]		0.05	16.73	34.04	67.96	169.96	LPS
MUT [Difference]		0.00	-0.32	0.00	-0.08	-0.06	LPS
MUT [% Error]		0.00	-1.86	-0.01	-0.11	-0.03	%
mA OUTPUT		**4.000**	**5.091**	**6.179**	**8.354**	**14.881**	mA
MUT [Reading]	min. 4.000 mA	4.144	5.215	6.332	8.477	14.970	mA
MUT [Difference]	max. 20.000 mA	0.144	0.124	0.153	0.123	0.089	mA
MUT [% Error]		3.60	2.44	2.48	1.47	0.60	%
TOTALIZER - REF. FLOW RATE						**170.016**	LPS
TOTALIZER [MUT]						18	M3
TEST TIME						105.90	SECONDS
CALC. TOTALIZER						18.005	M3
ERROR						-0.03	%

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	KRO	1
PROCESS METER	DMM	20
ANALOG METER	AM	N/A
STOP WATCH	SW	YES

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	-0.50	PASS
mA OUTPUT	2.12	PASS
TOTALIZER	-0.03	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 report flowmeter

Plant operator	Induscontrol Inc
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 2939d03h16m22s	**Date/time** 28.05.24 12:10
Verification ID 9	
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 9

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**

Verification report flowmeter

Plant operator	Induscontrol Inc
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 2938d19h48m47s	**Date/time** 28.05.24 12:23
Verification ID 11	
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 11

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**

Verification report flowmeter

Plant operator	Induscontrol Inc
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 2939d12h38m16s	**Date/time** 28.05.24 12:28
Verification ID 9	
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 9

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**

Rectangular Weir
W/End Contractions
Verification/Calibration Report

SCG FLOWMETRIX

AS FOUND CERTIFICATION

PASS

CLIENT DETAIL

CUSTOMER OCWA - Georgian Highlands - Grey Bruce Hub
CONTACT Léo-Paul Frigault
Sr. Operations Manager
897 Bayview Street
t: 519-534-1610
c: 519-379-2225
e: lfrigault@ocwa.com

VER. BY - FM Paris Machuk

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	May 28, 2024
CAL. FREQUENCY	Annual
CAL. DUE DATE	May, 2025

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	650330.9	M3
AS LEFT	650374	M3
DIFFERENCE	43.1	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	67.5	200.0	371.6	575.2	M3/H
MUT [Difference]		0.0	-6.5	-7.1	-5.1	1.1	M3/H
MUT [% Error]		0.0	-1.1	-1.2	-0.9	0.2	%
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	-0.77	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.

Certificate of Calibration

This certifies that

Model: **LDO2 online LDO**

Serial Number: 160630000026

Asset: AIT204

Has been verified and/or calibrated, following factory specifications and standards.

ClearTech

Serviced by: Eugen Luca, C.Tech

Calibrated/Verified: 03 May 2024

Expires: 03 May 2025

Certificate of Calibration

This certifies that

Model: **LDO2 online LDO**

Serial Number: 160630000028

Asset: AIT202

Has been verified and/or calibrated, following factory specifications and standards.

ClearTech

Serviced by: Eugen Luca, C.Tech

Calibrated/Verified: 03 May 2024

Expires: 03 May 2025

Certificate of Calibration

This certifies that

Model: **LDO2 online LDO**

Serial Number: 160630000021

Asset: AIT203

Has been verified and/or calibrated, following factory specifications and standards.

ClearTech

Serviced by: Eugen Luca, C.Tech

Calibrated/Verified: 03 May 2024

Expires: 03 May 2025

Certificate of Calibration

This certifies that

Model: **DPD2P1 online pH**

Serial Number: 1603440861

Location: Waste water

Has been verified and/or calibrated, following factory specifications and standards.

ClearTech

Serviced by: Eugen Luca, C.Tech

Calibrated/Verified: 03 May 2024

Expires: 03 May 2025

Certificate of Calibration

This certifies that

Model: **HQ2200 LDO and pH meter**

Serial Number: 221682200095

LDO probe serial number: 221792592378

pH probe serial number: 221232613067

Has been verified and/or calibrated, following factory specifications and standards.

