

# 2020 Annual Performance

For the following system:

💧 Ilderton Wastewater Treatment Facility



**Owner:** Municipality of Middlesex Centre

**Operating Authority:** Municipality of Middlesex Centre

January 11, 2021



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## **Introduction**

The Ilderton Wastewater Treatment Facility (WWTF) is located on 147 Meadowcreek Drive, Ilderton, Ontario in the Municipality of Middlesex Centre. The treatment facility is operated by the Municipality and is operated under guidelines and regulations established by the Ministry of the Environment, Conservation and Park (MECP) to insure that strict effluent discharge criteria standards are met. Ilderton WWTF is currently operated under the Environmental Compliance Approval (ECA) 9219-AWWHWU issued on May 1, 2018.

## **Plant Facts**

Environmental Compliance Approval

- 9219-AWWHWU (Dated May 1, 2018)

Rated Capacity

- 1,120 m<sup>3</sup>/day (Prior to Completion of Construction)
- 1,300 m<sup>3</sup>/day (Upon Completion of Construction of All Proposed Works)

As outlined in the ECA 9219-AWWHWU Section 11 (4) (a) thru (n), the following is a summary and interpretation of all monitoring data and a comparison to the effluent limits including an overview of the success and adequacy of the Ilderton WWTF.

## **Section A thru D & F - Monitoring & Compliance Data**

### ***Flow Data***

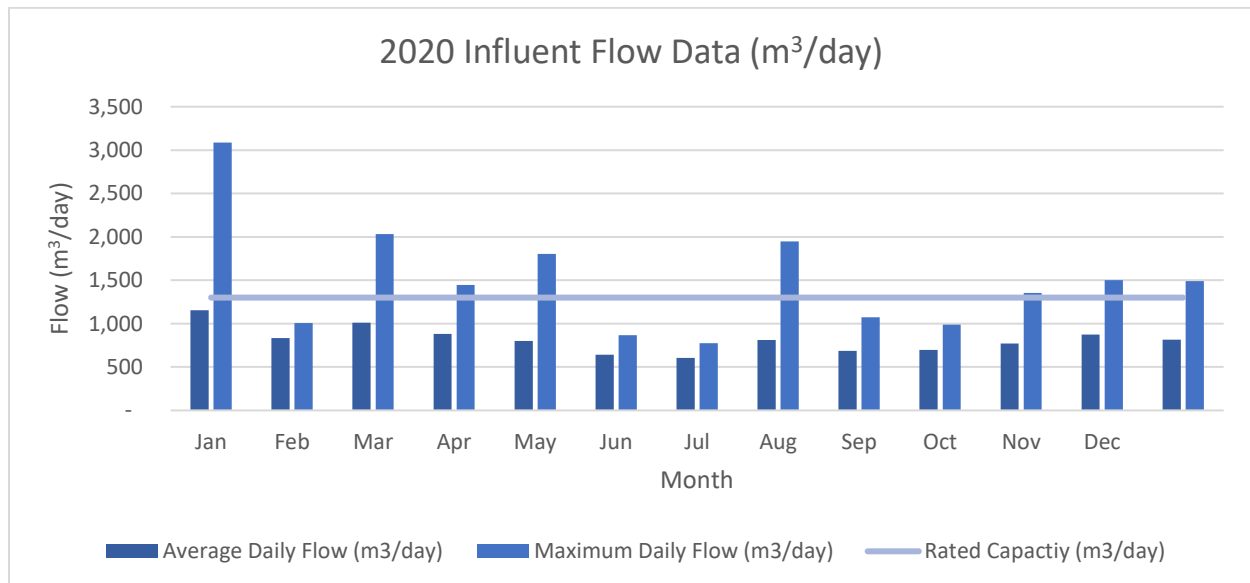
The Ilderton WWTF provides a treatment capacity of 1,120 m<sup>3</sup>/day prior to completion of the construction of proposed works. Upon completion of the construction of proposed works, the facility will provide a rated treatment capacity of 1,300 m<sup>3</sup>/day. For the year of 2020, the average daily flow was 947 m<sup>3</sup>/day. The following table shows the average daily flow, the maximum daily flow and the total flow for each month of 2019.

***Table 1 – 2020 Influent Flow Data***

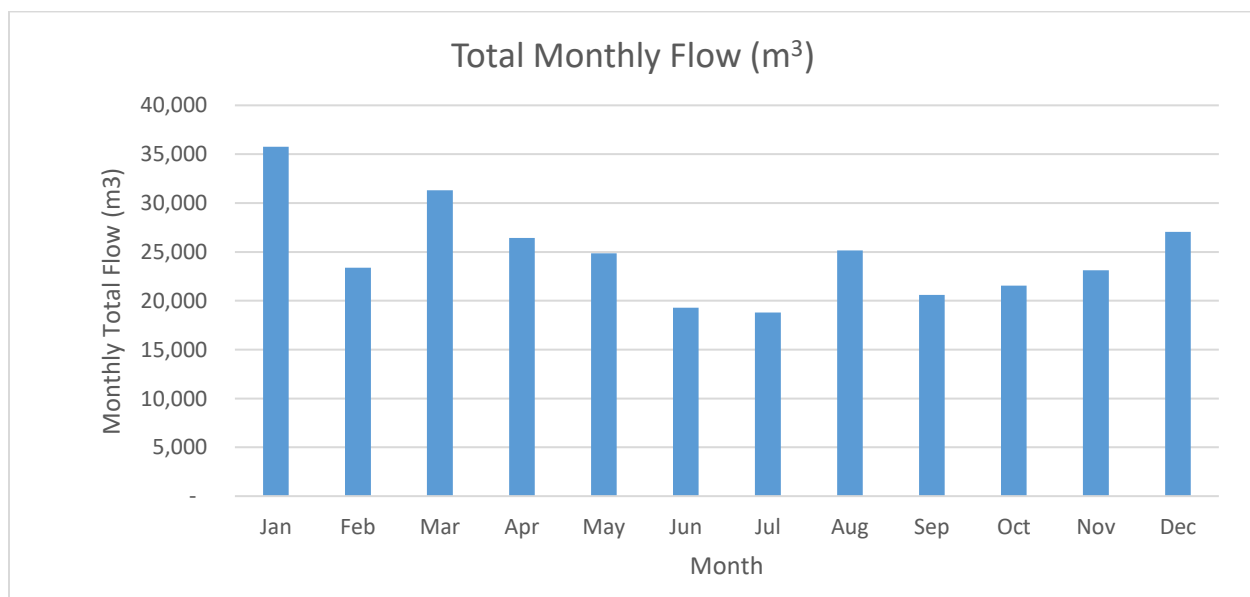
	<b>Average Daily Flow (m<sup>3</sup>/day)</b>	<b>Maximum Daily Flow (m<sup>3</sup>/day)</b>	<b>Total Monthly Flow (m<sup>3</sup>)</b>
Jan	1,153	3,088	35,750
Feb	835	1,006	23,391
Mar	1,010	2,031	31,297
Apr	881	1,444	26,427
May	801	1,803	24,846
Jun	643	866	19,289

Jul	606	773	18,782
Aug	812	1,948	25,165
Sep	686	1,072	20,584
Oct	696	990	21,562
Nov	771	1,352	23,120
Dec	872	1,501	27,045
<b>Total Flow</b>			<b>297,258</b>
<b>Avg. Flow</b>	<b>814</b>	<b>1,490</b>	<b>24,772</b>

**Graph 1 – 2020 Influent Flow (m3)**



**Graph 2 – 2020 Total Monthly Flows (m3)**



## **Raw Sewage**

Raw Sewage samples are collected from the Ilderton WWTF in accordance with the table below, utilizing 24-hour composite sampling procedure when required. Analysis for these parameters is conducted through SGS Canada Inc. (SGS). SGS is a member of the Canadian Association for Laboratory Accreditation Incorporated, accreditation# A2765. There were no reported deviations from the monitoring schedule.

In-house laboratory testing is also conducted which includes monitoring of MLSS, dissolved oxygen, pH, temperature and solids throughout the process.

**Table 2 – Raw Sewage Influent Sampling Point**

Parameters	Sample Type	Frequency
BOD <sub>5</sub>	24 hour composite	Weekly
Total Suspended Solids	24 hour composite	Weekly
Total Phosphorus	24 hour composite	Weekly
Total Kjeldahl Nitrogen	24 hour composite	Weekly

**Table 3 – 2020 Raw Sewage Monthly Average Concentrations**

	BOD <sub>5</sub> (mg/l)	Total Suspended Solids (mg/l)	Total Phosphorus (mg/l)	Total Kjeldahl Nitrogen (mg/l)
Jan	142	153	3.38	37.1
Feb	218	215	4.17	42.7
Mar	154	142	3.87	39.1
Apr	229	278	7.14	52.4
May	212	188	4.66	38.5
Jun	276	266	5.90	45.3
Jul	231	181	5.95	59.8
Aug	209	265	4.76	44.3
Sep	183	236	4.26	44.2
Oct	157	210	4.90	47.7
Nov	206	178	4.64	52.4
Dec	178	164	3.68	39.8
<b>Avg.</b>	200	206	4.78	45.3

## **Final Effluent Sample Points and Procedures**

Final Effluent samples are collected from the Ilderton WWTF in accordance with the table below, utilizing 24-hour composite sampling procedure when required. Analysis for these parameters is conducted through SGS Canada Inc. (SGS). SGS is a member of the Canadian Association for Laboratory Accreditation Incorporated, accreditation# A2765. There were no reported deviations from the monitoring schedule.

**Table 4 – Effluent Sampling Point Monitoring**

Parameters	Sample Type	Frequency
cBOD <sub>5</sub>	24 hour Composite	Weekly
Total Suspended Solids	24 hour Composite	Weekly
Total Phosphorus	24 hour Composite	Weekly
Total Ammonia Nitrogen	24 hour Composite	Weekly
Total Kjeldahl Nitrogen	24 hour Composite	Weekly
Nitrate as Nitrogen	24 hour Composite	Weekly
Nitrite as Nitrogen	24 hour Composite	Weekly
E. Coli	Grab	Weekly
Dissolved Oxygen	Grab/Probe/Analyzer	Weekly
Temperature	Grab/Probe/ Analyzer	Weekly
pH	Grab/Probe/Analyzer	Weekly
Unionized Ammonia	Calculated	Weekly

**Effluent Objectives**

Effluent objectives are non-enforceable and the facility shall be designed and all practical efforts undertaken to operate the facility in accordance with the following limits.

**Table 5 – Final Effluent Design Objectives - Concentration Objectives**

Final Effluent Parameter	Averaging Calculator	Limit
cBOD <sub>5</sub>	Monthly Average	5.0 mg/l
Total Suspended Solids	Monthly Average	5.0 mg/l
Total Phosphorus	Monthly Average	0.20 mg/l
Total Ammonia Nitrogen	Monthly Average	1.0 mg/l (May 1 to Nov 30) 3.0 mg/l (Dec 1 to Apr 30)
E.Coli	Monthly Geometric Mean	100 organisms per 100 ml
pH	Single Sample Result	6.5 to 8.5 inclusive
Dissolved Oxygen	Single Sample Result	6.0 mg/l

Table 6 – Final Effluent Design Concentration objectives below provide the performance values of the Ilderton WWTF during 2020.

**Table 6 – Final Effluent Design Concentration Objectives**

	cBOD <sub>5</sub> (mg/l)	TSS (mg/l)	TP (mg/l)	TAN (mg/l)	E.Coli (cfu/100ml)	pH	D.O. (mg/l)
<b>Limit</b>	<b>5.0</b>	<b>5.0</b>	<b>0.20</b>	<b>**</b>	<b>100</b>	<b>6.0-8.5</b>	<b>6.0</b>
Jan	2.8	4.0	0.15	0.23	15.0	7.16	8.57
Feb	2.5	3.3	0.18	0.28	5.0	6.95	8.52
Mar	3.6	5.8	0.16	1.86	5.0	7.24	8.27
Apr	2.5	3.3	0.17	0.63	6.0	7.26	8.61
May	2.5	3.0	0.21	1.03	13.0	7.08	8.50

Jun	2.0	3.4	0.20	0.62	3.0	7.10	8.72
Jul	2.0	3.3	0.18	0.40	1.0	7.16	8.79
Aug	3.2	2.8	0.15	0.20	1.0	7.12	8.76
Sep	2.0	2.8	0.17	0.60	2.0	6.98	8.89
Oct	3.0	4.3	0.17	0.35	3.0	7.42	9.14
Nov	3.2	5.2	0.20	0.84	4.0	7.34	8.83
Dec	3.5	5.8	0.14	0.33	5.0	7.31	8.66
<b>Avg.</b>	<b>2.7</b>	<b>3.9</b>	<b>0.17</b>	<b>0.61</b>	<b>4.0</b>	<b>7.18</b>	<b>8.69</b>

Design objectives are imposed to establish non-enforceable design objectives to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs. Total Suspended Solids for the months of March, November and December. Operational adjustments and preventative maintenance activities are performed at the facility to ensure operational excellence and compliance with the design objective limits outlined in the Environmental Compliance Agreements.

### ***Plant Performance and Interpretation of Results***

Final Effluent Compliance Limits outlined in Schedule C are enforceable and the Owner shall operate and maintain the facility such that the limits are met.

Effluent limits are detailed in Table 7 as described in Schedule C of the Environmental Compliance Agreement.

Table 8 and 9 summarizes the final effluent monthly average limit concentrations.

***Table 7 – Final Effluent Concentration Limits***

<b>Final Effluent Parameter</b>	<b>Averaging Calculator</b>	<b>Limit</b>
cBOD <sub>5</sub>	Monthly Average Concentrations	10.0 mg/l
Total Suspended Solids	Monthly Average Effluent Concentrations	10.0 mg/l
Total Phosphorus	Monthly Average Effluent Concentrations	0.26 mg/l
Total Ammonia Nitrogen	Monthly Average Effluent Concentrations	2.0 mg/l (May 1 to Nov 30) 4.0 mg/l (Dec 1 to Apr 30)
pH	Single Sample Result	between 6.0 and 9.5, inclusive,
E-coli	Monthly Geometric Mean Density	150 organisms per 100mL
Dissolved Oxygen	Single Sample Result	Minimum 5.0 mg/l



**Table 8 – Final Effluent Monthly Limit Concentrations**

	<b>cBOD5 (mg/l)</b>	<b>TSS (mg/l)</b>	<b>TP (mg/l)</b>	<b>TAN (mg/l)</b>	<b>E.Coli (cfu/100ml)</b>	<b>pH</b>	<b>D.O. (mg/l)</b>
<b>Limit</b>	<b>10</b>	<b>10</b>	<b>0.26</b>	<b>*</b>	<b>150</b>	<b>6 – 9.5</b>	<b>5</b>
Jan	2.8	4.0	0.15	0.23	15.0	7.16	8.57
Feb	2.5	3.3	0.18	0.28	5.0	6.95	8.52
Mar	3.6	5.8	0.16	1.86	5.0	7.24	8.27
Apr	2.5	3.3	0.17	0.63	6.0	7.26	8.61
May	2.5	3.0	0.21	1.03	13.0	7.08	8.50
Jun	2.0	3.4	0.20	0.62	3.0	7.10	8.72
Jul	2.0	3.3	0.18	0.40	1.0	7.16	8.79
Aug	3.2	2.8	0.15	0.20	1.0	7.12	8.76
Sep	2.0	2.8	0.17	0.60	2.0	6.98	8.89
Oct	3.0	4.3	0.17	0.35	3.0	7.42	9.14
Nov	3.2	5.2	0.20	0.84	4.0	7.34	8.83
Dec	3.5	5.8	0.14	0.33	5.0	7.31	8.66
<b>Avg.</b>	<b>2.7</b>	<b>3.9</b>	<b>0.17</b>	<b>0.61</b>		<b>7.18</b>	<b>8.69</b>
<b>Geomean</b>					<b>4.0</b>		

\* 2.0 mg/l (May 01 to Nov 30) and 4.0 mg/l (Dec 01 – Apr 30)

**Table 9 – Final Effluent Monthly Average Waste Loadings**

	<b>cBOD<sub>5</sub> (kg/d)</b>	<b>TSS (kg/d)</b>	<b>TP (kg/d)</b>	<b>TAN (kg/d)</b>
Jan	3.2	4.0	0.17	0.23
Feb	2.1	3.3	0.15	0.28
Mar	3.6	5.8	0.17	1.86
Apr	2.2	3.3	0.15	0.63
May	2.0	3.0	0.17	1.03
Jun	1.3	3.4	0.13	0.62
Jul	1.2	3.3	0.11	0.40
Aug	2.6	2.8	0.12	0.20
Sep	1.4	2.8	0.12	0.60
Oct	2.1	4.3	0.12	0.35
Nov	2.5	5.2	0.15	0.84
Dec	3.1	5.8	0.12	0.33
<b>Avg.</b>	<b>2.3</b>	<b>3.9</b>	<b>0.14</b>	<b>0.61</b>

## Plant Performance and Interpretation of Results

**Table 10 – Treatment Adequacy for cBOD<sub>5</sub> Removal**

Month	Incoming BOD5 (mg/l)	Effluent CBOD5 (mg/l)	Percent Removal (%)
Jan	142	2.8	98%
Feb	218	2.5	99%
Mar	154	3.6	98%
Apr	229	2.5	99%
May	212	2.5	99%
Jun	276	2.0	99%
Jul	231	2.0	99%
Aug	209	3.2	98%
Sep	183	2.0	99%
Oct	157	3.0	98%
Nov	206	3.2	98%
Dec	178	3.5	98%
<b>Avg.</b>	<b>200</b>	<b>2.7</b>	<b>99%</b>

**Table 11 – Treatment Adequacy for Total Suspended Solids Removal**

Month	Incoming TSS (mg/l)	Effluent TSS (mg/l)	Percent Removal (%)
Jan	153	4.0	97%
Feb	215	3.3	98%
Mar	142	5.8	96%
Apr	278	3.3	99%
May	188	3.0	98%
Jun	266	3.4	99%
Jul	181	3.3	98%
Aug	265	2.8	99%
Sep	236	2.8	99%
Oct	210	4.3	98%
Nov	178	5.2	97%
Dec	164	5.8	96%
<b>Avg.</b>	<b>206</b>	<b>3.9</b>	<b>98%</b>

**Table 12 – Treatment Adequacy for Total Phosphorus Removal**

Month	Incoming TP (mg/l)	Effluent TP (mg/l)	Percent Removal (%)
Jan	3.38	0.15	96%
Feb	4.17	0.18	96%
Mar	3.87	0.16	96%

Arp	7.14	0.17	98%
May	4.66	0.21	95%
Jun	5.90	0.20	97%
Jul	5.95	0.18	97%
Aug	4.76	0.15	97%
Sep	4.26	0.17	96%
Oct	4.90	0.17	96%
Nov	4.64	0.20	96%
Dec	3.68	0.14	96%
<b>Avg.</b>	<b>4.78</b>	<b>0.17</b>	<b>96%</b>

The Ilderton WWTF was operated and maintained throughout 2020 and the final effluent monthly average concentration and loading limits did not exceed the effluent limits of Environmental Compliance Agreement # 9219-AWWHWU.

### ***Operating Problems Encountered***

All performance limits were achieved during the year, and there were no exceedances of the Environmental Compliance Approval and no abnormal operational problems were encountered.

## **Section E - Maintenance**

The operators performed routine maintenance throughout the year. The Municipality of Middlesex Centre utilizes the Computerized Maintenance Management System Job Cal to help track preventative maintenance. In addition to the routine maintenance that includes greasing, oiling and changing air filters, a list of highlights are below:

***Table 13 – Maintenance***

<b>Maintenance Activity</b>	
<b>Jan</b>	Replaced belt and adjusted tension on Headworks building admin HVAC unit Ilderton WWTF overflow line duckbill cleaned
<b>Feb</b>	Drain sand filter #1 and unclogged air lift bowl. Replaced power supply cable on UV rack #4 Measurement of sand filter #2 bed
<b>Mar</b>	Installation of new clarifier discharge high level floats for Train #1 and Train#2 Installation of new pump rail & intermediate brackets for Pump #1 and Pump #2
<b>Apr</b>	Influent well, decant chamber and reject pit cleaned
<b>May</b>	N/A
<b>Jun</b>	Annual generator inspection
<b>Jul</b>	Everts replace blower room 5/6 exhaust fan (EF-09) motor Replacement of Filter #1 air flow sight glass regulator
<b>Aug</b>	Annual backflow preventer tests completed Sewer flushing of entire system collection system
<b>Sep</b>	N/A

<b>Oct</b>	Annual lifting device inspections Annual fall arrest equipment inspections completed Annual flow meter calibrations Air compressor belt replacement Installation of pump rails and replaced pump handles for Train #2 secondary digester Installation new pump rails and replaced pump handles for Train #1 secondary digester Replacement airflow control valves for Train #2 secondary digester, inspected, and replaced two diffusers.
<b>Nov</b>	Installation new pump rails for Train #3 secondary digester
<b>Dec</b>	Annual electrical inspections

## Section G - Calibrations

Calibrations were performed between October 15 & 19, 2020 for the flow meters. All meters are operating to within +/- 15% error as shown in the reports under *Appendix A*.

## Section H – Design Objective Efforts

The final effluent quality did not exceed the design objectives over 50% of the time throughout 2020. Pro-active process adjustments were taken to improve effluent quality.

Eighty percent (80%) of the new rated treatment capacity for the Ilderton WWTF is 1,040 m<sup>3</sup>/day. The facility Annual Average Daily Influent Flow reached 80% capacity during the months of January 2020. During higher than normal events the facility influent pump control and headworks facility would direct flow to the equalization tank to reduce the peak flows entering the treatment system. Flow within the equalization tank would be discharge into the treatment facility for processing when incoming flows were below the rated capacity. A capital project has been approved for 2021 to initiate the development and addition of a new treatment train at the wastewater treatment plant.

