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March 28, 2019

Ms. Denyse Morrissey CAO Town of Shelburne 203 Main Street East Shelburne, ON L9V 3K7

Re: 2018 Annual Performance Report for Shelburne Wastewater Treatment Plant

Attached is the 2018 Performance Report for the Shelburne Wastewater Treatment Plant located at 300 Centennial Street in the Town of Shelburne. This report has been completed in accordance with the Amended Environmental Compliance Approval # 6413-ABLQQS dated July 19, 2016 and issued to the Town of Shelburne.

This report was prepared by the Ontario Clean Water Agency on behalf of the Town of Shelburne based on the information we have in our records. The report covers the period from January 1, 2018 to December 31, 2018.

If you have questions regarding the attached report please do not hesitate to contact me at (519) 925-1938.

Kind Regards,

Don Irvine

Senior Operations Manager Ontario Clean Water Agency

Highlands Hub

DI/mc



SHELBURNE WASTEWATER TREATMENT PLANT

ANNUAL PERFORMANCE REPORT

For the period of JANUARY 1, 2018 TO DECEMBER 31, 2018

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1. System Description

The Town of Shelburne is a community of approximately 8,900 people located approximately 100 kilometers northwest of Toronto. The community first obtained a waste disposal system in 1968 with the construction of a 5.5 ha lagoon and associated gravity collection and pumping system. The Town grew consistently over the years and eventually overloaded the lagoon system. In July 1981 construction was completed on a wastewater treatment system located at the present location. This expansion consisted of a new trunk sewer, pumping facilities, secondary and tertiary treatment and modifications to the existing lagoons which now provide storm and effluent holding during excess storm flows and plant upsets and maintenance.

The facility consisted of a wet well, a manual screen, grit channels, an oxidation ditch, one secondary clarifier, four effluent sand filters and a chlorine contact chamber. The oxidation ditch used two brush rotors. The facility operated as an extended aeration plant in this configuration from 1981 until December 1999.

A major expansion (Phase 1) took place at the Shelburne WWTP in 1999, changing the configuration of the plant and the method of treating wastewater. The plant went under construction starting in April 1999 with the start-up of the new process in December of 1999. The Shelburne WWTP is still an extended aeration plant. As an extended aeration plant it is designed to remove suspended solids, CBOD₅ and phosphorus from the wastewater. Major improvements were two aeration tanks constructed with fine bubble diffusers. The sludge treatment system consists of a two stage aerobic sludge digestion system with a total storage volume of $580 \, \mathrm{m}^3$, equipped with coarse bubble aeration system and supernatant decanting. The former oxidation ditch was converted to a sludge storage facility with approximately six months storage.

Sludge loading facilities provide for transfer of digested aerobic sludge to trucks. Digested sludge is land-applied as farm fertilizer.

Two ultra-violet radiation banks replaced the sodium hypochlorite disinfection system.

In March 2006 the Ministry of the Environment issued an amended Certificate of Approval # 9046-6GAJUM for the Phase 2 extension and upgrading including;

- Construction of a hauled sewage receiving station;
- Replacement of the raw sewage pumping station two submersible pumps;
- Replacement of the inlet works;
- Construction of a secondary clarifier;
- Replacement of the clarifier effluent pump system; and
- Reconfiguration of the stormwater and effluent holding ponds.

In 2017 the Ministry of the Environment and Climate Change issued an amended Environmental Compliance Approval #6413-ABLQQS for upgrading of the filtration and standby power which included;

- Two cloth-filter treatment units with a design capacity of 4,400 m³ each
- One 650 kW standby power diesel generator and 9000L diesel tank with double-walled containment

This facility receives residential, commercial, institutional and industrial wastewater and provides a level of treatment to meet the amended "Environmental Compliance Approval - # 6413-ABLQQS" for discharging into the Beasley Drain a minor tributary of the Boyne River. The Boyne Creek empties into the Nottawasaga River, ultimately meeting Georgian Bay.

A "Process Flow Schematic" is included in Appendix D of this report.

ECA#6413-ABLQQS

Annual Performance Report: January 1, 2018 to December 31, 2018 Town of Shelburne: Shelburne Wastewater Treatment Plant

An overview of Shelburne Wastewater Treatment Plant can be found in Table 1:

Table 1. Shelburne Wastewater Treatment Plant Overview

Facility Name	Shelburne Wastewater Treatment Plant
Facility Type	Extended Air STP with Tertiary Treatment
Plant Classification	WWTIII
Works Number	110000659
Design Capacity	3,420 m³/day
Receiving Water	Besley Drain to Boyne Creek to Nottawasaga River
Certificate of Approval	6413-ABLQQS (Sewage Treatment Plant)

2. Monitoring Data and Comparison to Effluent Limits

As per Section 6a of ECA 6413-ABLQQS, a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Effluent Limits of Condition 7, including an overview of the success and adequacy of the Works is required.