ClearTech

Serviced by: Eugen Luca, C.Tech

Calibrated/Verified: 03 May 2024

Expires: 03 May 2025

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Appendix C

Community Complaints

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:	2024 Q1 - Bypass Overflow Event Summary - Wiarton WWTP (110000819) - Town of South Bruce Peninsula
Date:	May-06-24 4:02:00 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:	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:	2024 Q2 - Bypass Overflow Event Summary - Wiarton WWTP (110000819) - Town of South Bruce Peninsula
Date:	August-12-24 10:54:00 AM
Attachments:	WiartonWPCP_2024.05.23_1-70CST0_BypassofUV_Final.pdf Report CA12803-MAY24.pdf CofC CA12803-MAY24.pdf WiartonWPCP_2024.06.17_1-7RDKOT_BypassofUV.pdf Report CA12625-JUN24.pdf CofC CA12625-JUN24_20JUN24_1407.pdf

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 HH:MM	Volume (m^3)	Process Bypassed and Reason	Impact of Event	Mitigation
2024/05/23 11:00 AM to 2024/05/24 10:00 AM	23 hours	1,779	• UV Treatment • Power bump	n/a	• Samples taken • Shut off flow and reset UV system before restarting the system • Rectified dialer issues • Reported on May 24, 2024 to SAC, MECP and GBHU • Incident #1-70CST0
2024/06/17 11:01 PM to 11:15	14 minutes	4.27	• UV Treatment • Power bump	n/a	• Samples taken • Shut off flow and reset UV system before restarting the system • Reported on June 18,

PM					2024 to SAC, MECP and GBHU • Incident #1-7RDKOT

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

Ontario Clean Water Agency
Environmental Incident Report

Facility ID: 5620

EIncidentReport

Facility Name: Wiarton Wastewater Treatment Lagoon

Address: 441048 Elm St

City: Wiarton

Province: Ontario

Postal Code: N0H 2T0

Date of Occurrence: 05/23/2024

Time of Occurrence: 11:00:00 AM

Nature of the Incident

● Level 1 Contingency ○ Level 2 Contingency ○ Level 3 Contingency *Click here To Show the Definitions*

Incident affected: ☐ Air ☒ Water ☐ Land ☐ Nothing

What was discharged or emitted?

☐ Chlorine
☐ Sodium Hypochlorite
☐ Calcium Chloride
☐ Aluminum Compounds (Specify in Other)
☐ Arsenic
☐ Fluoride
☐ Oil/Diesel/Gas
☒ Untreated or partly treated sewage
☐ Odours
☐ Water
☐ Iron Coagulants

Other: _____

If this was a discharge, spill or emission...

If a liquid, approximately what quantity was released?: 1779000 Litres

If a gas, approximately what quantity was released?: _____

If a solid, approximately what quantity was released?: _____ Kg

What was the source of release?:

Filtered lagoon effluent was released without UV treatment.

Where did the release go?:

Through the regular outfall to Colpoy's Bay.

If it entered a watercourse: ● Yes ○ No

If it went off site: ● Yes ○ No

Duration of the release?: 23 hours

Is the release now stopped?: ● Yes ○ No

Was there any damage? (i.e. property and/or environmental): ○ Yes ● No ○ N/A

If "Yes", describe below and fill out "Insurance Claim" report

Action(s) Taken

What actions were taken to control the incident?

Operator shut down flow to filter building and reset the UV system.

What actions have been taken to remediate the incident?

The UV system was reset and samples were taken.

Was this a reportable spill or discharge?: ● Yes ○ No

If "Yes", at what time was it first reported to the MOE?

It was reported to Akiko at SAC on May 24, 2024 at 11:25 am.

Was it reported to the MOE district office?: ● Yes ○ No

If "Yes", which office/location and who was the contact?: It was reported to Anastasia at the Owen Sound MECP District office at 11:30 am.

Was it reported to MOE SAC?: ● Yes ○ No

If "Yes", at what time was it reported to MOE SAC?:

It was reported to Akiko at SAC on May 24, 2024 at 11:25 am. Incident #1-70CSTO

Was it reported to Municipality?: ● Yes ○ No

If "Yes", at what time was it reported to Municipality?:

A message was left with the Town of South Bruce Peninsula on May 24, 2024 at 11:38 am.