## Section I – Sludge Generation & Analytical

During the year, aerobic sludge is removed from the sludge holding tanks and applied to agriculture land for soil conditioning. The following volumes were removed from the Ilderton WWTF.

**Table 14- Ilderton Biosolids Haulage**

Month	Volume Transported (m <sup>3</sup> )
April	--
May	--
June	1,450
July	--

August	
September	--
October	--
November	--
<b>Total Volume (m<sup>3</sup>)</b>	<b>1,450</b>

Sludge production in 2021 is forecasted to be similar to the amount produced and hauled to agriculture land in 2020.

The following tables outline the Biosolids analytical data as required under schedule D – Monitoring Program of Environmental Compliance Agreement # 9219-AWWHWU.

**Table 15 – Sludge / Biosolids Analytical**

Quarter	Total Solids (mg/l)	Total Phosphorus (mg/l)	Total Ammonia Nitrogen (mg/l)	Nitrate as Nitrogen (mg/l)
1 <sup>st</sup> Quarter	24,900	930	160	<0.3
2 <sup>nd</sup> Quarter	31,550	1150	284	0.3
3 <sup>rd</sup> Quarter	18,800	540	240	0.3
4 <sup>th</sup> Quarter	22,200	715	165	0.3

Metal Scan	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter
Arsenic (mg/l)	<0.1	<0.1	<0.1	<0.1
Cadmium (mg/l)	0.012	0.021	0.013	0.014
Cobalt (mg/l)	0.06	0.08	0.07	0.08
Chromium (mg/l)	0.42	0.53	1.4	1.4
Copper (mg/l)	7.1	8.8	6.6	7.3
Lead (mg/l)	0.2	0.2	0.2	0.2
Mercury (mg/l)	0.040	0.043	0.023	0.030
Molybdenum (mg/l)	0.13	0.16	0.15	0.17
Nickel (mg/l)	0.34	0.43	0.38	0.40
Potassium (mg/l)	85	115	69	67
Selenium (mg/l)	<0.1	0.1	<0.1	<0.1
Zinc (mg/l)	14	16	9	14

## **Section J – Summary of Complaints Received**

The Ilderton WWTP did not receive any complaints in 2020.

## **Section K – Summary of By-Pass Events**

The Ilderton WWTF was involved in one (1) by pass events during the 2020 calendar year. A list of the events with volumes is detailed below.

**Table 16 – 2019 Bypass Events**

<b>Date</b>	<b>Cause of Bypass</b>	<b>Volume of Spill (m3)</b>
January 11, 2020	Heavy precipitation	357.6

A summary of the bypass event and copies of the Ilderton Wastewater Treatment Facility Quarterly Bypass Report are attached in *Appendix B*. The Quarterly Bypass Reports are required to satisfy Condition 4 Subsection (6) bypasses and Condition 5 Subsection (6) of Environmental Compliance Agreement # 9219-AWWHWU issued on May 1, 2018.

## **Section L – Notification of Modifications to Sewage Works**

No additional requests for information were made by the District Manager and there were no applications for use of the Limited Operations Flexibility Clause outlined in Section 10 of Environmental Compliance Agreement # 9219-AWWHWU.

## **Section M & N – Best Efforts**

No major projects were undertaken in 2020 at the wastewater treatment facility. An inflow and infiltration study was complete in the fourth quarter of 2020 in the Meadowcreek Subdivision. The intention of the study was to understand the impacts of large rain events and the impacts within the sanitary collection system and treatment facility.

## ***APPENDIX A – FLOW CALIBRATION REPORTS***



AS FOUND CERTIFICATION

FORWARD FLOW DIRECTION

PASS

CLIENT DETAIL		EQUIPMENT DETAIL	
CUSTOMER	Middlesex Centre	[MUT] MANUFACTURER	ENDRESS & HAUSER
CONTACT	Brian Watson	MODEL	PROMAG 50W
	Operations Supervisor	CONVERTER S/N:	5B000F16000
	Cell: 519-854-7618	FUSE	PLC Control Panel - right side of pannel - Breaker with FL/FIT720 label
		PLANT ID	Ilderton WWTP
		METER ID	Effluent Flow Meter
		FIT ID	FIT-720
		CLIENT TAG	N/A
		OTHER	N/A
VER. BY - FM	Paris Machuk	GPS COORDINATES	N43 04.609 W081 22.051
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		VERIFICATION DATE	October 19, 2020
		CAL. FREQUENCY	Annual
		CAL. DUE DATE	October, 2021

PROGRAMMING PARAMETERS			FORWARD TOTALIZER INFORMATION		
DIAMETER (DN)	mm	150	AS FOUND	4133063	M3
F.S. FLOW - MAG	LPS	176.709	AS LEFT	4133100	M3
F.S. RANGE - O/P	LPS	100.000	DIFFERENCE	37	M3
TUBE k-FACTOR		1.01750	TEST CRITERIA		
TUBE zero		0	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	25.0	50.0	75.0	100.0	LPS
		0.0	14.1	28.3	42.4	56.6	% F.S. Flow
		0.0	25.0	50.0	75.0	100.0	% F.S. Range
REF. FLOW RATE		0.000	25.000	50.000	75.000	100.000	LPS
MUT [Reading]		0.000	25.045	50.017	75.014	99.978	LPS
MUT [Difference]		0.000	0.045	0.017	0.014	-0.022	LPS
MUT [% Error]		n/a	0.18	0.03	0.02	-0.02	%
mA OUTPUT		4.000	8.000	12.000	16.000	20.000	mA
MUT [Reading]	min. 4 mA	3.997	8.000	11.996	15.991	19.983	mA
MUT [Difference]	max. 20 mA	-0.003	0.000	-0.004	-0.009	-0.017	mA
MUT [% Error]		-0.08	0.00	-0.03	-0.06	-0.08	%
TOTALIZER				REF. FLOW RATE	100.000	LPS	
				TOTALIZER [MUT]	22.0	M3	
				TEST TIME	220.18	SECONDS	
				TOTALIZER [REF]	22.018	M3	
				ERROR	-0.08	%	

COMMENTS			QUALITY MANAGEMENT STANDARDS INFO.			RESULTS		
			[QMS] INFORMATION	IDENT.	ID #	TEST	AVG	PASS
			[REFERENCE] FTS	E&H-FC	3		% o.r.	FAIL
			PROCESS METER	DMM	11	DISPLAY	0.05	PASS
			ANALOG METER	AM	N/A	mA OUTPUT	-0.05	PASS
			STOP WATCH	SW	Yes	TOTALIZER	-0.08	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.





RESULTS

PASSED

CLIENT DETAIL			DEVICE INFORMATION		
CUSTOMER	Middlesex Centre		[MUT] MANUFACTURER	Endress & Hauser	
CONTACT	Brian Watson		MODEL	Promag 500	
	Operations Supervisor		CONVERTER SERIAL NUMBER	N80DF916000	
	Cell: 519-854-7618		ORDER CODE	5W5B1F-1D10/0	
VER. BY - FM   Paris Machuk  Quality Management Standards Information - Reference equipment and instrumentation used to conduct this verification test is found in our AC-			PLANT ID	Ilderton WWTP	
			METER ID	Train #1 Flow Meter	
			FIT ID	FIT-6	
			CLIENT TAG	n/a	
			OTHER	n/a	
			GPS COORDINATES	N43 04.609	W081 22.051
			VERIFICATION DATE	October 15, 2020	
			CAL. FREQUENCY	Annual	
			CAL. DUE DATE	October, 2020	

CALIBRATION			TOTALIZER		
DIAMETER (DN)	mm	150	AS FOUND	n/a	M3
CALIBRATION FACTOR		1.0430	AS LEFT	n/a	M3
ZERO POINT		-1	DIFFERENCE	n/a	M3

VERIFICATION INFORMATION			COMPONENTS TESTED		
OPERATING TIME (d/h/m/s)	d	581	SENSOR - Shot Time, Hold Voltage Symmetry	yes	
	h	6	SENSOR - Coil-Loss, Stability, Resistance	yes	
	m	38	SENSOR - Electrode Circuit 1 + 2 and EPD	yes	
	s	31	SENSOR MODULE - Voltage-Supply, Ext. Reference	yes	
DATE/TIME	date (dd.mm.yy)		SENSOR MODULE - Voltage-Linearity, Ext. Reference	yes	
	time (hh:mm)		SENSOR MODULE - Offset Electrode Circuitry	yes	
	15.10.20		SENSOR MODULE - Voltage: Hold + Shot Feedback	yes	
	15:02		SENSOR MODULE - Current Loss, Coil Circuit Measurement	yes	
VERIFICATION ID		4	SENSOR MODULE - Shot Control, Electrode Signal Integrity	yes	
VERIFICATION TYPE		Internal	I/O MODULE - Input/Output 1, 2, 3, 4 (If used / included option)	yes	

OVERALL VERIFICATION		PASSED
SENSOR		PASSED
Shot Time, Hold Voltage Symmetry		PASSED
Coil-Loss, Stability, Resistance		PASSED
Electrode Circuit 1 + 2 and EPD		PASSED
SENSOR ELECTRONIC MODULE (ISEM)		PASSED
Voltage-Supply, Ext. Reference		PASSED
Voltage-Linearity, Ext. Reference		PASSED
Offset Electrode Circuitry		PASSED
Voltage: Hold + Shot Feedback		PASSED
Current Loss, Coil Circuit Measurement		PASSED
Shot Control, Electrode Signal Integrity		PASSED
I/O MODULE		PASSED
Input/Output 1, 2, 3, 4 (If used / included option)		PASSED

\* NOTE: Additional technical information from the OEM report is available upon request of this document

COMMENTS

This report reflects the results based on the manufacturers HEARTBEAT diagnostic technology for flow meter verification for all Promag 500 series meters with an active HEARTBEAT.



RESULTS

PASSED

CLIENT DETAIL			DEVICE INFORMATION		
CUSTOMER	Middlesex Centre		[MUT] MANUFACTURER	Endress & Hauser	
CONTACT	Brian Watson		MODEL	Promag 500	
	Operations Supervisor		CONVERTER SERIAL NUMBER	N80DF816000	
	Cell: 519-854-7618		ORDER CODE	5W5B1F-1D10/0	
			PLANT ID	Ilderton WWTP	
			METER ID	Train #2 Flow Meter	
			FIT ID	FIT-5	
			CLIENT TAG	n/a	
			OTHER	n/a	
VER. BY - FM	Paris Machuk		GPS COORDINATES	N43 04.609	W081 22.051
Quality Management Standards Information -			VERIFICATION DATE	October 15, 2020	
Reference equipment and instrumentation used			CAL. FREQUENCY	Annual	
to conduct this verification test is found in our AC-			CAL. DUE DATE	October, 2021	

CALIBRATION			TOTALIZER		
DIAMETER (DN)	mm	150	AS FOUND	n/a	M3
CALIBRATION FACTOR		1.0583	AS LEFT	n/a	M3
ZERO POINT		-4	DIFFERENCE	n/a	M3

VERIFICATION INFORMATION			COMPONENTS TESTED		
OPERATING TIME (d/h/m/s)	d	581	SENSOR - Shot Time, Hold Voltage Symmetry	yes	
	h	6	SENSOR - Coil-Loss, Stability, Resistance	yes	
	m	36	SENSOR - Electrode Circuit 1 + 2 and EPD	yes	
	s	37	SENSOR MODULE - Voltage-Supply, Ext. Reference	yes	
DATE/TIME	date (dd.mm.yy)	15.10.20	SENSOR MODULE - Voltage-Linearity, Ext. Reference	yes	
	time (hh:mm)	14:54	SENSOR MODULE - Offset Electrode Circuitry	yes	
			SENSOR MODULE - Voltage: Hold + Shot Feedback	yes	
			SENSOR MODULE - Current Loss, Coil Circuit Measurement	yes	
VERIFICATION ID		6	SENSOR MODULE - Shot Control, Electrode Signal Integrity	yes	
VERIFICATION TYPE		Internal	I/O MODULE - Input/Output 1, 2, 3, 4 (If used / included option)	yes	

OVERALL VERIFICATION		PASSED
SENSOR		PASSED
Shot Time, Hold Voltage Symmetry		PASSED
Coil-Loss, Stability, Resistance		PASSED
Electrode Circuit 1 + 2 and EPD		PASSED
SENSOR ELECTRONIC MODULE (ISEM)		PASSED
Voltage-Supply, Ext. Reference		PASSED
Voltage-Linearity, Ext. Reference		PASSED
Offset Electrode Circuitry		PASSED
Voltage: Hold + Shot Feedback		PASSED
Current Loss, Coil Circuit Measurement		PASSED
Shot Control, Electrode Signal Integrity		PASSED
I/O MODULE		PASSED
Input/Output 1, 2, 3, 4 (If used / included option)		PASSED

\* NOTE: Additional technical information from the OEM report is available upon request of this document

COMMENTS

This report reflects the results based on the manufacturers HEARTBEAT diagnostic technology for flow meter verification for all Promag 500 series meters with an active HEARTBEAT.



RESULTS

PASSED

CLIENT DETAIL			DEVICE INFORMATION		
CUSTOMER	Middlesex Centre		[MUT] MANUFACTURER	Endress & Hauser	
CONTACT	Brian Watson		MODEL	Promag 500	
	Operations Supervisor		CONVERTER SERIAL NUMBER	N80DFA16000	
	Cell: 519-854-7618		ORDER CODE	5W5B1F-1D10/0	
			PLANT ID	Ilderton WWTP	
			METER ID	Train #3 Flow Meter	
			FIT ID	FIT-7	
			CLIENT TAG	n/a	
			OTHER	n/a	
VER. BY - FM	Paris Machuk		GPS COORDINATES	N43 04.609	W081 22.051
Quality Management Standards Information -			VERIFICATION DATE	October 15, 2020	
Reference equipment and instrumentation used			CAL. FREQUENCY	Annual	
to conduct this verification test is found in our AC-			CAL. DUE DATE	October, 2021	

CALIBRATION			TOTALIZER		
DIAMETER (DN)	mm	150	AS FOUND	n/a	M3
CALIBRATION FACTOR		1.0897	AS LEFT	n/a	M3
ZERO POINT		-4	DIFFERENCE	n/a	M3

VERIFICATION INFORMATION			COMPONENTS TESTED		
OPERATING TIME (d/h/m/s)	d	581	SENSOR - Shot Time, Hold Voltage Symmetry	yes	
	h	7	SENSOR - Coil-Loss, Stability, Resistance	yes	
	m	22	SENSOR - Electrode Circuit 1 + 2 and EPD	yes	
	s	20	SENSOR MODULE - Voltage-Supply, Ext. Reference	yes	
DATE/TIME	date (dd.mm.yy)	15.10.20	SENSOR MODULE - Voltage-Linearity, Ext. Reference	yes	
	time (hh:mm)	15:06	SENSOR MODULE - Offset Electrode Circuitry	yes	
			SENSOR MODULE - Voltage: Hold + Shot Feedback	yes	
VERIFICATION ID		5	SENSOR MODULE - Current Loss, Coil Circuit Measurement	yes	
			SENSOR MODULE - Shot Control, Electrode Signal Integrity	yes	
VERIFICATION TYPE		Internal	I/O MODULE - Input/Output 1, 2, 3, 4 (If used / included option)	yes	

OVERALL VERIFICATION		PASSED
SENSOR		PASSED
Shot Time, Hold Voltage Symmetry		PASSED
Coil-Loss, Stability, Resistance		PASSED
Electrode Circuit 1 + 2 and EPD		PASSED
SENSOR ELECTRONIC MODULE (ISEM)		PASSED
Voltage-Supply, Ext. Reference		PASSED
Voltage-Linearity, Ext. Reference		PASSED
Offset Electrode Circuitry		PASSED
Voltage: Hold + Shot Feedback		PASSED
Current Loss, Coil Circuit Measurement		PASSED
Shot Control, Electrode Signal Integrity		PASSED
I/O MODULE		PASSED
Input/Output 1, 2, 3, 4 (If used / included option)		PASSED

\* NOTE: Additional technical information from the OEM report is available upon request of this document

COMMENTS

This report reflects the results based on the manufacturers HEARTBEAT diagnostic technology for flow meter verification for all Promag 500 series meters with an active HEARTBEAT.





RESULTS

PASSED

CLIENT DETAIL			DEVICE INFORMATION					
CUSTOMER	Middlesex Centre		[MUT] MANUFACTURER	Endress & Hauser				
CONTACT	Brian Watson		MODEL	Promag 500				
	Operations Supervisor		CONVERTER SERIAL NUMBER	N80DF516000				
	Cell: 519-854-7618		ORDER CODE	5W5B1F-1D10/0				
VER. BY - FM   Paris Machuk			PLANT ID	Ilderton WWTP				
			METER ID	RSP-101 Flow Meter				
			FIT ID	FIT-2				
			CLIENT TAG	n/a				
			OTHER	n/a				
			GPS COORDINATES	N43 04.609	W081 22.051			
			Quality Management Standards Information - Reference equipment and instrumentation used to conduct this verification test is found in our AC-			VERIFICATION DATE	October 19, 2020	
						CAL. FREQUENCY	Annual	
						CAL. DUE DATE	October, 2021	

CALIBRATION			TOTALIZER		
DIAMETER (DN)	mm	150	AS FOUND	n/a	M3
CALIBRATION FACTOR		1.0592	AS LEFT	n/a	M3
ZERO POINT		-11	DIFFERENCE	n/a	M3

VERIFICATION INFORMATION			COMPONENTS TESTED		
OPERATING TIME (d/h/m/s)	d	584	SENSOR - Shot Time, Hold Voltage Symmetry	yes	
	h	22	SENSOR - Coil-Loss, Stability, Resistance	yes	
	m	19	SENSOR - Electrode Circuit 1 + 2 and EPD	yes	
	s	35	SENSOR MODULE - Voltage-Supply, Ext. Reference	yes	
DATE/TIME	date (dd.mm.yy)		SENSOR MODULE - Voltage-Linearity, Ext. Reference	yes	
	time (hh:mm)		SENSOR MODULE - Offset Electrode Circuitry	yes	
	19.10.20		SENSOR MODULE - Voltage: Hold + Shot Feedback	yes	
	11:20		SENSOR MODULE - Current Loss, Coil Circuit Measurement	yes	
VERIFICATION ID		4	SENSOR MODULE - Shot Control, Electrode Signal Integrity	yes	
VERIFICATION TYPE		Internal	I/O MODULE - Input/Output 1, 2, 3, 4 (If used / included option)	yes	

OVERALL VERIFICATION		PASSED
SENSOR		PASSED
Shot Time, Hold Voltage Symmetry		PASSED
Coil-Loss, Stability, Resistance		PASSED
Electrode Circuit 1 + 2 and EPD		PASSED
SENSOR ELECTRONIC MODULE (ISEM)		PASSED
Voltage-Supply, Ext. Reference		PASSED
Voltage-Linearity, Ext. Reference		PASSED
Offset Electrode Circuitry		PASSED
Voltage: Hold + Shot Feedback		PASSED
Current Loss, Coil Circuit Measurement		PASSED
Shot Control, Electrode Signal Integrity		PASSED
I/O MODULE		PASSED
Input/Output 1, 2, 3, 4 (If used / included option)		PASSED

\* NOTE: Additional technical information from the OEM report is available upon request of this document

COMMENTS

This report reflects the results based on the manufacturers HEARTBEAT diagnostic technology for flow meter verification for all Promag 500 series meters with an active HEARTBEAT.



RESULTS

PASSED

CLIENT DETAIL			DEVICE INFORMATION		
CUSTOMER	Middlesex Centre		[MUT] MANUFACTURER	Endress & Hauser	
CONTACT	Brian Watson		MODEL	Promag 500	
	Operations Supervisor		CONVERTER SERIAL NUMBER	N80DF616000	
	Cell: 519-854-7618		ORDER CODE	5W5B1F-1D10/0	
			PLANT ID	Ilderton WWTP	
			METER ID	RSP-102 Flow Meter	
			FIT ID	FIT-3	
			CLIENT TAG	n/a	
			OTHER	n/a	
VER. BY - FM	Paris Machuk		GPS COORDINATES	N43 04.609	W081 22.051
Quality Management Standards Information -			VERIFICATION DATE	October 15, 2020	
Reference equipment and instrumentation used			CAL. FREQUENCY	Annual	
to conduct this verification test is found in our AC-			CAL. DUE DATE	October, 2021	

CALIBRATION			TOTALIZER		
DIAMETER (DN)	mm	150	AS FOUND	n/a	M3
CALIBRATION FACTOR		1.0494	AS LEFT	n/a	M3
ZERO POINT		4	DIFFERENCE	n/a	M3

VERIFICATION INFORMATION			COMPONENTS TESTED		
OPERATING TIME (d/h/m/s)	d	581	SENSOR - Shot Time, Hold Voltage Symmetry	yes	
	h	7	SENSOR - Coil-Loss, Stability, Resistance	yes	
	m	16	SENSOR - Electrode Circuit 1 + 2 and EPD	yes	
	s	10	SENSOR MODULE - Voltage-Supply, Ext. Reference	yes	
DATE/TIME	date (dd.mm.yy)	15.10.20	SENSOR MODULE - Voltage-Linearity, Ext. Reference	yes	
	time (hh:mm)	15:39	SENSOR MODULE - Offset Electrode Circuitry	yes	
			SENSOR MODULE - Voltage: Hold + Shot Feedback	yes	
			SENSOR MODULE - Current Loss, Coil Circuit Measurement	yes	
VERIFICATION ID		3	SENSOR MODULE - Shot Control, Electrode Signal Integrity	yes	
VERIFICATION TYPE		Internal	I/O MODULE - Input/Output 1, 2, 3, 4 (If used / included option)	yes	

OVERALL VERIFICATION		PASSED
SENSOR		PASSED
Shot Time, Hold Voltage Symmetry		PASSED
Coil-Loss, Stability, Resistance		PASSED
Electrode Circuit 1 + 2 and EPD		PASSED
SENSOR ELECTRONIC MODULE (ISEM)		PASSED
Voltage-Supply, Ext. Reference		PASSED
Voltage-Linearity, Ext. Reference		PASSED
Offset Electrode Circuitry		PASSED
Voltage: Hold + Shot Feedback		PASSED
Current Loss, Coil Circuit Measurement		PASSED
Shot Control, Electrode Signal Integrity		PASSED
I/O MODULE		PASSED
Input/Output 1, 2, 3, 4 (If used / included option)		PASSED

\* NOTE: Additional technical information from the OEM report is available upon request of this document

COMMENTS

This report reflects the results based on the manufacturers HEARTBEAT diagnostic technology for flow meter verification for all Promag 500 series meters with an active HEARTBEAT.