2.1 Sampling Frequency

Hauled sewage, raw sewage, and final effluent are sampled on a regular basis. The sampling types and frequencies are summarized in Tables 2, 3 and Table 4. The sampling frequencies meet the requirements set out in Section 9 of ECA 6413-ABLQQS.

Table 2. Hauled Sewage Monitoring - Sampling Frequencies

Parameter	Sample Type	Frequency
BOD5	Grab	Monthly
Total Suspended Solids	Grab	Monthly
Total Phophorus	Grab	Monthly
Total Kjeldahl Nitrogen	Grab	Monthly

Table 3. Raw Sewage Monitoring - Sampling Frequencies

Parameter	Sample Type	Frequency
BOD ₅ *	Composite	Monthly
Total Suspended Solids*	Composite	Monthly
Total Phosphorous*	Composite	Monthly
Total Kjeldahl Nitrogen*	Composite	Monthly

^{*}Refer to Appendix A for monthly sample results.

Table 4. Effluent Sampling Monitoring - Sampling Frequencies

Sample Type	Frequency
Composite	Weekly
Grab	Weekly
Grab/Probe	Weekly
	Weekly
	Composite Composite Composite

^{*}Refer to Appendix A for monthly sample results.

2.2 Effluent Objectives and Effluent Limits

The effluent objectives as per Section 6 of ECA 6413-ABLQQS for the Shelburne Wastewater Treatment Plant are:

Table 5. Effluent Objectives as per Section 6 of ECA 6413-ABLQQS

Effluent Parameter	Concentration Objective (mg/L)
CBOD₅	4.0
Total Suspended Solids	4.0
Total Phosphorous	0.12
Total Ammonia Nitrogen	
June 01 to Sept 30	0.5
Oct 01 to May 31	2.0
E-coli	150 organisms /100 mL (monthly Geometric Mean Density)
pH of the effluent to be maintained between 6.5 to 8.5, inclusion	sive, at all times

The effluent limits that are to be met as per Section 7 of ECA 6413-ABLQQS for the Shelburne Wastewater Treatment Plant are found in Table 5. Any exceedance with the limits found in Table 5 constitutes a non-compliance with ECA 6413-ABLQQS.

Table 6. Effluent Limits as per Section 7 of ECA 6413-ABLQQS

Effluent Parameter	Average Concentration Limit (mg/L)	Average Waste Loading Limit (kg/day)
CBOD,	5.0	17.1
Total Suspended Solids	5.0	17.1
Total Phosphorous	0.25	0,86
Total Ammonia Nitrogen		3,00
Jun 01 to Sep 30	0.8	2.7
Oct 01 to May 31	2.4	8.2
E-coli	200 organisms /100 mL (monthly	n/a
	Geometric Mean Density)	17 4
H of the effluent to be maintained betw	ecn 6.0 to 9.5, inclusive, at all times	

2.3 Comparison of Data to Effluent Objectives and Effluent Limits

Analytical and monitoring data for the Shelburne Wastewater Treatment Facility is stored in OCWAs data management system (PDM). Annual and monthly averages for flows, CBOD, BOD₅, Suspended Solids, Total Phosphorous, Nitrogen-series and E.coli can be found in Appendix A. A comparison of analytical data from effluent samples to the effluent objectives and effluent limits shown in the below Tables 7-11:

Table 7.

				CBOD ₅		
	Monthly Average Concentration (mg/L)	Within Objectives (4.0 mg/L)	Within Limits (5.0 mg/L)	Monthly Average Loading (kg/d)	Within Objectives (kg/d)	Within Limits (17.1 kg/d)
January	<2.00	Yes	Yes	<4.99	n/a	Yes
February	<2.75	Yes	Yes	<6.94	n/a	Yes
March	<2.00	Yes	Yes	<4.35	n/a	Yes
April	<2.38	Yes	Yes	<7.15	n/a	Yes
May	<2.00	Yes	Yes	<5.19	n/a	Yes
June	<2.00	Yes	Yes	<4.86	n/a	Yes
July	<2.75	Yes	Yes	<7.11	n/a	Yes
August	<2.25	Yes	Yes	<5.00	n/a	Yes
September	<2.00	Yes	Yes	<3.88	n/a	Yes
October	<2.60	Yes	Yes	<6.26	n/a	Yes
November	<2.00	Yes	Yes	<5.27	n/a	Yes
December	<2.50	Yes	Yes	<6.87	n/a	Yes

Table 8.