External Assistance/Involvement

Was corporate or area office assistance requested?: ○ Yes ● No

If "Yes", was it received?: ○ Yes ○ No

Was external emergency assistance requested?: ○ Yes ● No

If "Yes", from who?: ☐ Fire Department ☐ Equipment Suppliers ☐ Canutec
☐ Ambulance or Hospital ☐ MOE ☐ Coast Guard
☐ Police ☐ Municipality

Other: _____

Was there any media involvment?: ○ Yes ● No

If "Yes", who?: _____

Was the public affected?: ○ Yes ● No

If "Yes", how?: _____

Updated By: Karla Young 06/04/2024 09:55:19 AM

Comments:

May 23, 2024
- 10:00 am - A power bump caused the UV system to fail and due to a PLC power failure an alarm did not dial out to the oncall operator
May 24, 2024
- 11:00 am - Operator arrived on site to find UV system in failure. Shut down flow and then reset the UV system. Dialer issues were rectified and the operator obtained samples of bypass.
- Reported to SAC at 11:25 am. Incident #1-70CSTO
- Reported to GBHU, Owen Sound District Office and Owner
June 3, 2024
- Lab results received from required samples.

Ontario Clean Water Agency - Request for Laboratory Services and CHAIN OF CUSTODY - SEWAGE (BYPASS)

Waterworks/Project #	110000819	C of C LIMS No:	May 12803
Facility Name	Wiarton WWTP	Laboratory Section	Sample condition upon receipt
Org. #	5620	Date Rec'd: 05/25/24	Time Rec'd: ____ Initials: ne
Quote #			
Attached Parameter List	[ ] No [ ] Yes	Temperature Upon Receipt: 17 x 3 °C	

Identification of Regulation under which the sample(s) fall: No Requirement to Report Sample Results Under Any Regulation for Wastewater Treatment

Requested Turnaround Time: App. Req'd — 24-48 h [ ] — [X] 5-7d — [ ] 7-10d — [ ] Other — Specify: ________

	Report to: Process & Compliance Technician (PCT)	Data Transfer Contact: PCT	Invoice To: Ontario Clean Water Agency	Laboratory: SGS Lakefield Research Ltd
Address:	18 Caroline Street Southampton, ON N0H 2L0	18 Caroline Street Southampton, ON N0H 2L0	136 Main St. E Shelburne, ON L9V 3K5	185 Concession St. Lakefield, ON K0L 2H0
Telephone:	519-374-5782	519-374-5782	(519) 925-1938	705-652-2000
Fax:	(519) 797-3080	(519) 797-3080	(519) 925-0322	705-652-6365
Email:	kyoung@ocwa.com	kyoung@ocwa.com	apwesthighlands@ocwa.com	carrie.greenlaw@sgs.com

Station Acronym	Station Number (Short Name)		Sample Location Name	Date & Time Collected	# of Bottles	Cl Residual (mg/L) Free	Total	Combined (mg/L)			Total Suspended Solids	Total Phosphorous	E.Coli	CBOD$_5$	TKN	Total Ammonia Nitrogen	Nitrite	Nitrate	Nitrite + Nitrate		Comments	Upload to MOE	Upload to OCWA
				24/05/24																			
Eff	Eff	-	Effluent (Grab)	10:30	1								X (circled)	rec							pH = ____ Temperature (C) = ____	Yes [ ] No [X]	Yes [ ] No [X]
Eff	Eff	-	Effluent (Composite)	10:30	2 (circled)						X	X		X	X	X	X	X	X			Yes [ ] No [X]	Yes [ ] No [X]
			bacti as per bottle ne																			Yes [ ] No [ ]	Yes [ ] No [ ]
																						Yes [ ] No [ ]	Yes [ ] No [ ]
																						Yes [ ] No [ ]	Yes [ ] No [ ]
																						Yes [ ] No [ ]	Yes [ ] No [ ]
			no sample ID or sampling info on bottle ne					1 bottle rec'd, limited sample. ne														Yes [ ] No [ ]	Yes [ ] No [ ]
																						Yes [ ] No [ ]	Yes [ ] No [ ]