RESULTS

PASSED

CLIENT DETAIL			DEVICE INFORMATION		
CUSTOMER	Middlesex Centre		[MUT] MANUFACTURER	Endress & Hauser	
CONTACT	Brian Watson		MODEL	Promag 500	
	Operations Supervisor		CONVERTER SERIAL NUMBER	N80DF716000	
	Cell: 519-854-7618		ORDER CODE	5W5B1F-1D10/0	
			PLANT ID	Ilderton WWTP	
			METER ID	RSP-103 Flow Meter	
			FIT ID	FIT-4	
			CLIENT TAG	n/a	
			OTHER	n/a	
VER. BY - FM	Paris Machuk		GPS COORDINATES	N43 04.609	W081 22.051
Quality Management Standards Information -			VERIFICATION DATE	October 15, 2020	
Reference equipment and instrumentation used			CAL. FREQUENCY	Annual	
to conduct this verification test is found in our AC-			CAL. DUE DATE	October, 2021	

CALIBRATION			TOTALIZER		
DIAMETER (DN)	mm	150	AS FOUND	n/a	M3
CALIBRATION FACTOR		1.0648	AS LEFT	n/a	M3
ZERO POINT		2	DIFFERENCE	n/a	M3

VERIFICATION INFORMATION			COMPONENTS TESTED		
OPERATING TIME (d/h/m/s)	d	581	SENSOR - Shot Time, Hold Voltage Symmetry	yes	
	h	7	SENSOR - Coil-Loss, Stability, Resistance	yes	
	m	27	SENSOR - Electrode Circuit 1 + 2 and EPD	yes	
	s	46	SENSOR MODULE - Voltage-Supply, Ext. Reference	yes	
DATE/TIME	date (dd.mm.yy)	15.10.20	SENSOR MODULE - Voltage-Linearity, Ext. Reference	yes	
	time (hh:mm)	15:49	SENSOR MODULE - Offset Electrode Circuitry	yes	
			SENSOR MODULE - Voltage: Hold + Shot Feedback	yes	
			SENSOR MODULE - Current Loss, Coil Circuit Measurement	yes	
VERIFICATION ID		3	SENSOR MODULE - Shot Control, Electrode Signal Integrity	yes	
VERIFICATION TYPE		Internal	I/O MODULE - Input/Output 1, 2, 3, 4 (If used / included option)	yes	

OVERALL VERIFICATION		PASSED
SENSOR		PASSED
Shot Time, Hold Voltage Symmetry		PASSED
Coil-Loss, Stability, Resistance		PASSED
Electrode Circuit 1 + 2 and EPD		PASSED
SENSOR ELECTRONIC MODULE (ISEM)		PASSED
Voltage-Supply, Ext. Reference		PASSED
Voltage-Linearity, Ext. Reference		PASSED
Offset Electrode Circuitry		PASSED
Voltage: Hold + Shot Feedback		PASSED
Current Loss, Coil Circuit Measurement		PASSED
Shot Control, Electrode Signal Integrity		PASSED
I/O MODULE		PASSED
Input/Output 1, 2, 3, 4 (If used / included option)		PASSED

\* NOTE: Additional technical information from the OEM report is available upon request of this document

COMMENTS

This report reflects the results based on the manufacturers HEARTBEAT diagnostic technology for flow meter verification for all Promag 500 series meters with an active HEARTBEAT.





RESULTS

PASSED

CLIENT DETAIL			DEVICE INFORMATION					
CUSTOMER	Middlesex Centre		[MUT] MANUFACTURER	Endress & Hauser				
CONTACT	Brian Watson		MODEL	Promag 500				
	Operations Supervisor		CONVERTER SERIAL NUMBER	N80DF416000				
	Cell: 519-854-7618		ORDER CODE	5W5B1F-1D10/0				
VER. BY - FM   Paris Machuk			PLANT ID	Ilderton WWTP				
			METER ID	RSP-104 Flow Meter				
			FIT ID	FIT-1				
			CLIENT TAG	n/a				
			OTHER	n/a				
			GPS COORDINATES	N43 04.609	W081 22.051			
			Quality Management Standards Information - Reference equipment and instrumentation used to conduct this verification test is found in our AC-			VERIFICATION DATE	October 15, 2020	
						CAL. FREQUENCY	Annual	
						CAL. DUE DATE	October, 2021	

CALIBRATION			TOTALIZER		
DIAMETER (DN)	mm	150	AS FOUND	n/a	M3
CALIBRATION FACTOR		1.0761	AS LEFT	n/a	M3
ZERO POINT		-1	DIFFERENCE	n/a	M3

VERIFICATION INFORMATION			COMPONENTS TESTED		
OPERATING TIME (d/h/m/s)	d	581	SENSOR - Shot Time, Hold Voltage Symmetry	yes	
	h	2	SENSOR - Coil-Loss, Stability, Resistance	yes	
	m	26	SENSOR - Electrode Circuit 1 + 2 and EPD	yes	
	s	18	SENSOR MODULE - Voltage-Supply, Ext. Reference	yes	
DATE/TIME	date (dd.mm.yy)	15.10.20	SENSOR MODULE - Voltage-Linearity, Ext. Reference	yes	
	time (hh:mm)	15:12	SENSOR MODULE - Offset Electrode Circuitry	yes	
VERIFICATION ID			SENSOR MODULE - Voltage: Hold + Shot Feedback	yes	
			SENSOR MODULE - Current Loss, Coil Circuit Measurement	yes	
			SENSOR MODULE - Shot Control, Electrode Signal Integrity	yes	
VERIFICATION TYPE	Internal		I/O MODULE - Input/Output 1, 2, 3, 4 (If used / included option)	yes	

OVERALL VERIFICATION		PASSED
SENSOR		PASSED
Shot Time, Hold Voltage Symmetry		PASSED
Coil-Loss, Stability, Resistance		PASSED
Electrode Circuit 1 + 2 and EPD		PASSED
SENSOR ELECTRONIC MODULE (ISEM)		PASSED
Voltage-Supply, Ext. Reference		PASSED
Voltage-Linearity, Ext. Reference		PASSED
Offset Electrode Circuitry		PASSED
Voltage: Hold + Shot Feedback		PASSED
Current Loss, Coil Circuit Measurement		PASSED
Shot Control, Electrode Signal Integrity		PASSED
I/O MODULE		PASSED
Input/Output 1, 2, 3, 4 (If used / included option)		PASSED

\* NOTE: Additional technical information from the OEM report is available upon request of this document

COMMENTS

This report reflects the results based on the manufacturers HEARTBEAT diagnostic technology for flow meter verification for all Promag 500 series meters with an active HEARTBEAT.

## ***APPENDIX B – BY-PASS EVENTS***





January 14, 2020

Ministry of the Environment, Conservation and Parks  
Southwest Region  
733 Exeter Road  
London ON, N6E 1L3  
[Meghan.Morgan@ontario.ca](mailto:Meghan.Morgan@ontario.ca)

**RE: Ilderton WWTF Overflow Event**

---

Dear Meghan,

This letter is to serve as written notice for an overflow event which occurred on January 11<sup>th</sup> through to January 12<sup>th</sup> 2020 at the Ilderton WWTF due to heavy precipitation and high flows. The duration of the overflow was 13 hours and 40 minutes with a total volume of 357.63 m3. During the overflow the wastewater mixed with the final effluent and samples were collected and submitted to the laboratory for analysis. The sample results will be provided once received. The Environmental Compliance Approval number for the Ilderton WWTF is 9219-AWWHWU.

This incident was reported to SAC as a bypass, receiving a reference # 904028 and attached is a copy of our Wastewater Overflow Log Sheet.

Should you have any questions please feel free to contact me.

Sincerely,



**Brian Watson**

Water/Wastewater Operations Supervisor

<http://middlesexcentre.on.ca> | [watson@middlesexcentre.on.ca](mailto:watson@middlesexcentre.on.ca)

22280 Komoka Road, RR#3 | Komoka, Ontario, N0L 1R0

C: 519.854.7618

Cc: Eric Joudrey, Operations Manager - Municipality of Middlesex Centre



January 21, 2020

Ministry of the Environment, Conservation and Parks  
Southwest Region  
733 Exeter Road  
London ON, N6E 1L3  
[Meghan.Morgan@ontario.ca](mailto:Meghan.Morgan@ontario.ca)

**RE: Ilderton WWTF Overflow Event**

---

Dear Meghan,

As a follow up to our letter for the Ilderton WWTF overflow event on January 11-12, 2020 and reported to SAC (reference #904028), please see attached lab results.

Should you have any questions please feel free to contact me.

Sincerely,



**Brian Watson**

Water/Wastewater Operations Supervisor

<http://middlesexcentre.on.ca> | [watson@middlesexcentre.on.ca](mailto:watson@middlesexcentre.on.ca)

22280 Komoka Road, RR#3 | Komoka, Ontario, N0L 1R0

C: 519.854.7618

Cc: Eric Joudrey, Operations Manager - Municipality of Middlesex Centre

# Wastewater Bypass/Overflow Log

## Municipality of Middlesex Centre

Facility: Iderton WWTF

SAC 1-800-268-6060

Bypass Start: <u>11/01/2020, 17:55</u> <small>Date (DD/MM/YYYY), Time</small>		Bypass End: <u>12/01/2020,</u> <small>Date (DD/MM/YYYY), Time</small>	
Total Volume Bypassed: <u>357.63</u> cubic metres		<input type="checkbox"/> Check if estimated or unknown	
Duration (Hrs:Min) <u>13:40</u>			
Spill Action Centre Notified of Bypass:		<u>11-01-20, 18:46</u> <small>Date (DD/MM/YYYY), Time</small>	<u>Brian Watson</u> <small>Operator Name</small>
Contact at the Spills Action Centre:		<u>904028</u> <small>Reference #</small>	<u>Nick Lymer</u> <small>Name</small>
Spills Action Centre Notified of finish Time/Volume/Duration:		<input type="checkbox"/> Check if N/A	
Spill Action Centre Notified of Bypass Ending:		<u>12-01-20, 8:54</u> <small>Date (DD/MM/YYYY), Time</small>	<u>Brian Watson</u> <small>Operator Name</small>
Contact at the Spills Action Centre:		<u>John Tse</u> <small>Name</small>	
Bypass Cause: <u>1</u> (Multiple causes are possible)			
<div style="display: flex; justify-content: space-between;"> <div> 1= Heavy Precipitation  4= Equipment Maintenance  7= Exceed Design Capacity </div> <div> 2= Snow Melt  5= Sewer Problem </div> <div> 3= Equipment Failure  6= Power Failure </div> </div>			
Reason for Bypass: <u>2, 3</u> (Multiple reasons are possible)			
1) Avoid personal injury 2) Avoid danger to public health 3) Avoid severe property damage 4) Prior written acknowledgement by the District Manager that is necessary to carry out essential maintenance			

Bypass sample taken: Yes: ☒ No: ☐ If No please provide reason below

Reason for no sample: \_\_\_\_\_

Note: Full event details must be logged in Facility Log Book. If no sample is taken a reason must be logged in the Facility Log Book

Revised Jan 10, 2017

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - K0L 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

20-January-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

10227 Ilderton Rd.  
Ilderton, ON  
N0M 2A0, Canada

**Date Rec. :** 14 January 2020  
**LR Report:** CA30180-JAN20

**Copy:** #1

Phone: 519-666-0190 ext 255  
Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Final Effluent
Sample Date & Time					11-Jan-20 18:04
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.1
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	7.0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	15-Jan-20	17:15	20-Jan-20	15:16	4
Total Suspended Solids [mg/L]	16-Jan-20	11:25	17-Jan-20	14:27	5
Phosphorus (total) [mg/L]	15-Jan-20	16:49	16-Jan-20	14:12	0.19
Total Kjeldahl Nitrogen [as N mg/L]	15-Jan-20	05:12	16-Jan-20	10:44	1.0
Ammonia+Ammonium (N) [as N mg/L]	16-Jan-20	17:00	16-Jan-20	11:52	< 0.1
Nitrite (as N) [mg/L]	15-Jan-20	17:29	16-Jan-20	15:20	0.12
Nitrate (as N) [mg/L]	15-Jan-20	17:29	16-Jan-20	15:20	17.5
Nitrate + Nitrite (as N) [mg/L]	15-Jan-20	17:29	16-Jan-20	15:20	17.6



Carrie Greenlaw  
Project Specialist,  
Environment, Health & Safety



Ministry of the Environment, Conservation and Parks  
Southwest Region  
733 Exeter Road  
London ON, N6E 1L3  
Meghan.Morgan@ontario.ca

February 18, 2020

**RE: 2020 Ilderton Wastewater Treatment Facility Quarterly Bypass Report**

This correspondence is to satisfy Condition 4 Subsection (6) Bypasses and Condition 5 Subsection (6) of Environmental Compliance Agreement (ECA #) 9219-AWWHWU issued on May 1<sup>st</sup>, 2018 as outlined:

**Bypasses Condition 4, Subsection (6)**

The Owner shall submit a summary report of the Bypass Event(s) to the District Manager 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 types of information set out in Paragraphs (3), (4) and (5) and either a statement of compliance or a summary of the non-compliance notifications submitted as required under Paragraph 1 of Condition 11. If there is no bypass during a quarter, a statement of no occurrence of bypass is deemed sufficient.

The following table summarizes any bypasses or overflows during the quarter no later than February 15, 2020.

**2020 Bypasses: Subsection (3) (4) & (5)**

Reporting Period: February 15, 2020	Bypass Occurrence	No Occurrence of Bypass
	✓	
Date & Time of Bypass	January 12 & 13, 2020	
Type of Bypass	Mixed final effluent	
Level of Treatment	Secondary	
SAC Notification Number	904028	
Attachments of Notification Reports and Analytical Analysis	Included	Not Included
	✓	

**Overflows Condition 5, Subsection (6)**

The Owner shall submit a summary report of the Overflow Event(s) to the District Manager 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 report shall contain, at a minimum, the types of information set out in



Paragraphs (3), (4) and (5). If there is no Overflow Event during a quarter, a statement of no occurrence of Bypass is deemed sufficient.

**2019 Overflows: Subsection (3) (4) & (5)**

Reporting Period: February 15, 2020	Overflow	No Occurrence of Overflow
	✓	
Date & Time of Overflow	January 12 & 13, 2020	
Type of Overflow	Mixed final effluent	
Level of Treatment	Secondary	
SAC Notification Number	904028	
Attachments of Notification Reports and Analytical Analysis	Included	Not Included
	✓	

If you have any questions or concerns, please contact me directly at (519) 666-0190 x 255.

Eric Joudrey,

Manager of Water & Wastewater Operations  
Municipality of Middlesex Centre





Ministry of the Environment, Conservation and Parks  
Southwest Region  
733 Exeter Road  
London ON, N6E 1L3  
Meghan.Morgan@ontario.ca

June 3, 2020

**RE: 2020 Ilderton Wastewater Treatment Facility Quarterly Bypass Report**

This correspondence is to satisfy Condition 4 Subsection (6) Bypasses and Condition 5 Subsection (6) of Environmental Compliance Agreement (ECA #) 9219-AWWHWU issued on May 1<sup>st</sup>, 2018 as outlined:

**Bypasses Condition 4, Subsection (6)**

The Owner shall submit a summary report of the Bypass Event(s) to the District Manager 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 types of information set out in Paragraphs (3), (4) and (5) and either a statement of compliance or a summary of the non-compliance notifications submitted as required under Paragraph 1 of Condition 11. If there is no bypass during a quarter, a statement of no occurrence of bypass is deemed sufficient.

The following table summarizes any bypasses or overflows during the quarter no later than May 15, 2020.

**2020 Bypasses: Subsection (3) (4) & (5)**

Reporting Period: May 15, 2020	Bypass Occurrence	No Occurrence of Bypass
		✓
Date & Time of Bypass		
Type of Bypass		
Level of Treatment		
SAC Notification Number		
Attachments of Notification Reports and Analytical Analysis	Included	Not Included

**Overflows Condition 5, Subsection (6)**

The Owner shall submit a summary report of the Overflow Event(s) to the District Manager 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 report shall contain, at a minimum, the types of information set out in



Paragraphs (3), (4) and (5). If there is no Overflow Event during a quarter, a statement of no occurrence of Bypass is deemed sufficient.

**2020 Overflows: Subsection (3) (4) & (5)**

Reporting Period: May 15, 2020	Overflow	No Occurrence of Overflow
		✓
Date & Time of Overflow		
Type of Overflow		
Level of Treatment		
SAC Notification Number		
Attachments of Notification Reports and Analytical Analysis	Included	Not Included

If you have any questions or concerns, please contact me directly at (519) 666-0190 x 255.

Eric Joudrey,

Manager of Water & Wastewater Operations  
Municipality of Middlesex Centre





Ministry of the Environment, Conservation and Parks  
Southwest Region  
733 Exeter Road  
London ON, N6E 1L3  
Meghan.Morgan@ontario.ca

August 17, 2020

**RE: 2020 Ilderton Wastewater Treatment Facility Quarterly Bypass Report**

This correspondence is to satisfy Condition 4 Subsection (6) Bypasses and Condition 5 Subsection (6) of Environmental Compliance Agreement (ECA #) 9219-AWWHWU issued on May 1<sup>st</sup>, 2018 as outlined:

**Bypasses Condition 4, Subsection (6)**

The Owner shall submit a summary report of the Bypass Event(s) to the District Manager 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 types of information set out in Paragraphs (3), (4) and (5) and either a statement of compliance or a summary of the non-compliance notifications submitted as required under Paragraph 1 of Condition 11. If there is no bypass during a quarter, a statement of no occurrence of bypass is deemed sufficient.

The following table summarizes any bypasses or overflows during the quarter no later than August 15, 2020.

**2020 Bypasses: Subsection (3) (4) & (5)**

Reporting Period: August 15, 2020	Bypass Occurrence	No Occurrence of Bypass
		✓
Date & Time of Bypass		
Type of Bypass		
Level of Treatment		
SAC Notification Number		
Attachments of Notification Reports and Analytical Analysis	Included	Not Included

**Overflows Condition 5, Subsection (6)**

The Owner shall submit a summary report of the Overflow Event(s) to the District Manager 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 report shall contain, at a minimum, the types of information set out in



Paragraphs (3), (4) and (5). If there is no Overflow Event during a quarter, a statement of no occurrence of Bypass is deemed sufficient.

**2020 Overflows: Subsection (3) (4) & (5)**

Reporting Period: August 15, 2020	Overflow	No Occurrence of Overflow
		✓
Date & Time of Overflow		
Type of Overflow		
Level of Treatment		
SAC Notification Number		
Attachments of Notification Reports and Analytical Analysis	Included	Not Included

If you have any questions or concerns, please contact me directly at (519) 666-0190 x 255.

Eric Joudrey,

Manager of Water & Wastewater Operations  
Municipality of Middlesex Centre



Ministry of the Environment, Conservation and Parks  
Southwest Region  
733 Exeter Road  
London ON, N6E 1L3  
Meghan.Morgan@ontario.ca

November 15, 2020

**RE: 2020 Ilderton Wastewater Treatment Facility Quarterly Bypass Report**

This correspondence is to satisfy Condition 4 Subsection (6) Bypasses and Condition 5 Subsection (6) of Environmental Compliance Agreement (ECA #) 9219-AWWHWU issued on May 1<sup>st</sup>, 2018 as outlined:

**Bypasses Condition 4, Subsection (6)**

The Owner shall submit a summary report of the Bypass Event(s) to the District Manager 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 types of information set out in Paragraphs (3), (4) and (5) and either a statement of compliance or a summary of the non-compliance notifications submitted as required under Paragraph 1 of Condition 11. If there is no bypass during a quarter, a statement of no occurrence of bypass is deemed sufficient.

The following table summarizes any bypasses or overflows during the quarter no later than November 15, 2020.

**2020 Bypasses: Subsection (3) (4) & (5)**

Reporting Period: November 15, 2020	Bypass Occurrence	No Occurrence of Bypass
		✓
Date & Time of Bypass		
Type of Bypass		
Level of Treatment		
SAC Notification Number		
Attachments of Notification Reports and Analytical Analysis	Included	Not Included

**Overflows Condition 5, Subsection (6)**

The Owner shall submit a summary report of the Overflow Event(s) to the District Manager 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 report shall contain, at a minimum, the types of information set out in



Paragraphs (3), (4) and (5). If there is no Overflow Event during a quarter, a statement of no occurrence of Bypass is deemed sufficient.

**2020 Overflows: Subsection (3) (4) & (5)**

Reporting Period: November 15, 2020	Overflow	No Occurrence of Overflow
		✓
Date & Time of Overflow		
Type of Overflow		
Level of Treatment		
SAC Notification Number		
Attachments of Notification Reports and Analytical Analysis	Included	Not Included

If you have any questions or concerns, please contact me directly at (519) 666-0190 x 255.