			Total	Suspended Solids		
	Monthly Average Concentration (mg/L)	Within Objectives (4.0 mg/L)	Within Limits (5.0 mg/L)	Monthly Average Loading (kg/d)	Within Objectives (kg/d)	Within Limits (17.1 kg/d)
January	<2.20	Yes	Yes	<5.49	n/a	Yes
February	<2.00	Yes	Yes	<5.05	n/a	Yes
March	<2.00	Yes	Yes	<4.35	n/a	Yes
April	<2.00	Yes	Yes	<6.02	n/a	Yes
May	<2.40	Yes	Yes	<6.22	n/a	Yes
June	3.75	Yes	Yes	9.12	n/a	Yes
July	2.75	Yes	Yes	7.11	n/a	Yes
August	<2.25	Yes	Yes	<5.00	n/a	Yes
September	<2.00	Yes	Yes	<3.88	n/a	Yes
October	<2.60	Yes	Yes	<6.26	n/a	Yes
November	<2.00	Yes	Yes	<5.27	n/a	Yes
December	<2.00	Yes	Yes	<5.50	n/a	Yes

Table 9.

		····	To	tal Phosphorus		
	Monthly Average Concentration (mg/L)	Within Objectives (0.12 mg/L)	Within Limits (0.25 mg/L)	Monthly Average Loading (kg/d)	Within Objectives (kg/d)	Within Limits (0.86 kg/d)
January	0.06	Yes	Yes	0.15	n/a	Yes
February	0.04	Yes	Yes	0.10	n/a	Yes
March	0.04	Yes	Yes	0.08	n/a	Yes
April	0.04	Yes	Yes	0,12	n/a	Yes
May	0.04	Yes	Yes	0.11	n/a	Yes
June	0.04	Yes	Yes	0.11	n/a	Yes
July	0.05	Yes	Yes	0.12	n/a	Yes
August	0.04	Yes	Yes	0.08	n/a	Yes
September	0.03	Yes	Yes	0.05	n/a	Yes
October	0.05	Yes	Yes	0.13	n/a	Yes
November	0.05	Yes	Yes	0.12	n/a	Yes
December	0.03	Yes	Yes	0.09	n/a	Yes

Table 10.

				(Amn	Total A	mmonia Ni gen + Amm	itrogen onium Nitroge	n)		
	Monthly Average Concentration (mg/L)	Within Objectives (Jun 01-Sept 30 0.5 mg/L)	Within Objectives (Oct 01-May 31 2.0 mg/L)	Within Limits (Jun 01-Sept 30 0.8 mg/L)	Within Limits (Oct 01-May 31 2.4 mg/L)	Monthly Average Loading (kg/d)	Within Objectives (Dec 01-Apr 30 kg/d)	Within Objectives (May 01-Nov 30 kg/d)	Within Limits (June 01-Sept 30 2.7 kg/d)	Within Limits (Oct 01-May 31 8.2 kg/d)
January	< 0.32	n/a	Yes	n/a	Yes	< 0.80	n/a	n/a	n/a	Yes
February	<1.00	n/a	Yes	n/a	Yes	<2.52	n/a	n/a	n/a	Yes
March	<1.78	n/a	Yes	n/a	Yes	<3.86	n/a	n/a	n/a	Yes
April	<1.94	n/a	Yes	n/a	Yes	<5.83	n/a	n/a	n/a	Yes
May	< 0.62	n/a	Yes	n/a	Yes	<1.61	n/a	n/a	n/a	Yes
June	<0.20	Yes	n/a	Yes	n/a	<0.49	n/a	n/a	Yes	n/a
July	< 0.10	Yes	n/a	Yes	n/a	< 0.26	n/a	n/a	Yes	n/a
August	< 0.57	No	n/a	Yes	n/a	<1.27	n/a	n/a	Yes	n/a
September	<0.61	No	n/a	Yes	n/a	<1.19	n/a	n/a	Yes	n/a
October	<0.20	n/a	Yes	n/a	Yes	< 0.48	n/a	n/a	n/a	Yes
November	< 0.13	n/a	Yes	n/a	Yes	< 0.33	n/a	n/a	n/a	Yes
December	<1.52	n/a	Yes	n/a	Yes	4.17	n/a	n/a	n/a	Yes

Table 11.