Sampler Name:	Billy Shearer	Sampler Signature:	Billy

* Station Acronym: Cell - Cell Contents, Dis - Disinfection, Down - Downstream, Eff - Final Effluent, PrBy - Primary Bypass, Raw - Raw Sewage, ScBy - Secondary Bypass, Up - Upstream, Well - Monitoring Well, Aer - Aeration, Brs - Biosolids-raw sludge, Bth - Biosolids thickening, Bpd - Biosolids primary digestion, Bsd - Biosolids sec. digestion, Bps - Biosolids pri super, Bss - Biosolids sec super, Bslq - Biosolids sludge quality, Bsoq - Biosolids soil quality, DAF - Dissolved Air Floatation, Grit - Primary Treatment/Grit, PrEf - Primary Effluent, RAS - Return Activated Sludge, SBR - Secondary Treatment/SBRs, ScEf - Secondary Effluent, TWAS - Thickened Waste Activated Sludge, WAS - Waste Activated Sludge, IndW - Industrial Wastewater, PStn - Pump Stn, Sept - Septage, Lcht - Leachate, PrTr - Primary Treatment, ReAr - Re-aeration, Tert - Tertiary Treatment, Aflo - Actiflo, TeBy - Tertiary Bypass, Hold - Holding Tank, CSO - Combined Sewer Overflow, SSO - Sanitary Sewer Overflow

Revision #7 Revised: 2022-07-28

608829625532 HC RTN 1200 [illegible] Sat ne

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-June-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. : 25 May 2024
LR Report: **CA12803-MAY24**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

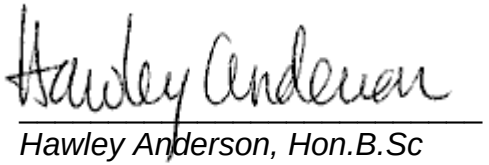
Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Client Limits May to Oct	7: Client Objectives May to Oct	9: Eff Eff-Effluent (Grab)	10: Eff Eff-Effluent (Comp)
Sample Date & Time							24-May-24 10:30	24-May-24 10:30
Temperature Upon Receipt [°C]	---	---	---	---	---	---	17.0	17.0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	27-May-24	16:05	03-Jun-24	10:28	15.0	10.0	---	3
Total Suspended Solids [mg/L]	28-May-24	19:35	29-May-24	15:23	15.0	10.0	---	7
Phosphorus (total) [mg/L]	28-May-24	14:49	30-May-24	15:53	0.3	0.15	---	0.06
Total Kjeldahl Nitrogen [as N mg/L]	27-May-24	16:01	30-May-24	10:00	---	---	---	3.3
Ammonia+Ammonium (N) [as N mg/L]	27-May-24	18:00	28-May-24	12:34	3.0	3.0	---	1.5
Nitrite (as N) [mg/L]	27-May-24	16:24	29-May-24	14:18	---	---	---	0.12
Nitrate (as N) [mg/L]	27-May-24	16:24	29-May-24	14:18	---	---	---	0.18
Nitrate + Nitrite (as N) [mg/L]	27-May-24	16:24	29-May-24	14:18	---	---	---	0.30
E. Coli [cfu/100mL]	25-May-24	15:19	27-May-24	12:14	200 (May 15-Sep15)	---	< 2	---

OnLine LIMS

0003732091

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 : **CA12803-MAY24**



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

OnLine LIMS

0003732091

Ontario Clean Water Agency
Environmental Incident Report

Facility ID: 5620

EIncidentReport

Facility Name: Wiarton Wastewater Treatment Lagoon

Address: 441048 Elm St

City: Wiarton

Province: Ontario

Postal Code: N0H 2T0

Date of Occurrence: 06/17/2024

Time of Occurrence: 11:01:00 PM

Nature of the Incident

● Level 1 Contingency ○ Level 2 Contingency ○ Level 3 Contingency *Click here To Show the Definitions*

Incident affected: ☐ Air ☒ Water ☐ Land ☐ Nothing

What was discharged or emitted?