Eric Joudrey,

Manager of Water & Wastewater Operations  
Municipality of Middlesex Centre

## ***APPENDIX C – ANALYTICAL REPORTS***

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - K0L 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

14-January-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 07 January 2020  
**LR Report:** CA30039-JAN20

10227 Ilderton Rd.  
Ilderton, ON  
N0M 2A0, Canada

**Copy:** #1

Phone: 519-666-0190 ext 255  
Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					06-Jan-20 12:00	06-Jan-20 09:45
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	8.1	8.1
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	10.0	10.0
E. Coli [cfu/100mL]	07-Jan-20	14:25	10-Jan-20	09:13	---	16
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	08-Jan-20	17:23	13-Jan-20	16:46	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	08-Jan-20	17:29	13-Jan-20	16:02	213	---
Total Suspended Solids [mg/L]	08-Jan-20	09:39	09-Jan-20	13:49	217	4
Phosphorus (total) [mg/L]	09-Jan-20	15:48	09-Jan-20	14:07	4.36	0.11
Total Kjeldahl Nitrogen [as N mg/L]	08-Jan-20	16:42	10-Jan-20	14:29	50.1	1.8
Ammonia+Ammonium (N) [as N mg/L]	08-Jan-20	17:02	09-Jan-20	12:09	---	< 0.1
Nitrite (as N) [mg/L]	08-Jan-20	18:44	09-Jan-20	14:53	---	0.05
Nitrate (as N) [mg/L]	08-Jan-20	18:44	10-Jan-20	11:08	---	31.4
Nitrate + Nitrite (as N) [mg/L]	08-Jan-20	18:44	10-Jan-20	11:08	---	31.5
pH@temp15 [pH Units]	08-Jan-20	11:22	08-Jan-20	15:47	---	7.95
Unionized Ammonia @temp15 [mg/L as N]	08-Jan-20	11:22	09-Jan-20	12:09	---	0.002

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
Note: Federal unionized ammonia at 15 °C calculated using Lab pH results performed at this temperature.

  
Carrie Greenlaw  
Project Specialist,  
Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

21-January-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 14 January 2020  
**LR Report:** CA30179-JAN20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

**Copy:** #1

Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					13-Jan-20 13:10	13-Jan-20 09:30
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.1	7.1
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	7.0	7.0
E. Coli [cfu/100mL]	14-Jan-20	16:45	17-Jan-20	09:32	---	9
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	15-Jan-20	17:15	20-Jan-20	15:16	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	15-Jan-20	17:12	20-Jan-20	14:34	96	---
Total Suspended Solids [mg/L]	15-Jan-20	10:36	20-Jan-20	09:10	118	6
Phosphorus (total) [mg/L]	15-Jan-20	16:49	16-Jan-20	14:12	2.83	0.21
Total Kjeldahl Nitrogen [as N mg/L]	15-Jan-20	05:12	16-Jan-20	10:44	28.1	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	16-Jan-20	17:00	16-Jan-20	11:52	---	0.6
Nitrite (as N) [mg/L]	16-Jan-20	09:31	20-Jan-20	16:11	---	0.17
Nitrate (as N) [mg/L]	16-Jan-20	09:31	20-Jan-20	16:11	---	11.3
Nitrate + Nitrite (as N) [mg/L]	16-Jan-20	09:31	20-Jan-20	16:11	---	11.5
pH@temp15 [pH Units]	15-Jan-20	13:35	17-Jan-20	08:48	---	8.10
Unionized Ammonia @temp15 [mg/L as N]	15-Jan-20	13:35	17-Jan-20	08:48	---	0.020

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - K0L 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

20-January-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

10227 Ilderton Rd.  
Ilderton, ON  
N0M 2A0, Canada

**Date Rec. :** 14 January 2020  
**LR Report:** CA30180-JAN20

**Copy:** #1

Phone: 519-666-0190 ext 255  
Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Final Effluent
Sample Date & Time					11-Jan-20 18:04
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.1
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	7.0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	15-Jan-20	17:15	20-Jan-20	15:16	4
Total Suspended Solids [mg/L]	16-Jan-20	11:25	17-Jan-20	14:27	5
Phosphorus (total) [mg/L]	15-Jan-20	16:49	16-Jan-20	14:12	0.19
Total Kjeldahl Nitrogen [as N mg/L]	15-Jan-20	05:12	16-Jan-20	10:44	1.0
Ammonia+Ammonium (N) [as N mg/L]	16-Jan-20	17:00	16-Jan-20	11:52	< 0.1
Nitrite (as N) [mg/L]	15-Jan-20	17:29	16-Jan-20	15:20	0.12
Nitrate (as N) [mg/L]	15-Jan-20	17:29	16-Jan-20	15:20	17.5
Nitrate + Nitrite (as N) [mg/L]	15-Jan-20	17:29	16-Jan-20	15:20	17.6



Carrie Greenlaw  
Project Specialist,  
Environment, Health & Safety



**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

29-January-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 21 January 2020  
**LR Report:** CA30251-JAN20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

**Copy:** #1

Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 36D05 Sludge
Sample Date & Time					20-Jan-20 09:57
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	3.5
Temperature Upon Receipt [°C]	---	---	---	---	3.0
Total Solids [mg/L]	22-Jan-20	19:53	28-Jan-20	10:59	24900
Ammonia+Ammonium (N) [as N mg/L]	23-Jan-20	16:24	24-Jan-20	13:35	160
Nitrite (as N) [mg/L]	22-Jan-20	19:38	23-Jan-20	15:03	0.6
Nitrate (as N) [mg/L]	22-Jan-20	19:38	23-Jan-20	15:03	< 0.3
Nitrate + Nitrite (as N) [mg/L]	22-Jan-20	19:38	23-Jan-20	15:03	0.6
Arsenic [mg/L]	28-Jan-20	11:29	28-Jan-20	16:52	< 0.1
Cadmium [mg/L]	28-Jan-20	11:29	28-Jan-20	16:52	0.012
Cobalt [mg/L]	28-Jan-20	11:29	28-Jan-20	16:52	0.06
Chromium [mg/L]	28-Jan-20	11:29	28-Jan-20	16:52	0.42
Copper [mg/L]	28-Jan-20	11:29	28-Jan-20	16:52	7.1
Mercury [mg/L]	28-Jan-20	11:29	28-Jan-20	16:52	0.040
Potassium [mg/L]	28-Jan-20	11:29	28-Jan-20	16:52	85
Molybdenum [mg/L]	28-Jan-20	11:29	28-Jan-20	16:52	0.13
Nickel [mg/L]	28-Jan-20	11:29	28-Jan-20	16:52	0.34
Phosphorus [mg/L]	28-Jan-20	11:29	28-Jan-20	16:52	930
Lead [mg/L]	28-Jan-20	11:29	28-Jan-20	16:52	0.2
Selenium [mg/L]	28-Jan-20	11:29	28-Jan-20	16:52	< 0.1
Zinc [mg/L]	28-Jan-20	11:29	28-Jan-20	16:52	14

Note: Metals and mercury were analyzed on the as-received sample.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

27-January-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 21 January 2020  
**LR Report:** CA30252-JAN20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

**Copy:** #1

Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					20-Jan-20 12:05	20-Jan-20 10:19
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	3.5	3.5
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	3.0	3.0
E. Coli [cfu/100mL]	21-Jan-20	16:30	23-Jan-20	10:21	---	29
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	22-Jan-20	16:53	27-Jan-20	14:25	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	22-Jan-20	17:10	27-Jan-20	13:57	152	---
Total Suspended Solids [mg/L]	22-Jan-20	09:58	23-Jan-20	15:15	163	4
Phosphorus (total) [mg/L]	22-Jan-20	17:27	23-Jan-20	13:20	3.47	0.14
Total Kjeldahl Nitrogen [as N mg/L]	22-Jan-20	18:21	23-Jan-20	11:00	41.7	1.3
Ammonia+Ammonium (N) [as N mg/L]	22-Jan-20	18:17	24-Jan-20	13:35	---	< 0.1
Nitrite (as N) [mg/L]	22-Jan-20	04:00	23-Jan-20	14:00	---	0.13
Nitrate (as N) [mg/L]	22-Jan-20	04:00	23-Jan-20	14:00	---	27.2
Nitrate + Nitrite (as N) [mg/L]	22-Jan-20	04:00	23-Jan-20	14:00	---	27.3
pH@temp15 [pH Units]	23-Jan-20	11:31	24-Jan-20	08:28	---	8.01
Unionized Ammonia @temp15 [mg/L as N]	23-Jan-20	11:31	24-Jan-20	14:08	---	0.001

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

04-February-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 28 January 2020  
**LR Report:** CA30314-JAN20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

**Copy:** #1

Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					27-Jan-20 11:50	27-Jan-20 10:45
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.8	7.8
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	5.0	5.0
E. Coli [cfu/100mL]	28-Jan-20	14:10	30-Jan-20	11:43	---	11
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	29-Jan-20	16:11	03-Feb-20	15:25	---	< 2
Biochemical Oxygen Demand (BOD5) [mg/L]	29-Jan-20	16:32	03-Feb-20	14:48	105	---
Total Suspended Solids [mg/L]	29-Jan-20	10:05	31-Jan-20	09:04	114	2
Phosphorus (total) [mg/L]	30-Jan-20	15:00	30-Jan-20	13:24	2.84	0.14
Total Kjeldahl Nitrogen [as N mg/L]	30-Jan-20	16:00	30-Jan-20	17:33	28.6	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	29-Jan-20	15:00	30-Jan-20	18:47	---	< 0.1
Nitrite (as N) [mg/L]	30-Jan-20	04:00	04-Feb-20	08:24	---	0.20
Nitrate (as N) [mg/L]	30-Jan-20	04:00	04-Feb-20	08:24	---	16.9
Nitrate + Nitrite (as N) [mg/L]	30-Jan-20	04:00	04-Feb-20	08:24	---	17.1
pH@temp15 [pH Units]	30-Jan-20	13:24	03-Feb-20	15:55	---	7.98
Unionized Ammonia @temp15 [mg/L as N]	30-Jan-20	13:24	03-Feb-20	15:55	---	0.002

**Note:**

- E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.
- Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.



**Kimberley Didsbury**  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

11-February-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 04 February 2020  
**LR Report:** CA30024-FEB20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					03-Feb-20 11:50	03-Feb-20 11:05
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.6	7.6
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	8.0	8.0
E. Coli [cfu/100mL]	04-Feb-20	17:20	06-Feb-20	11:48	---	5
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	05-Feb-20	17:14	10-Feb-20	16:12	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	05-Feb-20	17:12	10-Feb-20	16:13	138	---
Total Suspended Solids [mg/L]	05-Feb-20	14:50	06-Feb-20	15:03	159	4
Phosphorus (total) [mg/L]	06-Feb-20	16:01	07-Feb-20	10:25	3.57	0.19
Total Kjeldahl Nitrogen [as N mg/L]	05-Feb-20	17:06	07-Feb-20	11:27	36.3	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	05-Feb-20	16:42	06-Feb-20	15:22	---	< 0.1
Nitrite (as N) [mg/L]	06-Feb-20	11:40	11-Feb-20	08:31	---	0.24
Nitrate (as N) [mg/L]	06-Feb-20	11:40	11-Feb-20	08:31	---	27.4
Nitrate + Nitrite (as N) [mg/L]	06-Feb-20	11:40	11-Feb-20	08:31	---	27.6
pH@temp15 [pH Units]	05-Feb-20	09:57	06-Feb-20	16:29	---	8.06
Unionized Ammonia @temp15 [mg/L as N]	05-Feb-20	09:57	06-Feb-20	16:30	---	0.002

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

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19-February-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 11 February 2020  
**LR Report:** CA30120-FEB20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					10-Feb-20 10:00	10-Feb-20 10:15
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	6.8	6.8
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	11.0	11.0
E. Coli [cfu/100mL]	11-Feb-20	14:30	13-Feb-20	12:55	---	8
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	12-Feb-20	16:33	18-Feb-20	11:54	---	< 2
Biochemical Oxygen Demand (BOD5) [mg/L]	12-Feb-20	16:36	18-Feb-20	10:55	293	---
Total Suspended Solids [mg/L]	13-Feb-20	13:27	14-Feb-20	15:11	253	< 2
Phosphorus (total) [mg/L]	12-Feb-20	17:59	13-Feb-20	12:17	4.05	0.22
Total Kjeldahl Nitrogen [as N mg/L]	12-Feb-20	18:01	14-Feb-20	10:33	40.8	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	13-Feb-20	11:00	14-Feb-20	08:58	---	< 0.1
Nitrite (as N) [mg/L]	13-Feb-20	04:00	18-Feb-20	16:37	---	0.42
Nitrate (as N) [mg/L]	13-Feb-20	04:00	18-Feb-20	16:37	---	31.5
Nitrate + Nitrite (as N) [mg/L]	13-Feb-20	04:00	18-Feb-20	16:37	---	31.9
pH@temp15 [pH Units]	12-Feb-20	11:37	13-Feb-20	10:06	---	7.81
Unionized Ammonia @temp15 [mg/L as N]	12-Feb-20	11:37	19-Feb-20	14:59	---	< 0.001

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

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25-February-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 18 February 2020  
**LR Report:** CA30178-FEB20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					17-Feb-20 12:50	17-Feb-20 12:40
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	5.7	5.7
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	8.0	8.0
E. Coli [cfu/100mL]	18-Feb-20	16:40	20-Feb-20	11:54	---	2
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	20-Feb-20	16:35	25-Feb-20	14:58	---	2
Biochemical Oxygen Demand (BOD5) [mg/L]	20-Feb-20	16:09	25-Feb-20	14:05	188	---
Total Suspended Solids [mg/L]	21-Feb-20	07:56	24-Feb-20	08:02	249	3
Phosphorus (total) [mg/L]	20-Feb-20	16:27	24-Feb-20	12:22	4.58	0.16
Total Kjeldahl Nitrogen [as N mg/L]	20-Feb-20	20:31	21-Feb-20	14:27	47.3	1.1
Ammonia+Ammonium (N) [as N mg/L]	20-Feb-20	16:50	24-Feb-20	11:37	---	< 0.1
Nitrite (as N) [mg/L]	20-Feb-20	22:49	25-Feb-20	11:52	---	0.47
Nitrate (as N) [mg/L]	20-Feb-20	22:49	25-Feb-20	11:52	---	27.8
Nitrate + Nitrite (as N) [mg/L]	20-Feb-20	22:49	25-Feb-20	11:52	---	28.3
pH@temp15 [pH Units]	21-Feb-20	14:17	25-Feb-20	07:53	---	7.87
Unionized Ammonia @temp15 [mg/L as N]	21-Feb-20	14:17	25-Feb-20	07:53	---	0.002

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

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03-March-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 25 February 2020  
**LR Report:** CA30230-FEB20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					24-Feb-20 12:30	24-Feb-20 10:41
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	3.4	3.4
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	7.0	7.0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	26-Feb-20	17:03	02-Mar-20	15:44	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	26-Feb-20	16:54	02-Mar-20	15:13	251	---
Total Suspended Solids [mg/L]	26-Feb-20	10:19	28-Feb-20	11:14	200	4
Phosphorus (total) [mg/L]	26-Feb-20	16:53	27-Feb-20	12:59	4.47	0.13
Total Kjeldahl Nitrogen [as N mg/L]	26-Feb-20	16:59	27-Feb-20	09:59	46.4	0.9
Ammonia+Ammonium (N) [as N mg/L]	27-Feb-20	07:00	28-Feb-20	09:12	---	0.8
Nitrite (as N) [mg/L]	27-Feb-20	11:39	03-Mar-20	11:04	---	0.28
Nitrate (as N) [mg/L]	27-Feb-20	11:39	03-Mar-20	11:04	---	25.9
Nitrate + Nitrite (as N) [mg/L]	27-Feb-20	11:39	03-Mar-20	11:04	---	26.2
pH@temp15 [pH Units]	26-Feb-20	15:09	28-Feb-20	09:33	---	7.89
Unionized Ammonia @temp15 [mg/L as N]	26-Feb-20	15:09	28-Feb-20	09:33	---	0.017

Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

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27-February-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

10227 Ilderton Rd.  
Ilderton, ON  
N0M 2A0, Canada

**Date Rec. :** 25 February 2020  
**LR Report:** CA30232-FEB20

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Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC39 Final Effluent
Sample Date & Time					24-Feb-20 09:44
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	3.4
E. Coli [cfu/100mL]	25-Feb-20	10:25	27-Feb-20	12:17	8

\*E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.

Angela Stott, B.Sc.  
Branch Manager-London  
Environment, Health & Safety



**SGS Canada Inc.**

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10-March-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 02 March 2020  
**LR Report:** CA30012-MAR20

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 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					02-Mar-20 13:06	02-Mar-20 13:16
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	6.9	6.9
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	2.0	2.0
E. Coli [cfu/100mL]	03-Mar-20	14:25	05-Mar-20	13:34	---	7
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	04-Mar-20	17:45	09-Mar-20	16:14	---	4
Biochemical Oxygen Demand (BOD5) [mg/L]	04-Mar-20	17:03	09-Mar-20	15:39	138	---
Total Suspended Solids [mg/L]	04-Mar-20	11:32	06-Mar-20	10:13	136	4
Phosphorus (total) [mg/L]	04-Mar-20	17:10	09-Mar-20	17:36	3.31	0.19
Total Kjeldahl Nitrogen [as N mg/L]	04-Mar-20	05:25	05-Mar-20	13:29	32.3	2.1
Ammonia+Ammonium (N) [as N mg/L]	04-Mar-20	18:00	05-Mar-20	15:20	---	0.3
Nitrite (as N) [mg/L]	04-Mar-20	19:12	10-Mar-20	12:52	---	0.48
Nitrate (as N) [mg/L]	04-Mar-20	19:12	10-Mar-20	12:52	---	28.7
Nitrate + Nitrite (as N) [mg/L]	04-Mar-20	19:12	10-Mar-20	12:52	---	29.2
pH@temp15 [pH Units]	06-Mar-20	14:18	09-Mar-20	11:54	---	7.66
Unionized Ammonia @temp15 [mg/L as N]	06-Mar-20	14:18	09-Mar-20	11:54	---	0.003

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

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16-March-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

10227 Ilderton Rd.  
Ilderton, ON  
N0M 2A0, Canada

**Date Rec. :** 10 March 2020  
**LR Report:** CA30116-MAR20

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Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					09-Mar-20 11:47	09-Mar-20 10:35
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	5.4	5.4
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	8.0	8.0
E. Coli [cfu/100mL]	10-Mar-20	15:55	13-Mar-20	10:15	---	3
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	11-Mar-20	17:35	16-Mar-20	15:21	---	4
Biochemical Oxygen Demand (BOD5) [mg/L]	11-Mar-20	17:33	16-Mar-20	14:50	194	---
Total Suspended Solids [mg/L]	12-Mar-20	10:49	16-Mar-20	11:50	166	6
Phosphorus (total) [mg/L]	11-Mar-20	17:04	12-Mar-20	13:03	4.80	0.16
Total Kjeldahl Nitrogen [as N mg/L]	11-Mar-20	20:05	12-Mar-20	13:45	48.4	2.1
Ammonia+Ammonium (N) [as N mg/L]	11-Mar-20	16:38	12-Mar-20	11:10	---	1.6
Nitrite (as N) [mg/L]	11-Mar-20	19:17	12-Mar-20	11:13	---	0.54
Nitrate (as N) [mg/L]	11-Mar-20	19:17	12-Mar-20	11:13	---	23.1
Nitrate + Nitrite (as N) [mg/L]	11-Mar-20	19:17	12-Mar-20	11:13	---	23.6
pH@temp15 [pH Units]	13-Mar-20	10:29	13-Mar-20	15:32	---	8.12
Unionized Ammonia @temp15 [mg/L as N]	13-Mar-20	10:29	13-Mar-20	15:32	---	0.055

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
Carrie Greenlaw  
Project Specialist,  
Environment, Health & Safety

**SGS Canada Inc.**

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23-March-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 17 March 2020  
**LR Report:** CA30192-MAR20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					16-Mar-20 13:15	16-Mar-20 11:30
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	4.9	4.9
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	6.0	6.0
E. Coli [cfu/100mL]	17-Mar-20	15:30	19-Mar-20	14:00	---	18
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	18-Mar-20	17:52	23-Mar-20	15:55	---	5
Biochemical Oxygen Demand (BOD5) [mg/L]	18-Mar-20	17:50	23-Mar-20	15:20	107	---
Total Suspended Solids [mg/L]	18-Mar-20	09:24	20-Mar-20	09:25	158	6
Phosphorus (total) [mg/L]	18-Mar-20	16:16	19-Mar-20	13:28	3.86	0.16
Total Kjeldahl Nitrogen [as N mg/L]	18-Mar-20	20:37	19-Mar-20	08:13	34.9	3.1
Ammonia+Ammonium (N) [as N mg/L]	18-Mar-20	17:03	19-Mar-20	11:28	---	3.0
Nitrite (as N) [mg/L]	19-Mar-20	08:42	20-Mar-20	15:51	---	0.62
Nitrate (as N) [mg/L]	19-Mar-20	08:42	20-Mar-20	15:51	---	22.7
Nitrate + Nitrite (as N) [mg/L]	19-Mar-20	08:42	20-Mar-20	15:51	---	23.3
pH@temp15 [pH Units]	19-Mar-20	12:15	20-Mar-20	08:57	---	7.89
Unionized Ammonia @temp15 [mg/L as N]	19-Mar-20	12:15	20-Mar-20	08:57	---	0.062

\*E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
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01-April-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 24 March 2020  
**LR Report:** CA30279-MAR20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					23-Mar-20 11:00	23-Mar-20 09:30
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	5.9	5.9
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	2.0	2.0
E. Coli [cfu/100mL]	24-Mar-20	17:20	26-Mar-20	08:49	---	1
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	26-Mar-20	20:27	31-Mar-20	18:14	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	26-Mar-20	18:06	31-Mar-20	17:18	205	---
Total Suspended Solids [mg/L]	26-Mar-20	12:48	27-Mar-20	13:25	134	5
Phosphorus (total) [mg/L]	27-Mar-20	10:49	30-Mar-20	17:51	4.64	0.17
Total Kjeldahl Nitrogen [as N mg/L]	26-Mar-20	17:40	27-Mar-20	12:15	49.3	5.8
Ammonia+Ammonium (N) [as N mg/L]	26-Mar-20	18:06	27-Mar-20	16:09	---	3.8
Nitrite (as N) [mg/L]	26-Mar-20	09:18	27-Mar-20	11:25	---	0.35
Nitrate (as N) [mg/L]	26-Mar-20	09:18	27-Mar-20	11:25	---	18.6
Nitrate + Nitrite (as N) [mg/L]	26-Mar-20	09:18	27-Mar-20	11:25	---	19.0
pH@temp15 [pH Units]	30-Mar-20	10:49	31-Mar-20	08:41	---	7.70
Unionized Ammonia @temp15 [mg/L as N]	30-Mar-20	10:49	30-Mar-20	13:28	---	0.052

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.