		E.coli	
	Monthly Geometric Mean Density (Counts/100mL)	Within Objectives (100 counts/100mL)	Within Limits (200 counts/100mL)
January	2.49	Yes	Yes
February	14.97	Yes	Yes
March	2.00	Yes	Yes
April	3.89	Yes	Yes
May	3.48	Yes	Yes
June	3.56	Yes	Yes
July	4.64	Yes	Yes
August	2.00	Yes	Yes
September	5.64	Yes	Yes
October	2.17	Yes	Yes
November	3.13	Yes	Yes
December	4.47	Yes	Yes

2.4 Additional Monitoring Parameters

The following parameters in Table 12 do not have limits or objectives but are monitored on a regular basis (see Section 2.1 for sampling frequency) as required by ECA 6413-ABLQQS. Table 12 and Table 13 summarize the monitoring data for the reporting period.

Raw Sewage Quality:

Table 12. Raw Sewage Monitoring Parameters as required by ECA 6413-ABLQQS for Shelburne Wastewater Treatment Plant, 2018

Parameter	Average	Minimum	Maximum
BOD ₅ * (mg/L)	371.250	236.000	490.000
Total Suspended Solids* (mg/L)	551.583	262.000	1,010,000
Total Phosphorous* (mg/L)	7.322	4,600	10.500
Total Kjeldahl Nitrogen* (mg/L)	48.533	22.200	93.500
#D C		22.200	33,300 ·

^{*}Refer to Appendix A for monthly sample results.

Annual Performance Report: January 1, 2018 to December 31, 2018 Town of Shelburne: Shelburne Wastewater Treatment Plant

Effluent Limits:

Table 13. Effluent Monitoring Parameters as required by ECA 6413-ABLQQS for Shelburne Treatment Plant, 2018

			4- in chalpathe Heather	or r 1001, 2010
Parameters	Average	Minimum	Maximum	Average Annual Loading
CBOD ₅	<2.27	<2.00	<2.75	<5.66
Total Suspended Solids	<2.33	<2.00	3.75	<5.773
Total Phosphorus	0.04	0.03	0,06	0,104
Total Ammonia Nitrogen (Jun 1-Sept 30)	< 0.37	<0.10	7	-
Total Ammonia Nitrogen (Oct 1- May 31)	<0.94	<0.10	<9.8	# :
E.Coli	4.37	2.00	14.967	
рН	7.78	7.31	8.07	
Temperature	11.22	5.4	22.1	N2.

^{*}Refer to Appendix A for monthly sample results.

Table 14. Hauled Sewage Monitoring

Parameter	Average	Minimum	Maximum
BOD ₅ (mg/L)	3084	798	8870
Total Suspended Solids (mg/L)	13,202.22	3,150	46,700
Total Phosphorous (mg/L)	148.43	33.4	490
Total Kjeldahl Nitrogen (mg/L)	628.78	227	2000

2.5 Overview of Success and Adequacy of the Works;

The annual average effluent CBOD₅ concentration was 2.27 mg/L with a removal efficiency of 99.48%. The annual average effluent TSS concentration was 2.33 mg/L with a removal efficiency of 99.78%. The annual average effluent Total Phosphorus concentration was 0.04 mg/L with a removal efficiency of 99.64%.

The bacteriological quality of the effluent complied with the certificate of approval requirement of <200 organisms per 100 ml sample. The annual geometric mean density of organisms for 2018 was 4.369 per 100 ml, indicating extremely effective effluent disinfection.

The total raw sewage volume of wastewater treated in 2018 was 905,276.20 m³. The annual average daily flow of raw sewage was 2,480.81 m³/day was 72.5 % of the design flow (3,420 m³/day). The maximum peak flow of 4,467.80 m³/day occurred on January 12, 2018 due to higher then seasonal temperatures which resulted in rapid snow melt and heavy precipitation. This represents a peak flow of 1.3 times the rated capacity. The wastewater treatment plant operated within the rated capacity 94.5%% of the time (345 out of 365 days of the year)

3. Operating Problems and Corrective Actions

As per Section 6b of ECA 6413-ABLQQS, a description of any operating problems encountered and corrective actions taken is required.

There were no operating problems encountered or corrective actions required at the Shelburne Wastewater Treatment Plant during 2018 that affected the quality of the effluent leaving the plant. All repairs/maintenance can be found in Section 4.

4. Major Maintenance Activities

As per 6c of ECA 6413-ABLQQS, a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanisms or thing forming part of the works is required.

For 2018, major maintenance activities that occurred include:

Plant maintenance, including non-scheduled maintenance is monitored using Maximo Workplace Management System. All routine and preventative maintenance was conducted as scheduled in 2018.