☐ Chlorine
☐ Sodium Hypochlorite
☐ Calcium Chloride
☐ Aluminum Compounds (Specify in Other)
☐ Arsenic
☐ Fluoride
☐ Oil/Diesel/Gas
☒ Untreated or partly treated sewage
☐ Odours
☐ Water
☐ Iron Coagulants

Other: _____

If this was a discharge, spill or emission...

If a liquid, approximately what quantity was released?: 4270 Litres

If a gas, approximately what quantity was released?: _____

If a solid, approximately what quantity was released?: _____ Kg

What was the source of release?:

Filtered lagoon effluent was released without UV treatment due to UV failure after power bump.

Where did the release go?:

Through the regular outfall to Colpoy's Bay.

If it entered a watercourse: ● Yes ○ No

If it went off site: ● Yes ○ No

Duration of the release?: 14 minutes

Is the release now stopped?: ● Yes ○ No

Was there any damage? (i.e. property and/or environmental): ○ Yes ● No ○ N/A

If "Yes", describe below and fill out "Insurance Claim" report

Action(s) Taken

What actions were taken to control the incident?

Operator shut down flow to filter building.

What actions have been taken to remediate the incident?

The UV system was unable to be restarted so the filter building is offline until it is able to be put back online.

Was this a reportable spill or discharge?: ○ Yes ○ No

If "Yes", at what time was it first reported to the MOE?

It was reported to SAC on June 18, 2024 at 10:28 am.

Was it reported to the MOE district office?: ● Yes ○ No

If "Yes", which office/location and who was the contact?: It was reported to at the Owen Sound District Office on June 18, 2024 at 11:01 am to Rhonda Shannon.

Was it reported to MOE SAC?: ● Yes ○ No

If "Yes", at what time was it reported to MOE SAC?:

It was reported to SAC on June 18, 2024 at 10:28 am to Nick Lymer.

Was it reported to Municipality?: ● Yes ○ No

If "Yes", at what time was it reported to Municipality?:

It was reported to Brianna Collins on June 18, 2024 at 10:50 am.

External Assistance/Involvement

Was corporate or area office assistance requested?: ○ Yes ● No

If "Yes", was it received?: ○ Yes ○ No

Was external emergency assistance requested?: ○ Yes ● No

If "Yes", from who?: ☐ Fire Department ☐ Equipment Suppliers ☐ Canutec
☐ Ambulance or Hospital ☐ MOE ☐ Coast Guard
☐ Police ☐ Municipality

Other: _____

Was there any media involvment?: ○ Yes ● No

If "Yes", who?: _____

Was the public affected?: ○ Yes ○ No

If "Yes", how?: _____

Updated By: Karla Young 06/18/2024 03:18:40 PM

Comments:

June 17, 2024
- 11:01 am UV system failure due to power bump
- 11:15 am Operator shut down flow to filter building after unable to restart UV system

June 18, 2024
- samples taken
- Reported to SAC at 10:28 am. Incident #1-7RDKOT
- Reported to GBHU, Owen Sound District MECP Office, and Owner.

Ontario Clean Water Agency - Request for Laboratory Services and CHAIN OF CUSTODY - SEWAGE (BYPASS)

Waterworks/Project # **110000819**	C of C LIMS No: JUN-12625
Facility Name **Wiarton WWTP**	Laboratory Section Date Rec'd: JUN 1 9 2024
Org. # **5620**	Sample condition upon receipt; Time Rec'd: ___; Initials: [signature]
Quote #; Attached Parameter List [ ] No [ ] Yes	Temperature Upon Receipt 24x3 °C

Identification of Regulation under which the sample(s) fall: No Requirement to Report Sample Results Under Any Regulation for Wastewater Treatment

Requested Turnaround Time: App. Req'd — 24-48 h [ ] — 5-7d [X] — 7-10d [ ] — Other [ ] Specify:________