Note: Federal unionized ammonia at 15 °C calculated using Lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

07-April-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 31 March 2020  
**LR Report:** CA30330-MAR20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					30-Mar-20 15:00	30-Mar-20 14:50
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	6.3	6.3
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	6.0	6.0
E. Coli [cfu/100mL]	31-Mar-20	16:00	02-Apr-20	09:19	---	6
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	01-Apr-20	21:49	06-Apr-20	20:01	---	< 2
Biochemical Oxygen Demand (BOD5) [mg/L]	01-Apr-20	19:51	06-Apr-20	18:19	127	---
Total Suspended Solids [mg/L]	03-Apr-20	06:20	06-Apr-20	11:12	118	8
Phosphorus (total) [mg/L]	01-Apr-20	18:50	02-Apr-20	15:57	2.76	0.14
Total Kjeldahl Nitrogen [as N mg/L]	01-Apr-20	18:51	02-Apr-20	11:06	30.6	1.3
Ammonia+Ammonium (N) [as N mg/L]	01-Apr-20	18:25	02-Apr-20	15:13	---	0.6
Nitrite (as N) [mg/L]	01-Apr-20	16:51	02-Apr-20	15:07	---	0.11
Nitrate (as N) [mg/L]	01-Apr-20	16:51	02-Apr-20	15:07	---	14.8
Nitrate + Nitrite (as N) [mg/L]	01-Apr-20	16:51	02-Apr-20	15:07	---	14.9
pH@temp15 [pH Units]	06-Apr-20	08:28	07-Apr-20	08:01	---	8.02
Unionized Ammonia @temp15 [mg/L as N]	06-Apr-20	08:28	07-Apr-20	08:01	---	0.015

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

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 Phone: 705-652-2000 FAX: 705-652-6365

16-April-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

Date Rec. : 07 April 2020

LR Report: CA30088-APR20

10227 Ilderton Rd.  
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Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 36D05 Sludge
Sample Date & Time					06-Apr-20 10:55
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	10.1
Temperature Upon Receipt [°C]	---	---	---	---	15.0
Total Solids [mg/L]	08-Apr-20	20:00	13-Apr-20	10:50	30300
Ammonia+Ammonium (N) [as N mg/L]	13-Apr-20	17:28	16-Apr-20	11:57	193
Nitrite (as N) [mg/L]	09-Apr-20	11:51	13-Apr-20	15:58	0.2
Nitrate (as N) [mg/L]	09-Apr-20	11:51	13-Apr-20	15:58	< 0.3
Nitrate + Nitrite (as N) [mg/L]	09-Apr-20	11:51	13-Apr-20	15:58	< 0.3
Arsenic [mg/L]	13-Apr-20	23:21	14-Apr-20	16:56	< 0.1
Cadmium [mg/L]	13-Apr-20	23:21	14-Apr-20	16:56	0.016
Cobalt [mg/L]	13-Apr-20	23:21	14-Apr-20	16:56	0.06
Chromium [mg/L]	13-Apr-20	23:21	14-Apr-20	16:56	0.46
Copper [mg/L]	13-Apr-20	23:21	14-Apr-20	16:56	7.2
Mercury [mg/L]	13-Apr-20	23:21	14-Apr-20	16:56	0.038
Potassium [mg/L]	13-Apr-20	23:21	14-Apr-20	16:56	103
Molybdenum [mg/L]	13-Apr-20	23:21	14-Apr-20	16:56	0.14
Nickel [mg/L]	13-Apr-20	23:21	14-Apr-20	16:56	0.35
Phosphorus (Total) [mg/L]	13-Apr-20	23:21	14-Apr-20	16:56	1100
Lead [mg/L]	13-Apr-20	23:21	14-Apr-20	16:56	0.2
Selenium [mg/L]	13-Apr-20	23:21	14-Apr-20	16:56	< 0.1
Zinc [mg/L]	13-Apr-20	23:21	14-Apr-20	16:56	13

Note: Metals and mercury were analyzed on the as-received sample.



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LR Report : CA30088-APR20

Carrie Greenlaw  
Project Specialist,  
Environment, Health & Safety

**SGS Canada Inc.**

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 Lakefield - Ontario - K0L 2H0  
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16-April-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

Date Rec. : 07 April 2020

LR Report: CA30092-APR20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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Phone: 519-666-0190 ext 255  
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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					06-Apr-20 13:18	06-Apr-20 10:45
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	10.1	10.1
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	15.0	15.0
E. Coli [cfu/100mL]	07-Apr-20	17:05	09-Apr-20	08:51	---	20
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	08-Apr-20	22:44	13-Apr-20	15:27	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	08-Apr-20	19:59	13-Apr-20	14:19	240	---
Total Suspended Solids [mg/L]	09-Apr-20	14:45	13-Apr-20	08:17	329	3
Phosphorus (total) [mg/L]	08-Apr-20	19:34	09-Apr-20	19:31	5.12	0.14
Total Kjeldahl Nitrogen [as N mg/L]	08-Apr-20	20:14	09-Apr-20	19:31	51.9	---
Total Kjeldahl Nitrogen [as N mg/L]	15-Apr-20	10:13	15-Apr-20	19:42	---	1.9
Ammonia+Ammonium (N) [as N mg/L]	08-Apr-20	20:19	09-Apr-20	18:13	---	1.3
Nitrite (as N) [mg/L]	08-Apr-20	21:48	09-Apr-20	16:15	---	0.41
Nitrate (as N) [mg/L]	08-Apr-20	21:48	09-Apr-20	16:15	---	28.6
Nitrate + Nitrite (as N) [mg/L]	08-Apr-20	21:48	09-Apr-20	16:15	---	29.0
pH@temp15 [pH Units]	09-Apr-20	19:25	14-Apr-20	09:15	---	7.69
Unionized Ammonia @temp15 [mg/L as N]	09-Apr-20	19:25	14-Apr-20	09:15	---	0.017

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using Lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety



**SGS Canada Inc.**

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14-April-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

Date Rec. : 07 April 2020

LR Report: CA30092-APR20

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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					06-Apr-20 13:18	06-Apr-20 10:45
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	10.1	10.1
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	15.0	15.0
E. Coli [cfu/100mL]	07-Apr-20	17:05	09-Apr-20	08:51	---	20
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	08-Apr-20	22:44	13-Apr-20	15:27	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	08-Apr-20	19:59	13-Apr-20	14:19	240	---
Total Suspended Solids [mg/L]	09-Apr-20	14:45	13-Apr-20	08:17	329	3
Phosphorus (total) [mg/L]	08-Apr-20	19:34	09-Apr-20	19:31	5.12	0.14
Total Kjeldahl Nitrogen [as N mg/L]	08-Apr-20	20:14	09-Apr-20	19:31	51.9	6.0
Ammonia+Ammonium (N) [as N mg/L]	08-Apr-20	20:19	09-Apr-20	18:13	---	1.3
Nitrite (as N) [mg/L]	08-Apr-20	21:48	09-Apr-20	16:15	---	0.41
Nitrate (as N) [mg/L]	08-Apr-20	21:48	09-Apr-20	16:15	---	28.6
Nitrate + Nitrite (as N) [mg/L]	08-Apr-20	21:48	09-Apr-20	16:15	---	29.0
pH@temp15 [pH Units]	09-Apr-20	19:25	14-Apr-20	09:15	---	7.69
Unionized Ammonia @temp15 [mg/L as N]	09-Apr-20	19:25	14-Apr-20	09:15	---	0.017

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

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21-April-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

Date Rec. : 14 April 2020

LR Report: CA30163-APR20

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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					13-Apr-20 13:28	13-Apr-20 13:17
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.2	7.2
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	7.0	7.0
E. Coli [cfu/100mL]	14-Apr-20	17:15	16-Apr-20	10:55	---	5
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	15-Apr-20	21:30	20-Apr-20	18:50	---	< 2
Biochemical Oxygen Demand (BOD5) [mg/L]	15-Apr-20	22:32	20-Apr-20	16:28	131	---
Total Suspended Solids [mg/L]	16-Apr-20	06:27	20-Apr-20	08:13	179	3
Phosphorus (total) [mg/L]	15-Apr-20	17:11	16-Apr-20	21:03	4.00	0.12
Total Kjeldahl Nitrogen [as N mg/L]	15-Apr-20	20:12	16-Apr-20	11:08	37.2	0.6
Ammonia+Ammonium (N) [as N mg/L]	15-Apr-20	18:30	16-Apr-20	11:57	---	0.2
Nitrite (as N) [mg/L]	15-Apr-20	13:35	17-Apr-20	12:23	---	0.03
Nitrate (as N) [mg/L]	15-Apr-20	13:35	17-Apr-20	12:23	---	20.1
Nitrate + Nitrite (as N) [mg/L]	15-Apr-20	13:35	17-Apr-20	12:23	---	20.1
pH@temp15 [pH Units]	20-Apr-20	07:53	21-Apr-20	12:08	---	7.85
Unionized Ammonia @temp15 [mg/L as N]	20-Apr-20	07:53	21-Apr-20	12:08	---	0.003

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

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28-April-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

Date Rec. : 21 April 2020

LR Report: CA30262-APR20

10227 Ilderton Rd.  
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 N0M 2A0, Canada

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Phone: 519-666-0190 ext 255  
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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					20-Apr-20 11:30	20-Apr-20 11:15
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	6.6	6.6
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	8.0	8.0
E. Coli [cfu/100mL]	21-Apr-20	14:30	23-Apr-20	14:20	---	14
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	22-Apr-20	21:59	27-Apr-20	15:30	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	22-Apr-20	22:03	27-Apr-20	14:20	386	---
Total Suspended Solids [mg/L]	22-Apr-20	14:34	23-Apr-20	19:33	440	4
Phosphorus (total) [mg/L]	22-Apr-20	16:51	24-Apr-20	00:23	---	0.20
Phosphorus (total) [mg/L]	23-Apr-20	16:09	28-Apr-20	15:37	14.2	---
Total Kjeldahl Nitrogen [as N mg/L]	23-Apr-20	07:51	23-Apr-20	23:50	---	1.0
Total Kjeldahl Nitrogen [as N mg/L]	23-Apr-20	16:09	28-Apr-20	15:25	63.3	---
Ammonia+Ammonium (N) [as N mg/L]	22-Apr-20	16:03	24-Apr-20	01:47	---	0.1
Nitrite (as N) [mg/L]	22-Apr-20	21:29	25-Apr-20	09:38	---	0.05
Nitrate (as N) [mg/L]	22-Apr-20	21:29	24-Apr-20	17:47	---	34.8
Nitrate + Nitrite (as N) [mg/L]	22-Apr-20	21:29	25-Apr-20	09:38	---	34.9
pH@temp15 [pH Units]	24-Apr-20	12:31	27-Apr-20	15:01	---	7.56
Unionized Ammonia @temp15 [mg/L as N]	24-Apr-20	12:31	27-Apr-20	15:01	---	0.001

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using Lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

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05-May-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

Date Rec. : 28 April 2020

LR Report: CA30323-APR20

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 N0M 2A0, Canada

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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					27-Apr-20 12:30	27-Apr-20 10:52
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	4.0	4.0
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	8.0	8.0
E. Coli [cfu/100mL]	28-Apr-20	14:30	30-Apr-20	13:24	---	1
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	29-Apr-20	21:48	04-May-20	17:00	---	< 2
Biochemical Oxygen Demand (BOD5) [mg/L]	29-Apr-20	17:51	04-May-20	14:26	158	---
Total Suspended Solids [mg/L]	29-Apr-20	15:52	30-Apr-20	08:31	165	3
Phosphorus (total) [mg/L]	29-Apr-20	18:06	30-Apr-20	15:46	5.25	0.22
Total Kjeldahl Nitrogen [as N mg/L]	29-Apr-20	18:10	30-Apr-20	15:09	57.2	1.5
Ammonia+Ammonium (N) [as N mg/L]	30-Apr-20	17:30	30-Apr-20	12:46	---	0.9
Nitrite (as N) [mg/L]	29-Apr-20	23:18	01-May-20	14:59	---	0.10
Nitrate (as N) [mg/L]	29-Apr-20	23:18	01-May-20	15:11	---	38.5
Nitrate + Nitrite (as N) [mg/L]	29-Apr-20	23:18	01-May-20	15:11	---	38.6
pH@temp15 [pH Units]	29-Apr-20	10:21	29-Apr-20	15:01	---	7.34
Unionized Ammonia @temp15 [mg/L as N]	29-Apr-20	10:21	30-Apr-20	21:32	---	0.005

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

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 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

12-May-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

Date Rec. : 05 May 2020

LR Report: CA30028-MAY20

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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					04-May-20 12:45	04-May-20 10:45
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.1	7.1
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	7.0	7.0
E. Coli [cfu/100mL]	05-May-20	17:30	08-May-20	08:56	---	4
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	06-May-20	21:05	11-May-20	19:12	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	06-May-20	19:30	11-May-20	15:57	243	---
Total Suspended Solids [mg/L]	06-May-20	15:51	07-May-20	13:05	159	3
Phosphorus (total) [mg/L]	06-May-20	10:30	07-May-20	16:19	5.81	0.19
Total Kjeldahl Nitrogen [as N mg/L]	06-May-20	20:00	07-May-20	15:16	50.2	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	06-May-20	18:00	07-May-20	12:35	---	0.3
Nitrite (as N) [mg/L]	06-May-20	18:14	08-May-20	09:17	---	0.08
Nitrate (as N) [mg/L]	06-May-20	18:14	11-May-20	12:38	---	34.0
Nitrate + Nitrite (as N) [mg/L]	06-May-20	18:14	11-May-20	12:38	---	34.1
pH@temp15 [pH Units]	06-May-20	10:43	07-May-20	10:47	---	7.25
Unionized Ammonia @temp15 [mg/L as N]	06-May-20	10:43	07-May-20	12:35	---	0.001

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
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20-May-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 12 May 2020  
**LR Report:** CA30126-MAY20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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Phone: 519-666-0190 ext 255  
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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					11-May-20 11:50	11-May-20 10:50
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	3.3	3.3
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	5.0	5.0
E. Coli [cfu/100mL]	12-May-20	17:30	14-May-20	12:57	---	7
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	13-May-20	21:35	19-May-20	14:14	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	13-May-20	21:53	19-May-20	12:50	383	---
Total Suspended Solids [mg/L]	13-May-20	14:58	14-May-20	17:21	288	4
Phosphorus (total) [mg/L]	13-May-20	17:00	14-May-20	12:05	5.96	0.28
Total Kjeldahl Nitrogen [as N mg/L]	13-May-20	16:42	14-May-20	10:22	42.0	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	13-May-20	11:15	14-May-20	16:52	---	0.1
Nitrite (as N) [mg/L]	13-May-20	15:53	19-May-20	08:40	---	0.04
Nitrate (as N) [mg/L]	13-May-20	15:53	19-May-20	08:40	---	38.8
Nitrate + Nitrite (as N) [mg/L]	13-May-20	15:53	19-May-20	08:40	---	38.8
pH@temp15 [pH Units]	14-May-20	12:53	20-May-20	11:11	---	7.51
Unionized Ammonia @temp15 [mg/L as N]	14-May-20	12:53	20-May-20	11:11	---	0.001

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

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27-May-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 19 May 2020  
**LR Report:** CA30234-MAY20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					18-May-20 13:15	18-May-20 13:25
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.4	7.4
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	3	3
E. Coli [cfu/100mL]	19-May-20	16:15	21-May-20	10:28	---	118
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	20-May-20	22:00	25-May-20	14:52	---	< 2
Biochemical Oxygen Demand (BOD5) [mg/L]	20-May-20	22:12	25-May-20	14:26	106	---
Total Suspended Solids [mg/L]	21-May-20	18:35	24-May-20	22:53	165	< 2
Phosphorus (total) [mg/L]	20-May-20	22:19	21-May-20	20:13	2.00	0.18
Total Kjeldahl Nitrogen [as N mg/L]	20-May-20	17:47	21-May-20	10:18	14.5	1.2
Ammonia+Ammonium (N) [as N mg/L]	20-May-20	17:00	21-May-20	21:13	---	1.6
Nitrite (as N) [mg/L]	21-May-20	09:36	25-May-20	12:28	---	0.13
Nitrate (as N) [mg/L]	21-May-20	09:36	25-May-20	12:28	---	28.5
Nitrate + Nitrite (as N) [mg/L]	21-May-20	09:36	25-May-20	12:28	---	28.6
pH@temp15 [pH Units]	20-May-20	09:27	21-May-20	13:34	---	7.78
Unionized Ammonia @temp15 [mg/L as N]	20-May-20	09:27	26-May-20	20:16	---	0.025

\*E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
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 Project Specialist,  
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02-June-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 26 May 2020  
**LR Report:** CA30324-MAY20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					25-May-20 12:40	25-May-20 11:15
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	8.1	8.1
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	2.0	2.0
E. Coli [cfu/100mL]	26-May-20	17:45	29-May-20	09:00	---	10
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	27-May-20	20:51	01-Jun-20	16:48	---	2
Biochemical Oxygen Demand (BOD5) [mg/L]	27-May-20	19:14	01-Jun-20	15:28	116	---
Total Suspended Solids [mg/L]	28-May-20	06:21	01-Jun-20	11:47	140	3
Phosphorus (total) [mg/L]	27-May-20	19:20	28-May-20	15:27	4.87	0.20
Total Kjeldahl Nitrogen [as N mg/L]	27-May-20	18:14	28-May-20	20:02	47.1	2.6
Ammonia+Ammonium (N) [as N mg/L]	28-May-20	19:15	29-May-20	12:55	---	2.1
Nitrite (as N) [mg/L]	27-May-20	16:38	01-Jun-20	14:52	---	0.16
Nitrate (as N) [mg/L]	27-May-20	16:38	02-Jun-20	15:58	---	31.9
Nitrate + Nitrite (as N) [mg/L]	27-May-20	16:38	02-Jun-20	15:58	---	32.1
pH@temp15 [pH Units]	29-May-20	11:44	01-Jun-20	15:52	---	7.70
Unionized Ammonia @temp15 [mg/L as N]	29-May-20	11:44	01-Jun-20	15:52	---	0.029

\*E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety



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09-June-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 02 June 2020  
**LR Report:** CA30048-JUN20

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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					01-Jun-20 12:00	01-Jun-20 12:21
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	9.0	9.0
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	7.0	7.0
E. Coli [cfu/100mL]	02-Jun-20	16:40	05-Jun-20	07:42	---	2
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	04-Jun-20	17:11	09-Jun-20	15:11	---	2
Biochemical Oxygen Demand (BOD5) [mg/L]	04-Jun-20	17:35	09-Jun-20	14:14	271	---
Total Suspended Solids [mg/L]	05-Jun-20	07:53	05-Jun-20	15:44	204	5
Phosphorus (total) [mg/L]	05-Jun-20	11:24	08-Jun-20	14:14	6.18	0.20
Total Kjeldahl Nitrogen [as N mg/L]	04-Jun-20	20:53	05-Jun-20	17:16	61.2	4.0
Ammonia+Ammonium (N) [as N mg/L]	04-Jun-20	15:35	05-Jun-20	11:30	---	2.2
Nitrite (as N) [mg/L]	05-Jun-20	09:39	08-Jun-20	11:32	---	0.30
Nitrate (as N) [mg/L]	05-Jun-20	09:39	08-Jun-20	16:12	---	34.7
Nitrate + Nitrite (as N) [mg/L]	05-Jun-20	09:39	08-Jun-20	16:12	---	35.0
pH@temp15 [pH Units]	04-Jun-20	14:09	05-Jun-20	13:20	---	7.78
Unionized Ammonia @temp15 [mg/L as N]	04-Jun-20	14:09	05-Jun-20	13:20	---	0.035

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
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 Environment, Health & Safety

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10-June-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 02 June 2020  
**LR Report:** CA30049-JUN20

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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: 36D05 Sludge
Sample Date & Time					01-Jun-20 12:08
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	9.0
Temperature Upon Receipt [°C]					7.0
E. Coli [cfu/1g dried wgt]	02-Jun-20	17:10	05-Jun-20	07:50	151899
E.Coli [cfu/100mL]	02-Jun-20	17:10	05-Jun-20	07:50	480000
Total Solids [mg/L]	05-Jun-20	19:54	09-Jun-20	12:06	31600
Volatile Solids [mg/L]	05-Jun-20	19:54	09-Jun-20	12:06	21100
Total Kjeldahl Nitrogen [as N mg/L]	05-Jun-20	06:41	10-Jun-20	08:42	1770
Ammonia+Ammonium (N) [as N mg/L]	05-Jun-20	15:56	08-Jun-20	16:26	283
Nitrite (as N) [mg/L]	05-Jun-20	13:02	08-Jun-20	14:58	0.2
Nitrate (as N) [mg/L]	05-Jun-20	13:02	08-Jun-20	14:58	< 0.3
Nitrate + Nitrite (as N) [mg/L]	05-Jun-20	13:02	08-Jun-20	14:58	< 0.3
Arsenic [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	< 0.1
Cadmium [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	0.022
Cobalt [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	0.08
Chromium [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	0.53
Copper [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	9.1
Mercury [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	0.042
Potassium [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	118
Molybdenum [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	0.16
Nickel [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	0.44
Phosphorus (Total) [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	1200
Lead [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	0.2
Selenium [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	< 0.1
Sulfur [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	290
Zinc [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	16

E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Metals and mercury were analyzed on the as-received sample.  
 The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.