- Belwood Electric on-site to replace fan in VFD drive for raw sewage pump #1
- Peter Chung of Selog on-site regarding feedback issue with PLC4, issue corrected
- Belwood Electric on-site issues with soft start on blower #2
- Caldecott Millwright on-site to remove and refurbish mechanical seal on bar screen auger
- Hetek onsite to calibrate gas detectors
- Wessuc/Terrain onsite for East Storm Pond Clean Out
- Belwood Electric onsite blower #4 motor issues, swapped motor 4 for motor 3, motor 4 not needed pending future blower upgrade
- Caldecott Millwright on-site to put rental raw sewage pump in
- Cummins on-site for full bi-annual generator service
- Belwood Electric on-site, Milltronics level sensor replaced on biosolids tank
- Caldecott Millwright on-site for south clarifier repairs
- Meehan's Industrial (contracted by Directrik) on-site to remove RAS pump 1 for repair

5. Effluent Quality Assurance and Control

As per 6d of ECA 6413-ABLQQS, a summary of any effluent quality assurance or control measures undertaken in the reporting period is required:

All laboratory analyzed raw sewage and effluent samples (Section 2.1) are analyzed by SGS Canada Inc., which is an ISO 17025 accredited laboratory. In-house tests are conducted for monitoring purposes by licensed operators using standardized methods. The results from in-house tests are used to determine treatment efficiency and to effectively maintain process control. Calibrations and preventative maintenance are performed on facility equipment and monitoring equipment, see Section 4 for more details. In addition to sample analysis, preventative maintenance is scheduled for equipment at the sewage treatment plant and pumping stations at regular frequency (frequency depends on the equipment and type of maintenance). Maintenance activities are scheduled in the work management system Maximo.

Operation by Licensed Operators: This sewage system is operated and maintained by the OCWA's licensed staff. The mandatory licensing program for operators of sewage treatment facilities in Ontario is regulated under the Ontario Water Resources Act (OWRA) Ontario Regulation 129/04. A licensed individual meets the education and experience requirements and has successfully passed the licensing exam.

The following are certified operators who operated this facility during 2018 with current certified classification, certificate numbers and certificate expiry dates.

Table 15.

Operator	Level	Certificate#	Expiry Date
Alex Solomonov	WWT 2	49144	Jul 31, 2021
	WWC 2	16652	Jan 31, 2021
Bill Smith	WWT 2	65685	Aug 31, 2020
	WWC I	Deemed	Aug 31, 2020
Curtis Parker	WWT4	79166	Mar 31, 2022
	WWC 3	<u>791</u> 67	Jul 31, 2021
Emanuel Castro	WWT1	95067	Oct 31, 2019
<u> </u>	WWC I	102934	Nov 30, 2021

6. Calibration and Maintenance Procedures

As per 6e of ECA 6413-ABLQQS, a summary of the calibration and maintenance carried out on all effluent monitoring equipment is required.

All in-house monitoring equipment is calibrated/verified as per manufacturer's recommendations. Monitoring and metering equipment is also calibrated by a third party on an annual basis. Preventative maintenance is scheduled for all equipment at the sewage treatment plant and pumping stations at regular frequency (frequency depends on the equipment and type of maintenance). Maintenance activities are scheduled within the work management system Maximo, upon completion, Operators set the work order to complete. On a monthly basis, preventative work orders are reviewed for completion.

Flowmetrix Technical Services Inc. was contracted to calibrate flow measuring equipment on September 19, 2018. Copies of these calibration reports can be found in Appendix C of this report.

7. Efforts and Results Achieved in Meeting Effluent Objectives

As per 6f of ECA 6413-ABLQQS, a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 6 is required.

Condition 6 is imposed "to establish non-enforceable effluent quality objectives which the Owner is obligated to use best efforts to strive towards on an ongoing basis. These objectives are to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs and before the compliances limits of Condition 7 are exceeded."

OCWA as the Operating Authority (on behalf of the Owner) has made best efforts to stay within the Effluent Objectives in the ECA. These efforts are supported through:

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

A summary of the effluent quality in comparison to the effluent objectives can be found in Tables 7-11 of section 2.3 of this report. These results show that sewage treatment operations for 2018 provided effluent quality that was within all effluent objectives outlined in the ECA and minimized environmental impairment.

8. Sludge Generation

As per 6g of ECA 6413-ABLQQS, a tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed is required.

Digested sludge produced at the Shelburne WWTP is land-applied in accordance with the Nutrient Management Act 2002 and Ontario Regulation 267/03.

Grab samples of digested (aerobic) sludge are collected and tested as per these requirements. In 2018 sludge sample analysis were carried out by SGS Lakefield Research Limited. A summary of sludge sample results is provided in Appendix B of this report.