	Report to: Process & Compliance Technician (PCT)	Data Transfer Contact: PCT	Invoice To: Ontario Clean Water Agency	Laboratory: SGS Lakefield Research Ltd
Address:	18 Caroline Street Southampton, ON N0H 2L0	18 Caroline Street Southampton, ON N0H 2L0	136 Main St. E Shelburne, ON L9V 3K5	185 Concession St. Lakefield, ON K0L 2H0
Telephone:	519-374-5782	519-374-5782	(519) 925-1938	705-652-2000
Fax:	(519) 797-3080	(519) 797-3080	(519) 925-0322	705-652-6365
Email:	kyoung@ocwa.com	kyoung@ocwa.com	apwesthighlands@ocwa.com	carrie.greenlaw@sgs.com

Station Acronym	Station Number (Short Name)		Sample Location Name	Date & Time Collected 18 JUIN 2024	# of Bottles	Cl Residual (mg/L) Free	Total	Combined (mg/L)			Total Suspended Solids	Total Phosphorous	E.Coli	CBOD5	TKN	Total Ammonia Nitrogen	Nitrite	Nitrate	Nitrite + Nitrate		Comments	Upload to MOE	Upload to OCWA
Eff	Eff	-	Effluent (Grab)	08:08	1								(X) rec rec								pH = 8.43 Temperature (C) = 23.3°C	Yes [ ] No [X]	Yes [ ] No [X]
Eff	Eff	-	Effluent ~~(Composite)~~ GRAB	10:26	2						X	X		X	X	X	X	X	X			Yes [ ] No [X]	Yes [ ] No [X]
																						Yes [ ] No [ ]	Yes [ ] No [ ]
																						Yes [ ] No [ ]	Yes [ ] No [ ]
																						Yes [ ] No [ ]	Yes [ ] No [ ]
																						Yes [ ] No [ ]	Yes [ ] No [ ]
																						Yes [ ] No [ ]	Yes [ ] No [ ]
																						Yes [ ] No [ ]	Yes [ ] No [ ]
																						Yes [ ] No [ ]	Yes [ ] No [ ]

Sampler Name: GARY CAMPBELL — Sampler Signature: [signature]

* Station Acronym: Cell - Cell Contents, Dis - Disinfection, Down - Downstream, Eff - Final Effluent, PrBy - Primary Bypass, Raw - Raw Sewage, ScBy - Secondary Bypass, Up - Upstream, Well - Monitoring Well, Aer - Aeration, Brs - Biosolids-raw sludge, Bth - Biosolids thickening, Bpd - Biosolids primary digestion, Bsd - Biosolids sec. digestion, Bps - Biosolids pri super, Bss - Biosolids sec super, Bslq - Biosolids sludge quality, Bsoq - Biosolids soil quality, DAF - Dissolved Air Floatation, Grit - Primary Treatment/Grit, PrEf - Primary Effluent, RAS - Return Activated Sludge, SBR - Secondary Treatment/SBRs, ScEf - Secondary Effluent, TWAS - Thickened Waste Activated Sludge, WAS - Waste Activated Sludge, IndW - Industrial Wastewater, PStn - Pump Stn, Sept - Septage, Lcht - Leachate, PrTr - Primary Treatment, ReAr - Re-aeration, Tert - Tertiary Treatment, Aflo - Actiflo, TeBy - Tertiary Bypass, Hold - Holding Tank, CSO - Combined Sewer Overflow, SSO - Sanitary Sewer Overflow

km 10:40
6087263013 10

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-June-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. : 19 June 2024
LR Report: **CA12625-JUN24**