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LR Report : CA30049-JUN20

*Carrie Greenlaw*  
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10-June-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 02 June 2020  
**LR Report:** CA30050-JUN20

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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: 36D05 Sludge
Sample Date & Time					01-Jun-20 08:21
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	9.0
Temperature Upon Receipt [°C]	---	---	---	---	7.0
E. Coli [cfu/1g dried wgt]	02-Jun-20	17:10	05-Jun-20	07:50	165079
E.Coli [cfu/100mL]	02-Jun-20	17:10	05-Jun-20	07:50	520000
Total Solids [mg/L]	05-Jun-20	19:54	09-Jun-20	12:06	31500
Volatile Solids [mg/L]	05-Jun-20	19:54	09-Jun-20	12:06	21100
Total Kjeldahl Nitrogen [as N mg/L]	05-Jun-20	06:41	10-Jun-20	08:42	1920
Ammonia+Ammonium (N) [as N mg/L]	05-Jun-20	15:56	08-Jun-20	16:26	284
Nitrite (as N) [mg/L]	05-Jun-20	13:02	08-Jun-20	14:58	< 0.2
Nitrate (as N) [mg/L]	05-Jun-20	13:02	08-Jun-20	14:58	< 0.3
Nitrate + Nitrite (as N) [mg/L]	05-Jun-20	13:02	08-Jun-20	14:58	< 0.3
Arsenic [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	< 0.1
Cadmium [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	0.021
Cobalt [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	0.08
Chromium [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	0.52
Copper [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	8.5
Mercury [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	0.044
Potassium [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	112
Molybdenum [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	0.16
Nickel [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	0.41
Phosphorus (Total) [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	1100
Lead [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	0.2
Selenium [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	< 0.1
Sulfur [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	280
Zinc [mg/L]	08-Jun-20	14:00	09-Jun-20	16:53	15

E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Metals and mercury were analyzed on the as-received sample.  
 The E. coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.



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LR Report : CA30050-JUN20

*Carrie Greenlaw*  
Carrie Greenlaw  
Project Specialist,  
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16-June-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 09 June 2020**LR Report:** CA30145-JUN20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					08-Jun-20 12:14	08-Jun-20 11:15
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	9.1	9.1
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	7.0	7.0
E. Coli [cfu/100mL]	10-Jun-20	09:40	12-Jun-20	10:49	---	4
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	11-Jun-20	16:40	16-Jun-20	14:48	---	< 2
Biochemical Oxygen Demand (BOD5) [mg/L]	11-Jun-20	16:39	16-Jun-20	13:04	426	---
Total Suspended Solids [mg/L]	11-Jun-20	11:29	16-Jun-20	10:37	300	3
Phosphorus (total) [mg/L]	11-Jun-20	16:54	12-Jun-20	15:21	6.78	0.16
Total Kjeldahl Nitrogen [as N mg/L]	11-Jun-20	17:00	12-Jun-20	14:30	8.2	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	11-Jun-20	16:47	12-Jun-20	13:05	---	0.2
Nitrite (as N) [mg/L]	11-Jun-20	17:04	12-Jun-20	12:16	---	0.06
Nitrate (as N) [mg/L]	11-Jun-20	17:04	12-Jun-20	12:16	---	41.8
Nitrate + Nitrite (as N) [mg/L]	11-Jun-20	17:04	12-Jun-20	12:16	---	41.9
pH@temp15 [pH Units]	12-Jun-20	13:40	16-Jun-20	09:11	---	7.66
Unionized Ammonia @temp15 [mg/L as N]	12-Jun-20	13:40	15-Jun-20	15:39	---	0.002

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

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 Lakefield - Ontario - K0L 2H0  
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25-June-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 16 June 2020  
**LR Report:** CA30226-JUN20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					15-Jun-20 12:15	15-Jun-20 10:45
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.6	7.6
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	4.0	4.0
E. Coli [cfu/100mL]	16-Jun-20	17:00	19-Jun-20	10:45	---	0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	18-Jun-20	18:07	23-Jun-20	15:32	---	2
Biochemical Oxygen Demand (BOD5) [mg/L]	18-Jun-20	17:53	23-Jun-20	14:49	189	---
Total Suspended Solids [mg/L]	18-Jun-20	21:29	23-Jun-20	09:05	283	2
Phosphorus (total) [mg/L]	18-Jun-20	19:50	22-Jun-20	15:01	5.99	0.18
Total Kjeldahl Nitrogen [as N mg/L]	18-Jun-20	16:45	19-Jun-20	16:40	54.5	2.1
Ammonia+Ammonium (N) [as N mg/L]	19-Jun-20	17:07	19-Jun-20	15:07	---	< 0.1
Nitrite (as N) [mg/L]	20-Jun-20	19:20	22-Jun-20	21:58	---	0.07
Nitrate (as N) [mg/L]	20-Jun-20	19:20	22-Jun-20	21:58	---	41.1
Nitrate + Nitrite (as N) [mg/L]	20-Jun-20	19:20	22-Jun-20	21:58	---	41.2
pH@temp15 [pH Units]	18-Jun-20	14:22	19-Jun-20	14:28	---	7.61
Unionized Ammonia @temp15 [mg/L as N]	18-Jun-20	14:22	25-Jun-20	09:48	---	< 0.001

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

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30-June-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 23 June 2020**LR Report:** CA30317-JUN20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					22-Jun-20 14:35	22-Jun-20 13:50
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	10.9	10.9
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	8.0	8.0
E. Coli [cfu/100mL]	23-Jun-20	17:05	26-Jun-20	08:01	---	21
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	25-Jun-20	17:52	30-Jun-20	14:10	---	< 2
Biochemical Oxygen Demand (BOD5) [mg/L]	25-Jun-20	16:49	30-Jun-20	11:29	183	---
Total Suspended Solids [mg/L]	26-Jun-20	10:08	29-Jun-20	12:06	294	3
Phosphorus (total) [mg/L]	25-Jun-20	16:39	26-Jun-20	10:53	5.30	0.27
Total Kjeldahl Nitrogen [as N mg/L]	25-Jun-20	16:47	29-Jun-20	19:03	50.0	3.0
Ammonia+Ammonium (N) [as N mg/L]	26-Jun-20	17:33	26-Jun-20	13:17	---	0.2
Nitrite (as N) [mg/L]	26-Jun-20	17:23	29-Jun-20	11:23	---	0.13
Nitrate (as N) [mg/L]	26-Jun-20	17:23	29-Jun-20	11:23	---	46.4
Nitrate + Nitrite (as N) [mg/L]	26-Jun-20	17:23	29-Jun-20	11:23	---	46.5
pH@temp15 [pH Units]	25-Jun-20	13:43	26-Jun-20	12:19	---	7.91
Unionized Ammonia @temp15 [mg/L as N]	25-Jun-20	13:43	26-Jun-20	15:52	---	0.004

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety



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07-July-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

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**Date Rec. :** 30 June 2020  
**LR Report:** CA30412-JUN20

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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: 1AC38 Raw Sewage
Sample Date & Time					29-Jun-20 12:09
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	10.1
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	9.0
Biochemical Oxygen Demand (BOD5) [mg/L]	02-Jul-20	16:24	07-Jul-20	12:01	313
Total Suspended Solids [mg/L]	03-Jul-20	07:37	07-Jul-20	08:49	250
Phosphorus (total) [mg/L]	02-Jul-20	18:39	03-Jul-20	16:15	5.26
Total Kjeldahl Nitrogen [as N mg/L]	02-Jul-20	19:00	06-Jul-20	11:22	52.7



Carrie Greenlaw  
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07-July-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 30 June 2020  
**LR Report:** CA30413-JUN20

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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: 1AC39 Final Effluent
Sample Date & Time					30-Jun-20 07:52
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	10.1
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	9.0
E. Coli [cfu/100mL]	30-Jun-20	16:50	02-Jul-20	15:05	1
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	02-Jul-20	16:40	07-Jul-20	13:45	< 2
Total Suspended Solids [mg/L]	03-Jul-20	09:13	06-Jul-20	16:18	4
Phosphorus (total) [mg/L]	02-Jul-20	18:39	03-Jul-20	16:16	0.18
Total Kjeldahl Nitrogen [as N mg/L]	02-Jul-20	19:00	06-Jul-20	11:22	1.2
Ammonia+Ammonium (N) [as N mg/L]	02-Jul-20	18:34	03-Jul-20	14:09	0.4
Nitrite (as N) [mg/L]	02-Jul-20	18:15	07-Jul-20	09:25	0.24
Nitrate (as N) [mg/L]	02-Jul-20	18:15	07-Jul-20	09:25	43.2
Nitrate + Nitrite (as N) [mg/L]	02-Jul-20	18:15	07-Jul-20	09:25	43.4
pH@temp15 [pH Units]	03-Jul-20	13:53	07-Jul-20	09:16	7.60
Unionized Ammonia @temp15 [mg/L as N]	03-Jul-20	13:53	06-Jul-20	15:59	0.004

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

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04-August-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 07 July 2020  
**LR Report:** CA30077-JUL20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

**Copy:** #1

Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

# CERTIFICATE OF ANALYSIS

## Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	6: 36D05 Sludge
Sample Date & Time					07-Jul-20 08:50
Temperature Upon Receipt [°C]	---	---	---	---	5
Total Solids [%]	08-Jul-20	21:23	10-Jul-20	12:36	1.88
Specific Gravity	08-Jul-20	21:23	10-Jul-20	12:36	1.0
Nitrite (as N) [mg/kg]	09-Jul-20	22:15	10-Jul-20	14:17	<20
Nitrate (as N) [mg/kg]	09-Jul-20	22:15	10-Jul-20	14:17	<30
Nitrate + Nitrite (a) [mg/kg]	09-Jul-20	22:15	10-Jul-20	14:17	<30
Ammonia+Ammonium (N) [as N mg/kg]	09-Jul-20	09:53	10-Jul-20	14:11	24000
Mercury [mg/kg]	28-Jul-20	16:56	29-Jul-20	09:30	1.2
Mercury [mg/L]	28-Jul-20	16:56	29-Jul-20	09:30	0.023
Arsenic [mg/kg]	28-Jul-20	16:56	29-Jul-20	09:30	<5
Arsenic [mg/L]	28-Jul-20	16:56	29-Jul-20	09:30	< 0.1
Cadmium [mg/kg]	28-Jul-20	16:56	29-Jul-20	09:30	0.7
Cadmium [mg/L]	28-Jul-20	16:56	29-Jul-20	09:30	0.013
Cobalt [mg/kg]	28-Jul-20	16:56	29-Jul-20	09:30	4
Cobalt [mg/L]	28-Jul-20	16:56	29-Jul-20	09:30	0.07
Chromium [mg/kg]	28-Jul-20	16:56	29-Jul-20	09:30	74
Chromium [mg/L]	28-Jul-20	16:56	29-Jul-20	09:30	1.4
Copper [mg/kg]	28-Jul-20	16:56	29-Jul-20	09:30	350
Copper [mg/L]	28-Jul-20	16:56	29-Jul-20	09:30	6.6
Molybdenum [mg/kg]	28-Jul-20	16:56	29-Jul-20	09:30	8
Molybdenum [mg/L]	28-Jul-20	16:56	29-Jul-20	09:30	0.15
Nickel [mg/kg]	28-Jul-20	16:56	29-Jul-20	09:30	20
Nickel [mg/L]	28-Jul-20	16:56	29-Jul-20	09:30	0.38
Lead [mg/kg]	28-Jul-20	16:56	29-Jul-20	09:30	11
Lead [mg/L]	28-Jul-20	16:56	29-Jul-20	09:30	0.2
Selenium [mg/kg]	28-Jul-20	16:56	29-Jul-20	09:30	<5
Selenium [mg/L]	28-Jul-20	16:56	29-Jul-20	09:30	< 0.1
Zinc [mg/kg]	28-Jul-20	16:56	29-Jul-20	09:30	450
Zinc [mg/L]	28-Jul-20	16:56	29-Jul-20	09:30	9
Phosphorus [mg/kg]	28-Jul-20	16:56	29-Jul-20	09:30	29000
Phosphorus (Total) [mg/L]	28-Jul-20	16:56	29-Jul-20	09:30	540
Potassium [mg/kg]	28-Jul-20	16:56	29-Jul-20	09:30	3700
Potassium [mg/L]	28-Jul-20	16:56	29-Jul-20	09:30	69
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	10.1

Sample matrix = Sludge/Biosolids Solution

Page 1 of 2

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Test method information available upon request. \*Temperature Upon Receipt\* is representative of the whole shipment and may not reflect the temperature of individual samples. SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

**SGS Canada Inc.**

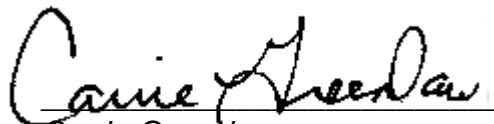
P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - K0L 2H0

Phone: 705-652-2000 FAX: 705-652-6365

**LR Report : CA30077-JUL20**

Metals, Ammonia + Ammonium, Nitrite, Nitrate and Nitrates calculated and reported in mg/kg on a dried weight basis. Detection limits reflect this calculation  
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

Carrie Greenlaw*Project Specialist,**Environment, Health & Safety*

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
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14-July-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

10227 Ilderton Rd.  
Ilderton, ON  
N0M 2A0, Canada

Date Rec. : 07 July 2020  
LR Report: CA30083-JUL20

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Phone: 519-666-0190 ext 255  
Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC39 Final Effluent
Sample Date & Time					07-Jul-20 08:40
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	10.1
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	5.0
E. Coli [cfu/100mL]	08-Jul-20	11:30	10-Jul-20	15:20	2
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	08-Jul-20	17:18	13-Jul-20	16:25	2
Total Suspended Solids [mg/L]	09-Jul-20	10:54	10-Jul-20	14:12	4
Phosphorus (total) [mg/L]	08-Jul-20	17:23	10-Jul-20	15:33	0.22
Total Kjeldahl Nitrogen [as N mg/L]	08-Jul-20	22:28	10-Jul-20	13:22	1.2
Ammonia+Ammonium (N) [as N mg/L]	08-Jul-20	17:16	09-Jul-20	13:22	0.5
Nitrite (as N) [mg/L]	09-Jul-20	15:49	10-Jul-20	14:21	0.41
Nitrate (as N) [mg/L]	09-Jul-20	15:49	10-Jul-20	14:21	40.3
Nitrate + Nitrite (as N) [mg/L]	09-Jul-20	15:49	10-Jul-20	14:21	40.7
pH@temp15 [pH Units]	10-Jul-20	13:53	13-Jul-20	09:53	7.76
Unionized Ammonia @temp15 [mg/L as N]	10-Jul-20	13:53	13-Jul-20	09:53	0.007

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
Carrie Greenlaw  
Project Specialist,  
Environment, Health & Safety

**SGS Canada Inc.**

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14-July-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

10227 Ilderton Rd.  
Ilderton, ON  
N0M 2A0, Canada

Date Rec. : 07 July 2020  
LR Report: CA30085-JUL20

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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: 1AC38 Raw Sewage
Sample Date & Time					06-Jul-20 12:00
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	10.1
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	5.0
Biochemical Oxygen Demand (BOD5) [mg/L]	08-Jul-20	17:22	13-Jul-20	15:44	362
Total Suspended Solids [mg/L]	09-Jul-20	10:54	10-Jul-20	14:12	118
Phosphorus (total) [mg/L]	08-Jul-20	17:23	09-Jul-20	13:00	6.15
Total Kjeldahl Nitrogen [as N mg/L]	08-Jul-20	22:28	09-Jul-20	12:23	61.2

Carrie Greenlaw  
Project Specialist,  
Environment, Health & Safety

**SGS Canada Inc.**

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21-July-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 14 July 2020  
**LR Report:** CA30239-JUL20

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N0M 2A0, Canada

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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					13-Jul-20 11:45	13-Jul-20 10:20
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	11.3	11.3
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	7.0	7.0
E. Coli [cfu/100mL]	14-Jul-20	17:10	16-Jul-20	12:06	---	1
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	16-Jul-20	17:10	21-Jul-20	13:45	---	< 2
Biochemical Oxygen Demand (BOD5) [mg/L]	16-Jul-20	17:35	21-Jul-20	12:55	166	---
Total Suspended Solids [mg/L]	17-Jul-20	21:21	21-Jul-20	08:38	198	3
Phosphorus (total) [mg/L]	16-Jul-20	16:57	20-Jul-20	15:39	6.99	0.15
Total Kjeldahl Nitrogen [as N mg/L]	16-Jul-20	22:31	17-Jul-20	11:30	71.0	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	16-Jul-20	16:35	17-Jul-20	20:43	---	< 0.1
Nitrite (as N) [mg/L]	16-Jul-20	21:16	17-Jul-20	13:42	---	0.13
Nitrate (as N) [mg/L]	16-Jul-20	21:16	17-Jul-20	13:42	---	40.5
Nitrate + Nitrite (as N) [mg/L]	16-Jul-20	21:16	17-Jul-20	13:42	---	40.6
pH@temp15 [pH Units]	16-Jul-20	15:08	17-Jul-20	10:15	---	7.82
Unionized Ammonia @temp15 [mg/L as N]	16-Jul-20	15:08	21-Jul-20	14:22	---	0.002

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.



Carrie Greenlaw  
Project Specialist,  
Environment, Health & Safety

**SGS Canada Inc.**

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31-July-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

Date Rec. : 21 July 2020  
 LR Report: CA30321-JUL20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report - Revised

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					20-Jul-20 10:00	20-Jul-20 09:00
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	5.9	5.9
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	7.0	7.0
E. Coli [cfu/100mL]	21-Jul-20	17:35	24-Jul-20	13:51	---	1
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	22-Jul-20	17:43	27-Jul-20	15:33	---	< 2
Biochemical Oxygen Demand (BOD5) [mg/L]	22-Jul-20	17:28	27-Jul-20	14:53	198	---
Total Suspended Solids [mg/L]	22-Jul-20	14:05	23-Jul-20	11:30	218	4
Phosphorus (total) [mg/L]	22-Jul-20	19:25	23-Jul-20	15:29	5.02	0.18
Total Kjeldahl Nitrogen [as N mg/L]	22-Jul-20	18:52	23-Jul-20	14:11	45.4	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	22-Jul-20	19:24	23-Jul-20	15:51	---	0.9
Nitrite (as N) [mg/L]	22-Jul-20	22:56	23-Jul-20	15:43	---	0.20
Nitrate (as N) [mg/L]	22-Jul-20	22:56	23-Jul-20	15:43	---	43.7
Nitrate + Nitrite (as N) [mg/L]	22-Jul-20	22:56	23-Jul-20	15:43	---	43.9
pH@temp15 [pH Units]	22-Jul-20	11:04	23-Jul-20	11:52	---	7.91
Unionized Ammonia @temp15 [mg/L as N]	22-Jul-20	11:04	28-Jul-20	16:29	---	0.020

## Note:

- E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.
- Federal unionized ammonia at 15 °C calculated using Lab pH results performed at this temperature.

Revised July 31, 2020 - Analysis start date(s) corrected.