Wessuc Environmental Services Inc. was contracted to haul and spread sludge from the Shelburne plant in 2018. (Certificate of Approval - Waste Management System # 1603-4LGJBN)

The following certified sites were utilized in 2018:

Table 11. Volume of Sludge Generated from Shelburne Wastewater Treatment Plant in 2018

Site	Site Location	Volume of Biosolids (m3)	Hauler
NASM Submission ID: 23344	D2003	3,781	Wessuc
NASM Submission ID: 23284	W1003	721	Wessuc
NASM Submission ID: 23284	S4006	129	Wessuc
NASM Submission ID: 23002	W1001	654	Wessuc
NASM Submission ID: 23461	D1002	2,083	Wessuc

A total volume of 7,368 m³ of sludge was applied to the above fields from the Shelburne WWTP in 2018.

Based on the design flow and average wastewater quantity and a linear regression with an R² value of 88.07% the anticipated volume of sludge generated for 2019 would be approximately 7,554 m³.

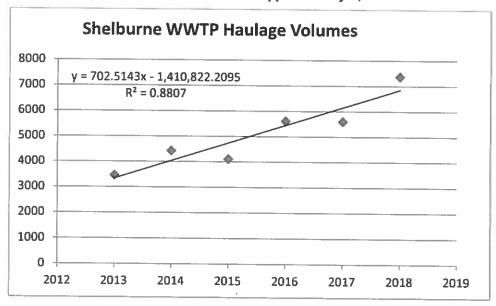


Figure 1. Shelburne Wastewater Treatment Plant Haulage Volumes (2013 to 2018)

ECA # 6413-ABLQQS
Annual Performance Report: January 1, 2018 to December 31, 2018
Town of Shelburne: Shelburne Wastewater Treatment Plant

9. Complaints

As per 6h of ECA 6413-ABLQQS, a summary of any complaints received during the reporting period and any steps taken to address the complaints is required.

A standard operating procedure (SOP) is in place for addressing complaints received from the community. All complaints are addressed and documented in the facility logbook. Community complaint information is entered in OCWA's electronic database system "OPEX". This system contains all the required information and history of all complaints.

No complaints were received during this reporting period with regard to the Shelburne Wastewater Treatment Plant.

10. By-pass, Spill or Abnormal Discharge Events

As per 6i of ECA 6413-ABLQQS, a summary of all By-pass, spill or abnormal discharge events is required.

There were no bypasses, spills or abnormal discharge events at the Shelburne Wastewater Treatment Plant during the reporting period.

11. Notice of Modifications

As per 6j of ECA 6413-ABLQQS, a copy of all Notice of Modifications submitted to the Water Supervisor as a result of Schedule B, Section 1, with a status report on the implementation of each modification is required.

There were no modifications at the Shelburne Wastewater Treatment Plant during the reporting period.

12. Summary of Completed Modifications

As per 6k of ECA 6413-ABLQQS, a report summarizing all modifications completed as a result of Schedule B, Section 3 is required.

There were no modifications at the Shelburne Wastewater Treatment Plant during the reporting period.

13. Additional Information

As per 61 of ECA 6413-ABLQQS, any other information the Water Supervisor requires from time to time is required.

There were no requests from the Water Supervisor for any other information during the reporting period.

2018 Annual Performance Report Shelburne Wastewater Treatment Plant Amended Environmental Compliance Approval No. 6413-ABLQQS

Appendix A

Performance Assessment Report

2018

Ontario Chean Water Agency Performanne Assessment Report Wastewnter/Lagoon From: 81/91/2018 o 31/12/2018

Report activities (2/20/2019 11:54
Fee Billy: [5772] BHELBURING WASTEWATER TREATMENT FACILITY
World: [110000085]