Copy: #1

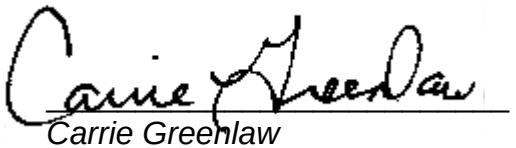
CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Client Limits May to Oct	7: Client Objectives May to Oct	9: Eff Eff-Effluent (Grab) Bacti	10: Eff Eff-Effluent (Grab)
Sample Date & Time							18-Jun-24 08:08	18-Jun-24 10:26
Temperature Upon Receipt [°C]	---	---	---	---	---	---	24.0	24.0
Field pH [no unit]	---	---	---	---	6.0-9.5	---	8.43	---
Field Temperature [celcius]	---	---	---	---	---	---	23.3	---
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	20-Jun-24	16:54	25-Jun-24	11:41	15.0	10.0	---	< 2
Total Suspended Solids [mg/L]	22-Jun-24	10:29	24-Jun-24	09:31	15.0	10.0	---	6
Phosphorus (total) [mg/L]	19-Jun-24	15:21	20-Jun-24	13:59	0.3	0.15	---	0.04
Total Kjeldahl Nitrogen [as N mg/L]	19-Jun-24	22:08	21-Jun-24	16:00	---	---	---	0.7
Ammonia+Ammonium (N) [as N mg/L]	19-Jun-24	19:01	20-Jun-24	15:04	3.0	3.0	---	< 0.1
Nitrite (as N) [mg/L]	20-Jun-24	19:28	21-Jun-24	14:08	---	---	---	< 0.03
Nitrate (as N) [mg/L]	20-Jun-24	19:28	21-Jun-24	14:08	---	---	---	1.15
Nitrate + Nitrite (as N) [mg/L]	20-Jun-24	19:28	21-Jun-24	14:08	---	---	---	1.15
E. Coli [cfu/100mL]	19-Jun-24	18:59	24-Jun-24	11:18	200 (May 15-Sep15)	---	4	---

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 : **CA12625-JUN24**



Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003759388

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:	2024 Q3 - Bypass Overflow Event Summary - Wiarton WWTP (110000819) - Town of South Bruce Peninsula
Date:	November-06-24 3:40:00 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:	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:	2024 Q4 - Bypass Overflow Event Summary - Wiarton WWTP (110000819) - Town of South Bruce Peninsula
Date:	February-05-25 2:05:00 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

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Appendix E

Septage Laboratory Results

Customized Monthly Report

From 01/01/2024 to 12/31/2024

Facility Name: WIARTON WASTEWATER TREATMENT LAGOON
Receiver: Colpoys Bay

Facility Org Number: 5620
Facility Owner: Municipality: Georgian Bluffs (Township of Keppel)
Service Population: 2300

Works: 110000819
Facility Classification: Class 2 Wastewater Treatment
Total Design Capacity: 4400 m3/day

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Septage		Jan 2024		Feb 2024		Mar 2024		Apr 2024		May 2024		Jun 2024		Jul 2024		Aug 2024		Sep 2024		Oct 2024		Nov 2024		Dec 2024	2024 Total	2024 Avg	2024 Max	2024 Min
Acetone - µg/l																												
Lab Month.Mean	<	1200.00	<	1200.00	<	1200.00	<	1200.00	<	1200.00	<	1200.00	<	1200.00	<	1200.00	<	1200.00	<	1200.00	<	1200.00	<	1200.00				
Silver: Ag - µg/l																												
Lab Month.Mean	<	0.05					<	0.05					<	0.05					<	0.05					<	0.05		
Aluminum: Al - mg/L																												
Lab Month.Mean		0.13						0.12						0.07						0.14						112.25		
Arsenic: As - mg/L																												
Lab Month.Mean		0.00						0.00						0.00						0.00						0.85		
Barium: Ba - mg/L																												
Lab Month.Mean		0.06						0.21						0.11						0.05						106.58		
Benzene - µg/l																												
Lab Month.Mean	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00				
Biochemical Oxygen Demand: BOD5 - mg/L																												
Lab Month.Mean		852.00		1120.00		2030.00		1950.00		1890.00		1380.00		641.50		1100.00		3940.00		1120.00		4800.00		2180.00		1818.85		
Calcium: Ca - mg/L																												
Lab Month.Mean		89.20						111.00						92.60						103.00						98.95		
Cadmium: Cd - mg/L																												
Lab Month.Mean		0.00						0.00						0.00						0.00						0.05		
Cobalt: Co - mg/L																												
Lab Month.Mean		0.00						0.00						0.00						0.00						0.27		
Chemical Oxygen Demand: COD - mg/L																												
Lab Month.Mean		1020.00		2250.00		3650.00		2750.00		2220.00		1900.00		1060.00		1310.00		5500.00		1580.00		11900.00		3480.00		3052.31		
Chromium: Cr - mg/L																												
Lab Month.Mean		0.00						0.00						0.00						0.00						1.57		
Copper: Cu - mg/L																												
Lab Month.Mean		0.04						0.18						0.05						0.04						77.25		
Dichloromethane (Methylene Chloride) - µg/l																												