**Kimberley Didsbury**  
 Project Specialist,  
 Environment, Health & Safety



**SGS Canada Inc.**

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04-August-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 28 July 2020  
**LR Report:** CA30425-JUL20

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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					27-Jul-20 13:40	27-Jul-20 08:35
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	6.3	6.3
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	10.0	10.0
E. Coli [cfu/100mL]	28-Jul-20	16:10	31-Jul-20	07:46	---	0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	29-Jul-20	17:43	04-Aug-20	15:01	---	< 2
Biochemical Oxygen Demand (BOD5) [mg/L]	29-Jul-20	17:43	04-Aug-20	11:48	196	---
Total Suspended Solids [mg/L]	29-Jul-20	11:52	04-Aug-20	10:07	189	2
Phosphorus (total) [mg/L]	29-Jul-20	18:46	30-Jul-20	14:39	5.65	0.17
Total Kjeldahl Nitrogen [as N mg/L]	29-Jul-20	18:58	30-Jul-20	15:00	61.5	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	29-Jul-20	18:45	30-Jul-20	13:44	---	< 0.1
Nitrite (as N) [mg/L]	29-Jul-20	11:04	31-Jul-20	16:02	---	0.12
Nitrate (as N) [mg/L]	29-Jul-20	11:04	31-Jul-20	16:02	---	48.0
Nitrate + Nitrite (as N) [mg/L]	29-Jul-20	11:04	31-Jul-20	16:02	---	48.1
pH@temp15 [pH Units]	31-Jul-20	11:28	31-Jul-20	14:44	---	8.16
Unionized Ammonia @temp15 [mg/L as N]	31-Jul-20	11:28	31-Jul-20	14:44	---	0.003

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

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12-August-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 04 August 2020  
**LR Report:** CA30004-AUG20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					03-Aug-20 11:45	03-Aug-20 09:20
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	8.6	8.6
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	6.0	6.0
E. Coli [cfu/100mL]	04-Aug-20	17:05	07-Aug-20	09:46	---	1
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	06-Aug-20	17:44	11-Aug-20	15:00	---	2
Biochemical Oxygen Demand (BOD5) [mg/L]	06-Aug-20	18:05	11-Aug-20	11:52	263	---
Total Suspended Solids [mg/L]	10-Aug-20	12:13	11-Aug-20	15:48	324	5
Phosphorus (total) [mg/L]	06-Aug-20	17:25	11-Aug-20	20:12	2.76	0.13
Total Kjeldahl Nitrogen [as N mg/L]	07-Aug-20	07:41	11-Aug-20	19:38	19.8	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	11-Aug-20	11:39	11-Aug-20	21:19	---	< 0.1
Nitrite (as N) [mg/L]	06-Aug-20	18:18	07-Aug-20	14:22	---	< 0.03
Nitrate (as N) [mg/L]	06-Aug-20	18:18	07-Aug-20	14:22	---	28.5
Nitrate + Nitrite (as N) [mg/L]	06-Aug-20	18:18	07-Aug-20	14:22	---	28.5
pH@temp15 [pH Units]	06-Aug-20	11:15	10-Aug-20	14:04	---	7.89
Unionized Ammonia @temp15 [mg/L as N]	06-Aug-20	11:15	11-Aug-20	21:19	---	0.001

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

09-September-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 01 September 2020  
**LR Report:** CA30017-SEP20

10227 Ilderton Rd.  
 Ilderton, ON  
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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					31-Aug-20 13:58	31-Aug-20 13:58
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	6.9	6.9
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	6.0	6.0
E. Coli [cfu/100mL]	01-Sep-20	16:40	03-Sep-20	17:40	---	0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	02-Sep-20	17:36	08-Sep-20	15:45	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	02-Sep-20	17:36	08-Sep-20	14:14	200	---
Total Suspended Solids [mg/L]	02-Sep-20	10:52	03-Sep-20	14:07	310	2
Phosphorus (total) [mg/L]	03-Sep-20	11:34	04-Sep-20	10:36	6.06	0.17
Total Kjeldahl Nitrogen [as N mg/L]	03-Sep-20	13:01	04-Sep-20	17:24	50.8	1.7
Ammonia+Ammonium (N) [as N mg/L]	02-Sep-20	18:43	03-Sep-20	14:23	---	< 0.1
Nitrite (as N) [mg/L]	02-Sep-20	22:11	04-Sep-20	11:56	---	0.09
Nitrate (as N) [mg/L]	02-Sep-20	22:11	04-Sep-20	11:56	---	41.2
Nitrate + Nitrite (as N) [mg/L]	02-Sep-20	22:11	04-Sep-20	11:56	---	41.3
pH@temp15 [pH Units]	03-Sep-20	15:32	04-Sep-20	13:40	---	7.87
Unionized Ammonia @temp15 [mg/L as N]	03-Sep-20	15:32	04-Sep-20	13:40	---	< 0.001

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

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09-September-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 01 September 2020  
**LR Report:** CA30017-SEP20

10227 Ilderton Rd.  
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 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					31-Aug-20 13:58	31-Aug-20 13:58
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	6.9	6.9
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	6.0	6.0
E. Coli [cfu/100mL]	01-Sep-20	16:40	03-Sep-20	17:40	---	0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	02-Sep-20	17:36	08-Sep-20	15:45	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	02-Sep-20	17:36	08-Sep-20	14:14	200	---
Total Suspended Solids [mg/L]	02-Sep-20	10:52	03-Sep-20	14:07	310	2
Phosphorus (total) [mg/L]	03-Sep-20	11:34	04-Sep-20	10:36	6.06	0.17
Total Kjeldahl Nitrogen [as N mg/L]	03-Sep-20	13:01	04-Sep-20	17:24	50.8	1.7
Ammonia+Ammonium (N) [as N mg/L]	02-Sep-20	18:43	03-Sep-20	14:23	---	< 0.1
Nitrite (as N) [mg/L]	02-Sep-20	22:11	04-Sep-20	11:56	---	0.09
Nitrate (as N) [mg/L]	02-Sep-20	22:11	04-Sep-20	11:56	---	41.2
Nitrate + Nitrite (as N) [mg/L]	02-Sep-20	22:11	04-Sep-20	11:56	---	41.3
pH@temp15 [pH Units]	03-Sep-20	15:32	04-Sep-20	13:40	---	7.87
Unionized Ammonia @temp15 [mg/L as N]	03-Sep-20	15:32	04-Sep-20	13:40	---	< 0.001

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - K0L 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

**18-August-2020****Mun of Middlesex Centre (Ilderton WWTP)****Attn : Brian Watson**

10227 Ilderton Rd.  
Ilderton, ON  
N0M 2A0, Canada

**Date Rec. :** 11 August 2020  
**LR Report:** CA30146-AUG20

**Copy:** #1

Phone: 519-666-0190 ext 255  
Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					10-Aug-20 13:00	10-Aug-20 09:40
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	5.9	5.9
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	3.0	3.0
E. Coli [cfu/100mL]	11-Aug-20	16:25	13-Aug-20	17:39	---	1
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	12-Aug-20	17:24	17-Aug-20	17:19	---	5
Biochemical Oxygen Demand (BOD5) [mg/L]	12-Aug-20	18:03	17-Aug-20	15:50	97	---
Total Suspended Solids [mg/L]	14-Aug-20	07:04	17-Aug-20	09:09	162	3
Phosphorus (total) [mg/L]	12-Aug-20	17:53	13-Aug-20	16:30	3.78	0.14
Total Kjeldahl Nitrogen [as N mg/L]	12-Aug-20	17:35	13-Aug-20	15:33	39.4	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	12-Aug-20	17:15	14-Aug-20	12:05	---	0.1
Nitrite (as N) [mg/L]	13-Aug-20	14:52	17-Aug-20	10:57	---	0.06
Nitrate (as N) [mg/L]	13-Aug-20	14:52	17-Aug-20	10:57	---	30.0
Nitrate + Nitrite (as N) [mg/L]	13-Aug-20	14:52	17-Aug-20	10:57	---	30.0
pH@temp15 [pH Units]	17-Aug-20	10:12	17-Aug-20	13:47	---	7.52
Unionized Ammonia @temp15 [mg/L as N]	17-Aug-20	10:12	17-Aug-20	13:47	---	0.001

\*E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
Carrie Greenlaw  
Project Specialist,  
Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
Lakefield - Ontario - K0L 2H0  
Phone: 705-652-2000 FAX: 705-652-6365

**26-August-2020****Mun of Middlesex Centre (Ilderton WWTP)****Attn : Brian Watson**

10227 Ilderton Rd.  
Ilderton, ON  
N0M 2A0, Canada

**Date Rec. :** 18 August 2020  
**LR Report:** CA30262-AUG20

**Copy:** #1

Phone: 519-666-0190 ext 255  
Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					17-Aug-20 14:02	17-Aug-20 09:00
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	9.8	9.8
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	12.0	12.0
E. Coli [cfu/100mL]	18-Aug-20	15:55	20-Aug-20	16:33	---	0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	20-Aug-20	17:57	25-Aug-20	15:45	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	20-Aug-20	17:29	25-Aug-20	12:22	290	---
Total Suspended Solids [mg/L]	22-Aug-20	09:55	24-Aug-20	11:31	389	2
Phosphorus (total) [mg/L]	21-Aug-20	20:00	25-Aug-20	14:27	5.53	0.15
Total Kjeldahl Nitrogen [as N mg/L]	20-Aug-20	23:15	22-Aug-20	11:02	52.5	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	20-Aug-20	22:30	22-Aug-20	11:48	---	0.3
Nitrite (as N) [mg/L]	20-Aug-20	09:59	24-Aug-20	15:40	---	0.13
Nitrate (as N) [mg/L]	20-Aug-20	09:59	25-Aug-20	15:33	---	40.4
Nitrate + Nitrite (as N) [mg/L]	20-Aug-20	09:59	25-Aug-20	15:33	---	40.5
pH@temp15 [pH Units]	21-Aug-20	14:36	24-Aug-20	10:11	---	7.76
Unionized Ammonia @temp15 [mg/L as N]	21-Aug-20	14:36	24-Aug-20	10:11	---	0.005

**Note:**

- E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.
- Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

**Kimberley Didsbury**  
Project Specialist,  
Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

01-September-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 25 August 2020  
**LR Report:** CA30359-AUG20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

**Copy:** #1

Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					24-Aug-20 13:25	24-Aug-20 12:45
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.5	7.5
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	6.0	6.0
E. Coli [cfu/100mL]	25-Aug-20	15:35	28-Aug-20	12:54	---	1
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	26-Aug-20	17:22	31-Aug-20	15:44	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	26-Aug-20	17:08	31-Aug-20	14:27	196	---
Total Suspended Solids [mg/L]	26-Aug-20	13:37	28-Aug-20	08:34	140	< 2
Phosphorus (total) [mg/L]	26-Aug-20	17:48	27-Aug-20	15:58	5.68	0.16
Total Kjeldahl Nitrogen [as N mg/L]	26-Aug-20	21:50	28-Aug-20	16:31	59.1	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	26-Aug-20	18:24	27-Aug-20	17:40	---	0.4
Nitrite (as N) [mg/L]	26-Aug-20	18:15	27-Aug-20	13:49	---	0.15
Nitrate (as N) [mg/L]	26-Aug-20	18:15	28-Aug-20	16:20	---	42.7
Nitrate + Nitrite (as N) [mg/L]	26-Aug-20	18:15	28-Aug-20	16:20	---	42.9
pH@temp15 [pH Units]	28-Aug-20	14:24	31-Aug-20	15:33	---	7.88
Unionized Ammonia @temp15 [mg/L as N]	28-Aug-20	14:24	31-Aug-20	15:33	---	0.007

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

16-September-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 08 September 2020  
**LR Report:** CA30100-SEP20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					07-Sep-20 14:40	07-Sep-20 09:30
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.8	7.8
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	11.0	11.0
E. Coli [cfu/100mL]	08-Sep-20	17:30	11-Sep-20	08:47	---	2
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	09-Sep-20	17:32	14-Sep-20	19:42	---	< 2
Biochemical Oxygen Demand (BOD5) [mg/L]	09-Sep-20	17:50	14-Sep-20	16:37	127	---
Total Suspended Solids [mg/L]	09-Sep-20	12:17	10-Sep-20	14:45	139	3
Phosphorus (total) [mg/L]	10-Sep-20	22:00	11-Sep-20	19:19	2.63	0.18
Total Kjeldahl Nitrogen [as N mg/L]	10-Sep-20	19:50	11-Sep-20	14:37	31.9	3.3
Ammonia+Ammonium (N) [as N mg/L]	10-Sep-20	21:20	11-Sep-20	15:43	---	1.9
Nitrite (as N) [mg/L]	09-Sep-20	17:59	11-Sep-20	12:49	---	0.25
Nitrate (as N) [mg/L]	09-Sep-20	17:59	16-Sep-20	11:39	---	39.9
Nitrate + Nitrite (as N) [mg/L]	09-Sep-20	17:59	16-Sep-20	11:39	---	40.2
pH@temp15 [pH Units]	10-Sep-20	14:34	14-Sep-20	12:25	---	7.92
Unionized Ammonia @temp15 [mg/L as N]	10-Sep-20	14:34	14-Sep-20	12:25	---	0.043

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety



**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
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23-September-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 15 September 2020  
**LR Report:** CA30220-SEP20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					14-Sep-20 12:30	14-Sep-20 11:20
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	8.3	8.3
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	7.0	7.0
E. Coli [cfu/100mL]	15-Sep-20	15:10	17-Sep-20	10:43	---	2
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	16-Sep-20	18:51	21-Sep-20	16:01	---	2
Biochemical Oxygen Demand (BOD5) [mg/L]	16-Sep-20	18:47	21-Sep-20	15:22	189	---
Total Suspended Solids [mg/L]	17-Sep-20	07:36	18-Sep-20	11:52	252	2
Phosphorus (total) [mg/L]	19-Sep-20	11:34	21-Sep-20	12:44	4.62	0.15
Total Kjeldahl Nitrogen [as N mg/L]	17-Sep-20	16:26	22-Sep-20	16:07	50.0	2.5
Ammonia+Ammonium (N) [as N mg/L]	18-Sep-20	18:19	22-Sep-20	15:09	---	< 0.1
Nitrite (as N) [mg/L]	18-Sep-20	06:52	21-Sep-20	10:35	---	0.08
Nitrate (as N) [mg/L]	18-Sep-20	06:52	21-Sep-20	09:28	---	40.3
Nitrate + Nitrite (as N) [mg/L]	18-Sep-20	06:52	21-Sep-20	10:35	---	40.4
pH@temp15 [pH Units]	16-Sep-20	12:23	17-Sep-20	12:08	---	7.99
Unionized Ammonia @temp15 [mg/L as N]	16-Sep-20	12:23	22-Sep-20	15:09	---	0.001

\*E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

30-September-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 22 September 2020  
**LR Report:** CA30334-SEP20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

**Copy:** #1

Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					21-Sep-20 12:55	21-Sep-20 10:40
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.2	7.2
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	8.0	8.0
E. Coli [cfu/100mL]	22-Sep-20	12:40	24-Sep-20	11:52	---	6
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	23-Sep-20	19:02	28-Sep-20	17:57	---	< 2
Biochemical Oxygen Demand (BOD5) [mg/L]	23-Sep-20	19:06	28-Sep-20	16:45	217	---
Total Suspended Solids [mg/L]	23-Sep-20	18:10	25-Sep-20	18:19	182	3
Phosphorus (total) [mg/L]	26-Sep-20	12:00	28-Sep-20	16:48	4.84	0.18
Total Kjeldahl Nitrogen [as N mg/L]	23-Sep-20	22:20	28-Sep-20	13:03	49.4	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	24-Sep-20	21:15	25-Sep-20	16:29	---	0.2
Nitrite (as N) [mg/L]	25-Sep-20	14:06	28-Sep-20	11:26	---	0.18
Nitrate (as N) [mg/L]	25-Sep-20	14:06	28-Sep-20	14:06	---	44.2
Nitrate + Nitrite (as N) [mg/L]	25-Sep-20	14:06	28-Sep-20	14:06	---	44.4
pH@temp15 [pH Units]	25-Sep-20	10:42	28-Sep-20	16:32	---	7.78
Unionized Ammonia @temp15 [mg/L as N]	25-Sep-20	10:42	29-Sep-20	14:47	---	0.002

**Note:**

- E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.
- Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

**Kimberley Didsbury**  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

07-October-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 29 September 2020  
**LR Report:** CA30446-SEP20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

**Copy:** #1

Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					28-Sep-20 16:50	28-Sep-20 15:30
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	12.3	12.3
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	8.0	8.0
E. Coli [cfu/100mL]	29-Sep-20	16:30	01-Oct-20	11:17	---	0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	01-Oct-20	17:50	06-Oct-20	17:49	---	< 2
Biochemical Oxygen Demand (BOD5) [mg/L]	01-Oct-20	17:50	06-Oct-20	15:39	200	---
Total Suspended Solids [mg/L]	01-Oct-20	12:52	02-Oct-20	15:28	370	3
Phosphorus (total) [mg/L]	01-Oct-20	20:15	03-Oct-20	15:48	4.96	0.18
Total Kjeldahl Nitrogen [as N mg/L]	01-Oct-20	21:20	02-Oct-20	16:07	45.5	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	01-Oct-20	21:00	02-Oct-20	17:00	---	0.2
Nitrite (as N) [mg/L]	02-Oct-20	01:00	05-Oct-20	08:14	---	0.17
Nitrate (as N) [mg/L]	02-Oct-20	01:00	05-Oct-20	08:14	---	47.5
Nitrate + Nitrite (as N) [mg/L]	02-Oct-20	01:00	05-Oct-20	08:14	---	47.7
pH@temp15 [pH Units]	05-Oct-20	09:59	05-Oct-20	20:48	---	7.42
Unionized Ammonia @temp15 [mg/L as N]	05-Oct-20	09:59	05-Oct-20	20:48	---	0.002

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

14-October-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 06 October 2020  
**LR Report:** CA30055-OCT20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

**Copy:** #1

Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					05-Oct-20 13:50	05-Oct-20 10:35
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	12.9	12.9
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	8.0	8.0
E. Coli [cfu/100mL]	06-Oct-20	18:30	08-Oct-20	14:40	---	6
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	07-Oct-20	18:27	13-Oct-20	14:43	---	4
Biochemical Oxygen Demand (BOD5) [mg/L]	07-Oct-20	18:27	13-Oct-20	11:35	51	---
Total Suspended Solids [mg/L]	08-Oct-20	08:36	14-Oct-20	10:50	193	3
Phosphorus (total) [mg/L]	09-Oct-20	16:28	13-Oct-20	13:56	4.00	0.24
Total Kjeldahl Nitrogen [as N mg/L]	07-Oct-20	15:51	08-Oct-20	10:32	46.9	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	07-Oct-20	21:35	09-Oct-20	12:10	---	0.6
Nitrite (as N) [mg/L]	09-Oct-20	19:04	13-Oct-20	13:03	---	0.17
Nitrate (as N) [mg/L]	09-Oct-20	19:04	14-Oct-20	14:16	---	42.7
Nitrate + Nitrite (as N) [mg/L]	09-Oct-20	19:04	14-Oct-20	14:16	---	42.9
pH@temp15 [pH Units]	09-Oct-20	16:41	13-Oct-20	15:53	---	7.65
Unionized Ammonia @temp15 [mg/L as N]	09-Oct-20	16:41	13-Oct-20	15:53	---	0.007

\*E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

22-October-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 13 October 2020  
**LR Report:** CA30168-OCT20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

**Copy:** #1

Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					12-Oct-20 13:19	12-Oct-20 14:14
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	11.7	11.7
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	10.0	10.0
E. Coli [cfu/100mL]	14-Oct-20	13:10	16-Oct-20	11:39	---	19
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	14-Oct-20	18:01	19-Oct-20	17:27	---	2
Biochemical Oxygen Demand (BOD5) [mg/L]	14-Oct-20	18:07	19-Oct-20	16:49	248	---
Total Suspended Solids [mg/L]	14-Oct-20	11:53	19-Oct-20	19:01	228	7
Phosphorus (total) [mg/L]	14-Oct-20	16:45	15-Oct-20	21:28	5.70	0.23
Total Kjeldahl Nitrogen [as N mg/L]	17-Oct-20	13:00	19-Oct-20	12:54	62.3	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	14-Oct-20	19:50	19-Oct-20	10:43	---	0.2
Nitrite (as N) [mg/L]	15-Oct-20	13:14	20-Oct-20	13:12	---	0.17
Nitrate (as N) [mg/L]	15-Oct-20	13:14	21-Oct-20	11:40	---	42.7
Nitrate + Nitrite (as N) [mg/L]	15-Oct-20	13:14	21-Oct-20	11:40	---	42.9
pH@temp15 [pH Units]	15-Oct-20	10:43	18-Oct-20	21:03	---	7.64
Unionized Ammonia @temp15 [mg/L as N]	15-Oct-20	10:43	22-Oct-20	10:05	---	0.002

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

28-October-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 20 October 2020  
**LR Report:** CA30294-OCT20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

# CERTIFICATE OF ANALYSIS

## Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	6: 36D05 Sludge A	7: 36D05 Sludge B
Sample Date & Time					19-Oct-20 10:30	19-Oct-20 13:20
Temperature Upon Receipt [°C]	---	---	---	---	8.0	8.0
Total Solids [%]	21-Oct-20	21:25	26-Oct-20	10:49	2.26	2.18
Specific Gravity	21-Oct-20	21:25	26-Oct-20	10:49	1.0	1.0
Nitrite (as N) [mg/kg]	22-Oct-20	20:47	23-Oct-20	17:07	<20	<20
Nitrate (as N) [mg/kg]	22-Oct-20	20:47	23-Oct-20	17:07	<30	<30
Nitrate + Nitrite (a) [mg/kg]	22-Oct-20	20:47	23-Oct-20	17:07	<30	<30
Ammonia+Ammonium (N) [as N mg/kg]	22-Oct-20	07:53	23-Oct-20	14:57	16000	17000
Mercury [mg/kg]	27-Oct-20	14:30	27-Oct-20	17:07	1.5	1.2
Mercury [mg/L]	27-Oct-20	14:30	27-Oct-20	17:07	0.033	0.026
Arsenic [mg/kg]	27-Oct-20	14:30	27-Oct-20	17:07	<4	<5
Arsenic [mg/L]	27-Oct-20	14:30	27-Oct-20	17:07	< 0.1	< 0.1
Cadmium [mg/kg]	27-Oct-20	14:30	27-Oct-20	17:07	0.6	0.6
Cadmium [mg/L]	27-Oct-20	14:30	27-Oct-20	17:07	0.014	0.013
Cobalt [mg/kg]	27-Oct-20	14:30	27-Oct-20	17:07	4	3
Cobalt [mg/L]	27-Oct-20	14:30	27-Oct-20	17:07	0.08	0.07
Chromium [mg/kg]	27-Oct-20	14:30	27-Oct-20	17:07	67	57
Chromium [mg/L]	27-Oct-20	14:30	27-Oct-20	17:07	1.5	1.2
Copper [mg/kg]	27-Oct-20	14:30	27-Oct-20	17:07	350	300
Copper [mg/L]	27-Oct-20	14:30	27-Oct-20	17:07	8.0	6.6
Molybdenum [mg/kg]	27-Oct-20	14:30	27-Oct-20	17:07	8	7
Molybdenum [mg/L]	27-Oct-20	14:30	27-Oct-20	17:07	0.18	0.15
Nickel [mg/kg]	27-Oct-20	14:30	27-Oct-20	17:07	19	17
Nickel [mg/L]	27-Oct-20	14:30	27-Oct-20	17:07	0.44	0.37
Lead [mg/kg]	27-Oct-20	14:30	27-Oct-20	17:07	10	9
Lead [mg/L]	27-Oct-20	14:30	27-Oct-20	17:07	0.2	0.2
Selenium [mg/kg]	27-Oct-20	14:30	27-Oct-20	17:07	<4	<5
Selenium [mg/L]	27-Oct-20	14:30	27-Oct-20	17:07	< 0.1	< 0.1
Zinc [mg/kg]	27-Oct-20	14:30	27-Oct-20	17:07	520	470
Zinc [mg/L]	27-Oct-20	14:30	27-Oct-20	17:07	12	10
Phosphorus [mg/kg]	27-Oct-20	14:30	27-Oct-20	17:07	34000	30000
Phosphorus (Total) [mg/L]	27-Oct-20	14:30	27-Oct-20	17:07	780	650
Potassium [mg/kg]	27-Oct-20	14:30	27-Oct-20	17:07	3100	2900
Potassium [mg/L]	27-Oct-20	14:30	27-Oct-20	17:07	70	64
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	4.3	4.3

Sample matrix = Sludge/Biosolids Solution

Page 1 of 2

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at <https://www.sgs.ca/en/terms-and-conditions> (Printed copies are available upon request.)