STATE STAT		01/2018	02/2018	03/2018	04/2018	05/2018	D6/2016	07/2018	08/2018	00/2018	10/2018	11/2018	42/2018	C. Todal	4.40	4.000
1	Please					E LANCE										
	tew Flow: Total - Raw Sewage (m*)	77,308.60	70671.00	67431.10	90256 40	06:300:00	72950.60	80170 20	68929.10	58178.10	74650.90	79040.80	85225.50	905278.20		
1	DLW Date: See Beautiful (MA)	2485.70	7523.96	2179.20	2000.55	2503.45	2431.69	2586.14	227.122	1030.27	2408.38	2634.69	2749.21		2480.81	
	zev Flows Man - Raw Sewage (m.hd)	4467.90	3065.80	2747.20	4010.20	3485.70	3069 40	3443.00	3106.10	2476.80	2083.30	3648.40	3619.40			4487.80
1 1 1 1 1 1 1 1 1 1	Tr. Flow: Taket - Final Efficant (mr)	77,308,00	70671.00	67431,10	09/2/20	08.99008	72930.60	80170.20	68929.10	58178.10	74850 00	TODAO RO	II 400 94 450	DAMES 30		
	TT. Plent Avg - Final Effluent (m/1d)	2485.70	2523.96	2175.20	3006.55	2503.45	2431.00	2586 14	2224 63	10,000	74/10 90	149.4 80	47.0 %	2000		
	Prove Max - Final Emport (m/kt)	4487.80	3965.80	2747.20	401020	3415.70	3069.40	3443 00	3108.10	0770		00 10 00	2 00 00		10007	
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	Jerbonsosous Béschamical Orygen Demand: CBOD;															4407.00
1 1 1 1 1 1 1 1 1 1	Jawr Avg «BODS - Raw Bemage (mg/L)	263.000	391.000	382.000	349,000	278.000	262,000	234 000	354,000	291 000	231 000	720 PCW	109 pro		100 000	-
	law: 8 of samples of cBODS - Raw Sawage (mg/L)	-	-	-	-	-	-		-	-		- T	104.000	:	204.263	201,000
1 1 1 1 1 1 1 1 1 1	ft: Avg cBCOS - Pivel Emant (mg/L)			2.000	2.375	2,000	T	2 740	1000	Ť			-			_
	TI: F of semples of cBCOS - Final Effluent (mg/L)		L	-	-		T		7	Ť	Z. BAV	Ц	2,500		PR-2	4
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	eading: eBODS - Final Emant (tigid)		L	4.350	7,145	4.167	h	Т	f (80)	1 670	6 200	1		R		
1 1 1 1 1 1 1 1 1 1	ercent Removat: c8006 - Final Efflant (mg/L)	D0 478	99.297	90.478	90,189	00 281	t	T	FM, 90	200	77.00	Ц	6,000	Ĭ	oca n	7.145
1,100,	Instrumbat Onygan Damend: BODS:								100 000	M. 1.34	MG 8/4	W.127	980 880			90.478
1 1 1 1 1 1 1 1 1 1	m: Avg BODS - Raw Sewage (mg/L)	470 000	490,000	466 000	447,000	128 000	214,000	261 000	440 000	000						2
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	m: 9 of semples of BCCS - Raw Sevege (mg/L)	-			-		200.010	non lev	on sta	424 000	230,000	256 000	314 000		371.250	490.000
1, 10, 10, 10, 10, 10, 10, 10, 10, 10,		L	L	Ė	Ц	t	t		Ì	П	-			12		
1			L	t	Ш	t	Ť	7 000	t	2.000		4.000	2.000	٧	_	4 000
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	thered Spreader MCCCL - Float Efficient force 1	L	L	Ť	Ц	1	4.003	27.172	T	3.878	Ì	10.538	9.408			10.538
1, 10, 10, 10, 10, 10, 10, 10, 10, 10,	tel Branchtel Bullet: The			RE CAM	rec au	000 000	500 363	F2 55	99 522	86 556	90.153	98.438	09.303			90.592
1	ter. Sem 188 - Rea Secure (may) 1	This core	100									A STATE OF THE PERSON NAMED IN				
1 1 1 1 1 1 1 1 1 1	The second secon	790.000	700.000	7.22.000	907.000	302.000	262 000	407.000	1010 000	248 000	266.000	350.000	268.000		551.583	1010.000
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	Ī	Ц	Ш	Ц		9					THE RESIDENCE OF THE PARTY OF T	-	1	21		
1 1 1 1 1 1 1 1 1 1		1	┚	⅃	7	2:400	3.750	П	2.250 <		2 800	2.000	2 000		2 370	3.750
1, 10, 10, 10, 10, 10, 10, 10, 10, 10,	THE RESERVE THE PARTY CONTRACT (MIGHT)	1	1			9	4		7	4	95	7	*	S		
1,000, 1	ONG: 188 - FINE ETHAM (Ng/C)	_	╝			0.224	9,119	r	r	r	6.262	Ť	5.490		8.773	0110
1,100 1,210 1,210 1,10	vord Removal: TES - Pinal Emisent (mg/L)	00.720	99.714	90.727	09,752	90.386	000.00	00.447	98.777	PC 00	500,000	90,429	757 00			00 777
1,100 1,10	al Phosphorus: TP:															
Color Colo	vi Avg IP - Kow Sevinge (mg/L)	7,780	8.510	1.000	0.120	5,700	0.90	10.500	0.700	5.880	5.500	5.040	4 600		7 229	10 000
Color	v: P art samples of TP - Raw Sawage (mg/L)	-	-	-		-	-	-	-	-	-	-	-	2		
1,000 1,00	Avg TP - Pirtil Effluers (mg/L.)	0.081	0.040	0.037	0.040	0.041	0.043	0.046	0.035	0.020	0.052	0.046	0.001		0 042	0.001
10,127 1	if of servoles of TP - Final Ethioent (mg/L.)	8	7	*		\$	7	7	-	-	45	4	7	95		
1	effegt. TP - Phali Effluent (tg/d)	0.152	0.100	0.081	0.121	0,106	0.105	0,123	6.078	0,000	0.126	0.121	n nav		70, 0	0.63
Column C	thrill Removal; TP - Final Effland (mg/L)	99.219	90.533	90.577	99.500	99.281	86.348	B 548	90.630	855.00	BS-0 60	DQ D87	125 00			00.00
Column C	open Series:			The second							-					
Column C	e: Aeg IKM - Rave Sevenge (mg/L)	61.000	01.500	69,100	58 900	33 200	45.500	63.000	43.100	39 300	26 300	30.400	22 200		125 877	0.1 600
C 0.300 C 1000 C 1775 C 1539 C 0.000 C 0.000 C 0.010 C 0.0	to 8 of stemptes of TKH - Nave Sevelge (mg/L)						1	-			-			6.3		
C			1.000	L	Г	T	0.200	T	Ť	t	0.700	0.124	1 417	Ī	0.740	1000
C C C C C C C C C C	# of semples of TAM - First Embert (mg/L)	9	•	7		5		,		t		40.00			U. 190	000
6.222 3.170 3.043 7.045 14.040 11.5/73 13.101 6.102 1.236 1.0803			L	× 3.001 ×	5.829	1 608	0.488 ×	0.740	1271	1 101	0.482	0.530	40.00	T	1000	
1	Avg NOS-N - Pleat Embert (mg/L)	6.282	3,170	3.043	7.065	14 840	E2.41	34.7 6.0	4 8 4 10	E 400					1 100	679 C
C 0.004 0.173 C 0.005 C 0.008 C 0.008 C 0.008 C 0.008 C 0.008 C 0.009 C 0.013 C 0.0113 C	B of samples of MOS-N - Pinel Etitlsent (mg/L)	-	-		-	ļ			200	30 100	00770	10.003	CABT		1.92.1	17.778
2-401 14 0 0 5 1 4 4 0 0 1000 1 1 1 1 1 1 1 1 1 1 1 1			0.123	0.777	0 has	T	T	0.040	1	1		•	*	1		
2.401 14.007 2.000 3.844 3.442 3.557 4.641 2.000 5.633 2.100 3.130 4.672 4.350 1.000	8 of samples of MO2-M - Final Effluent (mon.)		-	-		Ť	ı	Ten o	Ī	Ì	Ī	0.033	0.000		0.113	0.272
2461 11997 2000 3886 3442 3557 4451 2000 6635 2.100 4472 359 4399 A	résettent							,	•	4	an.	4	*	ş		
	GMD E. Coll - Final Effluent (eth/100mL)	2.401	14 967	2 000	3.806	3.482	3 447	1,000	2,000	1	2 100					
	8 of namples of E. Coll - Finel Ellhant (churtebank)	•	7						, non	2002	2, 100	2.130	4 472		7 780	14.967
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											No. of Concession, Name of Street, or other Persons, Name of Street, or other Persons, Name of Street, Name of					