Lab Month.Mean	< 20.00	< 20.00	< 20.00	< 20.00	< 20.00	< 20.00	< 20.00	< 20.00	< 20.00	< 20.00	< 20.00	< 20.00		< 20.00		
Ethylbenzene - µg/l																
Lab Month.Mean	< 20.00	< 20.00	< 20.00	< 20.00	< 20.00	< 20.00	< 20.00	< 20.00	< 20.00	< 20.00	< 20.00	< 20.00		< 20.00		
Iron: Fe - mg/L																
Lab Month.Mean	2.20			4.67			1.34			3.40				2.90		
Mercury: Hg - mg/L																
Lab Month.Mean	< 0.00			< 0.00			< 0.00			< 0.00				< 0.01		
Isopropyl Alcohol - µg/l																
Lab Month.Mean	< 5000.00	< 5000.00	< 5000.00	< 5000.00	< 5000.00	< 5000.00	< 5000.00	6600.00	< 5000.00	< 5000.00	< 5000.00	< 5000.00		< 5123.08		
Potassium: K - mg/L																
Lab Month.Mean	32.90			36.20			59.70			50.20				44.75		
Methyl Ethyl Ketone (MEK) - µg/l																
Lab Month.Mean	< 800.00	< 800.00	< 800.00	< 800.00	< 800.00	< 800.00	< 800.00	< 800.00	< 800.00	< 800.00	< 800.00	< 800.00		< 800.00		
Methyl Alcohol - µg/l																
Lab Month.Mean	< 5000.00	< 5000.00	< 5000.00	< 5000.00	< 5000.00	< 5000.00	< 5000.00	< 5000.00	< 5000.00	< 5000.00	< 5000.00	< 5000.00		< 5000.00		
Magnesium: Mg - mg/L																
Lab Month.Mean	26.40			27.90			32.40			33.70				30.10		
Manganese: Mn - mg/L																
Lab Month.Mean	0.17			0.27			0.11			0.19				0.19		
Total Ammonia Nitrogen: NH3 + NH4+ as N - mg/L																
Lab Month.Mean	25.80	16.20	28.10	5.80	64.40	91.30	90.60	136.00	92.30	74.90	62.90	112.00		68.53		
Nickel: Ni - mg/L																
Lab Month.Mean	0.01			0.01			0.00			0.00				4.98		
Lead: Pb - mg/L																
Lab Month.Mean	0.00			0.00			0.00			0.00				1.65		
Selenium: Se - mg/L																
Lab Month.Mean	0.00			0.00			0.00			0.00				0.61		
Total Kjeldahl Nitrogen: TKN - mg/L																
Lab Month.Mean	27.90	37.20	75.60	71.00	100.00	137.00	133.00	185.00	217.00	92.00	172.00	189.00		120.75		

Toluene - µg/l																																				
Lab Month.Mean	<	20.00		20.20		39.00		23.80		25.90	<	20.00	<	23.20	<	20.00		30.10		46.90		59.50		247.00			<	46.06								
Total Phosphorus: TP - mg/L																																				
Lab Month.Mean		1.30		3.30		8.30		9.90		11.40		13.90		14.20		13.90		27.00		18.60		37.80		32.90				15.90								
Total Suspended Solids: TSS - mg/L																																				
Lab Month.Mean		384.00		240.00		329.00		291.00		352.00		382.00		231.50		176.00		2640.00		227.00		5630.00		2030.00				1011.08								
Xylene: m-p xylene - µg/l																																				
Lab Month.Mean	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00			<	20.00								
Xylene: o-xylene - µg/l																																				
Lab Month.Mean	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00			<	20.00								
Xylene: total - µg/l																																				
Lab Month.Mean	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00	<	20.00			<	20.00								
Zinc: Zn - mg/L																																				
Lab Month.Mean		0.19						0.23						0.05						0.07								136.50								