Test method information available upon request. \*Temperature Upon Receipt\* is representative of the whole shipment and may not reflect the temperature of individual samples. SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.



**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - K0L 2H0

Phone: 705-652-2000 FAX: 705-652-6365

**LR Report : CA30294-OCT20**

Metals, TKN, Ammonia + Ammonium, Nitrite, Nitrate and Nitrates calculated and reported in mg/kg on a dried weight basis. Detection limits reflect this calculation  
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

*Carrie Greenlaw*

*Project Specialist,*

*Environment, Health & Safety*

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
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28-October-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 20 October 2020  
**LR Report:** CA30298-OCT20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					19-Oct-20 13:08	19-Oct-20 10:40
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	4.3	4.3
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	8.0	8.0
E. Coli [cfu/100mL]	20-Oct-20	15:00	22-Oct-20	12:05	---	0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	21-Oct-20	17:19	26-Oct-20	15:26	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	21-Oct-20	17:46	26-Oct-20	15:26	201	---
Total Suspended Solids [mg/L]	22-Oct-20	08:16	22-Oct-20	20:26	234	4
Phosphorus (total) [mg/L]	21-Oct-20	17:25	22-Oct-20	22:16	---	0.11
Phosphorus (total) [mg/L]	22-Oct-20	06:59	26-Oct-20	13:38	5.6	---
Total Kjeldahl Nitrogen [as N mg/L]	27-Oct-20	15:33	28-Oct-20	13:40	---	1.0
Total Kjeldahl Nitrogen [as N mg/L]	22-Oct-20	06:59	27-Oct-20	15:38	37.6	---
Ammonia+Ammonium (N) [as N mg/L]	21-Oct-20	15:52	22-Oct-20	14:18	---	0.4
Nitrite (as N) [mg/L]	23-Oct-20	23:38	26-Oct-20	15:52	---	0.12
Nitrate (as N) [mg/L]	23-Oct-20	23:38	26-Oct-20	15:52	---	40.1
Nitrate + Nitrite (as N) [mg/L]	23-Oct-20	23:38	26-Oct-20	15:52	---	40.3
pH@temp15 [pH Units]	23-Oct-20	13:47	26-Oct-20	12:19	---	7.70
Unionized Ammonia @temp15 [mg/L as N]	23-Oct-20	13:47	26-Oct-20	12:19	---	0.005

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using Lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety



**SGS Canada Inc.**

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04-November-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 27 October 2020  
**LR Report:** CA30404-OCT20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

**Copy:** #1

Phone: 519-666-0190 ext 255  
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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					26-Oct-20 16:26	26-Oct-20 16:16
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	6.9	6.9
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	8.0	8.0
E. Coli [cfu/100mL]	27-Oct-20	16:30	29-Oct-20	10:26	---	0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	29-Oct-20	16:50	03-Nov-20	17:02	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	29-Oct-20	17:31	03-Nov-20	14:32	129	---
Total Suspended Solids [mg/L]	31-Oct-20	11:28	03-Nov-20	09:30	185	3
Phosphorus (total) [mg/L]	30-Oct-20	14:45	02-Nov-20	15:08	4.28	0.11
Total Kjeldahl Nitrogen [as N mg/L]	29-Oct-20	15:31	03-Nov-20	13:10	43.9	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	29-Oct-20	19:34	30-Oct-20	12:43	---	0.2
Nitrite (as N) [mg/L]	29-Oct-20	22:13	02-Nov-20	15:38	---	0.04
Nitrate (as N) [mg/L]	29-Oct-20	22:13	02-Nov-20	15:22	---	36.4
Nitrate + Nitrite (as N) [mg/L]	29-Oct-20	22:13	02-Nov-20	15:38	---	36.4
pH@temp15 [pH Units]	30-Oct-20	16:10	03-Nov-20	10:03	---	7.84
Unionized Ammonia @temp15 [mg/L as N]	30-Oct-20	16:10	03-Nov-20	10:03	---	0.003

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

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08-December-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 01 December 2020  
**LR Report:** CA30021-DEC20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					30-Nov-20 14:12	30-Nov-20 14:23
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.6	7.6
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	9.0	9.0
E. Coli [cfu/100mL]	01-Dec-20	15:05	03-Dec-20	10:12	---	4
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	02-Dec-20	17:17	07-Dec-20	15:53	---	4
Biochemical Oxygen Demand (BOD5) [mg/L]	02-Dec-20	17:17	07-Dec-20	15:05	262	---
Total Suspended Solids [mg/L]	02-Dec-20	10:41	03-Dec-20	11:48	219	4
Phosphorus (total) [mg/L]	02-Dec-20	15:00	03-Dec-20	15:19	4.68	0.19
Total Kjeldahl Nitrogen [as N mg/L]	03-Dec-20	15:30	07-Dec-20	20:03	51.9	3.1
Ammonia+Ammonium (N) [as N mg/L]	02-Dec-20	15:41	03-Dec-20	14:37	---	1.1
Nitrite (as N) [mg/L]	03-Dec-20	10:56	04-Dec-20	14:28	---	0.19
Nitrate (as N) [mg/L]	03-Dec-20	10:56	04-Dec-20	14:28	---	27.0
Nitrate + Nitrite (as N) [mg/L]	03-Dec-20	10:56	04-Dec-20	14:28	---	27.2
pH@temp15 [pH Units]	03-Dec-20	14:03	07-Dec-20	13:12	---	7.81
Unionized Ammonia @temp15 [mg/L as N]	03-Dec-20	14:03	07-Dec-20	13:13	---	0.020

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

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10-November-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 03 November 2020  
**LR Report:** CA30024-NOV20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					02-Nov-20 12:30	02-Nov-20 11:30
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.4	7.4
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	10.0	10.0
E. Coli [cfu/100mL]	03-Nov-20	16:20	05-Nov-20	13:45	---	9
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	05-Nov-20	17:21	10-Nov-20	14:22	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	05-Nov-20	17:45	10-Nov-20	13:33	144	---
Total Suspended Solids [mg/L]	06-Nov-20	07:35	09-Nov-20	12:29	181	5
Phosphorus (total) [mg/L]	06-Nov-20	20:00	10-Nov-20	13:30	4.13	0.19
Total Kjeldahl Nitrogen [as N mg/L]	05-Nov-20	18:18	09-Nov-20	16:15	43.4	3.4
Ammonia+Ammonium (N) [as N mg/L]	05-Nov-20	17:00	06-Nov-20	12:04	---	1.3
Nitrite (as N) [mg/L]	06-Nov-20	16:07	09-Nov-20	15:58	---	0.19
Nitrate (as N) [mg/L]	06-Nov-20	16:07	09-Nov-20	14:14	---	38.1
Nitrate + Nitrite (as N) [mg/L]	06-Nov-20	16:07	09-Nov-20	15:58	---	38.3
pH@temp15 [pH Units]	06-Nov-20	15:26	09-Nov-20	19:13	---	7.75
Unionized Ammonia @temp15 [mg/L as N]	06-Nov-20	15:26	10-Nov-20	14:01	---	0.020

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

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19-November-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 10 November 2020  
**LR Report:** CA30138-NOV20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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Phone: 519-666-0190 ext 255  
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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					09-Nov-20 13:20	10-Nov-20 09:35
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	12.1	12.1
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	9.0	9.0
E. Coli [cfu/100mL]	10-Nov-20	15:55	12-Nov-20	12:50	---	0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	11-Nov-20	18:45	16-Nov-20	17:40	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	11-Nov-20	18:48	16-Nov-20	16:08	307	---
Total Suspended Solids [mg/L]	11-Nov-20	14:49	13-Nov-20	14:19	187	4
Phosphorus (total) [mg/L]	12-Nov-20	14:30	13-Nov-20	13:59	---	0.19
Phosphorus (total) [mg/L]	11-Nov-20	13:36	13-Nov-20	14:04	6.4	---
Total Kjeldahl Nitrogen [as N mg/L]	11-Nov-20	16:10	12-Nov-20	15:12	---	3.5
Total Kjeldahl Nitrogen [as N mg/L]	11-Nov-20	13:36	16-Nov-20	08:46	78.0	---
Ammonia+Ammonium (N) [as N mg/L]	11-Nov-20	16:50	12-Nov-20	15:48	---	1.3
Nitrite (as N) [mg/L]	16-Nov-20	22:49	17-Nov-20	16:06	---	0.29
Nitrate (as N) [mg/L]	16-Nov-20	22:49	19-Nov-20	10:11	---	37.2
Nitrate + Nitrite (as N) [mg/L]	16-Nov-20	22:49	19-Nov-20	10:11	---	37.5
pH@temp15 [pH Units]	13-Nov-20	13:54	16-Nov-20	15:29	---	7.66
Unionized Ammonia @temp15 [mg/L as N]	13-Nov-20	13:54	16-Nov-20	15:29	---	0.016

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using Lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

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 Lakefield - Ontario - K0L 2H0  
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25-November-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 17 November 2020  
**LR Report:** CA30217-NOV20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					16-Nov-20 14:16	17-Nov-20 08:15
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	3.0	3.0
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	8.0	8.0
E. Coli [cfu/100mL]	17-Nov-20	15:45	19-Nov-20	09:28	---	16
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	18-Nov-20	17:03	23-Nov-20	15:27	---	4
Biochemical Oxygen Demand (BOD5) [mg/L]	18-Nov-20	17:47	23-Nov-20	14:31	176	---
Total Suspended Solids [mg/L]	19-Nov-20	10:42	24-Nov-20	09:33	202	9
Phosphorus (total) [mg/L]	19-Nov-20	09:02	20-Nov-20	10:35	3.95	0.20
Total Kjeldahl Nitrogen [as N mg/L]	23-Nov-20	10:35	23-Nov-20	15:35	41.2	0.6
Ammonia+Ammonium (N) [as N mg/L]	18-Nov-20	14:44	19-Nov-20	10:27	---	0.4
Nitrite (as N) [mg/L]	23-Nov-20	09:16	24-Nov-20	10:06	---	0.10
Nitrate (as N) [mg/L]	23-Nov-20	09:16	25-Nov-20	15:56	---	32.5
Nitrate + Nitrite (as N) [mg/L]	23-Nov-20	09:16	25-Nov-20	15:56	---	32.6
pH@temp15 [pH Units]	19-Nov-20	15:53	20-Nov-20	14:55	---	7.73
Unionized Ammonia @temp15 [mg/L as N]	19-Nov-20	15:53	20-Nov-20	14:55	---	0.005

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

03-December-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 24 November 2020  
**LR Report:** CA30310-NOV20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

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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: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					23-Nov-20 13:30	23-Nov-20 13:20
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.5	7.5
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	9.0	9.0
E. Coli [cfu/100mL]	24-Nov-20	17:20	26-Nov-20	10:17	---	0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	25-Nov-20	17:11	30-Nov-20	15:40	---	< 2
Biochemical Oxygen Demand (BOD5) [mg/L]	25-Nov-20	17:10	30-Nov-20	14:51	140	---
Total Suspended Solids [mg/L]	25-Nov-20	14:17	27-Nov-20	10:52	102	4
Phosphorus (total) [mg/L]	25-Nov-20	15:43	26-Nov-20	12:46	4.04	0.23
Total Kjeldahl Nitrogen [as N mg/L]	27-Nov-20	16:03	30-Nov-20	09:02	47.3	1.6
Ammonia+Ammonium (N) [as N mg/L]	26-Nov-20	15:23	27-Nov-20	14:59	---	0.1
Nitrite (as N) [mg/L]	27-Nov-20	19:56	30-Nov-20	11:19	---	0.10
Nitrate (as N) [mg/L]	27-Nov-20	19:56	30-Nov-20	16:55	---	40.1
Nitrate + Nitrite (as N) [mg/L]	27-Nov-20	19:56	30-Nov-20	16:55	---	40.2
pH@temp15 [pH Units]	25-Nov-20	11:30	26-Nov-20	16:27	---	7.72
Unionized Ammonia @temp15 [mg/L as N]	25-Nov-20	11:30	02-Dec-20	15:37	---	0.002

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
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P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

15-December-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 08 December 2020  
**LR Report:** CA30112-DEC20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

**Copy:** #1

Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					07-Dec-20 15:00	07-Dec-20 14:30
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.3	7.3
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	7.0	7.0
E. Coli [cfu/100mL]	08-Dec-20	16:15	10-Dec-20	09:05	---	0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	09-Dec-20	17:37	14-Dec-20	17:39	---	4
Biochemical Oxygen Demand (BOD5) [mg/L]	09-Dec-20	17:37	14-Dec-20	15:48	137	---
Total Suspended Solids [mg/L]	10-Dec-20	07:32	14-Dec-20	10:49	116	6
Phosphorus (total) [mg/L]	09-Dec-20	17:02	11-Dec-20	08:22	3.54	0.11
Total Kjeldahl Nitrogen [as N mg/L]	09-Dec-20	16:42	11-Dec-20	09:05	38.8	0.9
Ammonia+Ammonium (N) [as N mg/L]	10-Dec-20	08:07	11-Dec-20	12:33	---	0.5
Nitrite (as N) [mg/L]	09-Dec-20	17:43	11-Dec-20	16:36	---	0.10
Nitrate (as N) [mg/L]	09-Dec-20	17:43	11-Dec-20	16:36	---	29.6
Nitrate + Nitrite (as N) [mg/L]	09-Dec-20	17:43	11-Dec-20	16:36	---	29.7
pH@temp15 [pH Units]	10-Dec-20	13:52	14-Dec-20	15:11	---	7.52
Unionized Ammonia @temp15 [mg/L as N]	10-Dec-20	13:52	14-Dec-20	15:11	---	0.004

\*E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
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 Project Specialist,  
 Environment, Health & Safety

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23-December-2020

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 15 December 2020  
**LR Report:** CA30226-DEC20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

**Copy:** #1

Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					14-Dec-20 12:55	14-Dec-20 11:03
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	5.5	5.5
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	8.0	8.0
E. Coli [cfu/100mL]	15-Dec-20	16:15	17-Dec-20	14:33	---	0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	16-Dec-20	17:15	21-Dec-20	17:40	---	4
Biochemical Oxygen Demand (BOD5) [mg/L]	16-Dec-20	17:13	21-Dec-20	17:03	143	---
Total Suspended Solids [mg/L]	16-Dec-20	15:14	17-Dec-20	12:21	147	3
Phosphorus (total) [mg/L]	16-Dec-20	19:46	17-Dec-20	14:48	3.60	0.10
Total Kjeldahl Nitrogen [as N mg/L]	16-Dec-20	15:16	18-Dec-20	14:34	37.4	0.9
Ammonia+Ammonium (N) [as N mg/L]	16-Dec-20	15:15	17-Dec-20	13:43	---	< 0.1
Nitrite (as N) [mg/L]	17-Dec-20	22:13	21-Dec-20	12:18	---	0.04
Nitrate (as N) [mg/L]	17-Dec-20	22:13	21-Dec-20	12:18	---	27.7
Nitrate + Nitrite (as N) [mg/L]	17-Dec-20	22:13	21-Dec-20	12:18	---	27.7
pH@temp15 [pH Units]	16-Dec-20	12:56	16-Dec-20	15:20	---	8.02
Unionized Ammonia @temp15 [mg/L as N]	16-Dec-20	12:56	23-Dec-20	15:06	---	0.001

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
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 Project Specialist,  
 Environment, Health & Safety



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05-January-2021

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 22 December 2020  
**LR Report:** CA30352-DEC20

10227 Ilderton Rd.  
 Ilderton, ON  
 N0M 2A0, Canada

**Copy:** #1

Phone: 519-666-0190 ext 255  
 Fax: 519-666-0271

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					21-Dec-20 11:50	21-Dec-20 12:10
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.3	7.3
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	8.0	8.0
E. Coli [cfu/100mL]	22-Dec-20	17:20	29-Dec-20	11:07	---	16
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	23-Dec-20	18:11	29-Dec-20	14:32	---	3
Biochemical Oxygen Demand (BOD5) [mg/L]	23-Dec-20	18:32	29-Dec-20	11:55	239	---
Total Suspended Solids [mg/L]	24-Dec-20	12:20	30-Dec-20	07:32	261	5
Phosphorus (total) [mg/L]	23-Dec-20	14:52	24-Dec-20	10:50	---	0.16
Phosphorus (total) [mg/L]	23-Dec-20	15:24	30-Dec-20	14:34	5.0	---
Total Kjeldahl Nitrogen [as N mg/L]	23-Dec-20	13:30	24-Dec-20	09:44	---	2.3
Total Kjeldahl Nitrogen [as N mg/L]	23-Dec-20	15:24	04-Jan-21	14:09	58.4	---
Ammonia+Ammonium (N) [as N mg/L]	23-Dec-20	14:58	24-Dec-20	11:56	---	0.2
Nitrite (as N) [mg/L]	23-Dec-20	21:35	24-Dec-20	12:43	---	0.03
Nitrate (as N) [mg/L]	23-Dec-20	21:35	24-Dec-20	12:43	---	38.0
Nitrate + Nitrite (as N) [mg/L]	23-Dec-20	21:35	24-Dec-20	12:43	---	38.0
pH@temp15 [pH Units]	23-Dec-20	14:27	24-Dec-20	12:17	---	7.88
Unionized Ammonia @temp15 [mg/L as N]	23-Dec-20	14:27	24-Dec-20	12:17	---	0.004

Note: E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.  
 Note: Federal unionized ammonia at 15 °C calculated using Lab pH results performed at this temperature.

  
 Carrie Greenlaw  
 Project Specialist,  
 Environment, Health & Safety

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06-January-2021

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

**Date Rec. :** 29 December 2020  
**LR Report:** CA30415-DEC20

10227 Ilderton Rd.  
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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: 1AC39 Final Effluent
Sample Date & Time					29-Dec-20 08:47
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.8
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	8.0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	31-Dec-20	12:51	05-Jan-21	11:40	3
Total Suspended Solids [mg/L]	05-Jan-21	08:07	06-Jan-21	11:39	9
Phosphorus (total) [mg/L]	05-Jan-21	15:40	06-Jan-21	14:23	0.19
Total Kjeldahl Nitrogen [as N mg/L]	04-Jan-21	16:51	05-Jan-21	12:58	1.6
Ammonia+Ammonium (N) [as N mg/L]	05-Jan-21	15:33	06-Jan-21	11:52	0.5
Nitrite (as N) [mg/L]	31-Dec-20	13:10	04-Jan-21	11:53	0.12
Nitrate (as N) [mg/L]	31-Dec-20	13:10	04-Jan-21	11:53	22.0
Nitrate + Nitrite (as N) [mg/L]	31-Dec-20	13:10	04-Jan-21	11:53	22.1
pH@temp15 [pH Units]	31-Dec-20	09:26	31-Dec-20	11:39	7.80
Unionized Ammonia @temp15 [mg/L as N]	31-Dec-20	09:26	06-Jan-21	11:52	0.009

Note: Federal unionized ammonia at 15 °C calculated using lab pH results performed at this temperature.

  
 Carrie Greenlaw  
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06-January-2021

**Mun of Middlesex Centre (Ilderton WWTP)**

Attn : Brian Watson

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N0M 2A0, Canada

Phone: 519-666-0190 ext 255  
Fax: 519-666-0271

**Date Rec. :** 29 December 2020  
**LR Report:** CA30416-DEC20

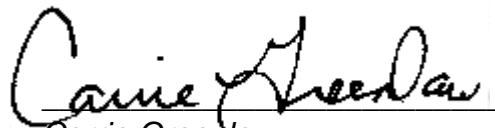
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## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: 1AC38 Raw Sewage	6: 1AC39 Final Effluent
Sample Date & Time					28-Dec-20 13:00	28-Dec-20 10:00
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	7.8	7.8
Temperature Upon Receipt [at Lakefield Lab °C]	---	---	---	---	8.0	---
E. Coli [cfu/100mL]	29-Dec-20	11:55	31-Dec-20	07:48	---	28
Biochemical Oxygen Demand (BOD5) [mg/L]	31-Dec-20	13:26	05-Jan-21	11:14	192	---
Total Suspended Solids [mg/L]	04-Jan-21	09:34	05-Jan-21	13:18	131	---
Phosphorus (total) [mg/L]	05-Jan-21	15:40	06-Jan-21	14:23	2.56	---
Total Kjeldahl Nitrogen [as N mg/L]	04-Jan-21	16:51	05-Jan-21	12:59	24.7	---

\*E. Coli analysis was completed at the SGS Environmental Services - London Laboratory.



Carrie Greenlaw  
Project Specialist,  
Environment, Health & Safety