2018 Annual Performance Report Shelburne Wastewater Treatment Plant Amended Environmental Compliance Approval No. 6413-ABLQQS

Appendix B

Sludge Haulage Summary & Sludge Quality

2018

Sh	elburne WWTP - D	ally Haulage Sumn	nary
Date	Site	NASM#	Sludge Hauled
	N	lay	
5/11/18	D2003	23344	1,081
5/14/18	D2003	23344	1,125
5/16/18	D2003	23344	540
5/17/18	D2003	23344	900
5/18/18	D2003	23344	135
5/24/18	W1003	23284	376
5/25/18	W1003	23284	345
5/25/18	54006	23284	129
5/28/18	W1001	23002	523.5
5/29/18	W1001	23002	130.5
Total	m3		5,285
	Septe	mber	
9/27/18	D1002	23461	965
9/28/18	D1002	23461	1,118
Total	m3		2,083
Annual			7,368

Ontario Clean Water Agency Biosolids Quality Report – Liquid Digestor Type: AEROBIC Solids and Nutrients

Facility: Works:

SHELBURNE WASTEWATER TREATMENT FACILITY 5773 01/01/2018 to 12/01/2018

Period

1.10000659E8
SHELBURNE WASTEWATER TREATMENT FACILITY

Caparation/Company: The Corporation of the Town of Shelburne
Class 3 Wastewater Treatment
Besley Draw to Boyne Creek
7900.0
3470.0 m3/day
D1/01/2018
12/01/2018

Facility Works Number: Facility Name: Facility Owner: Facility Classification: Receiver:

Service Population: Total Design Capacity: Period Being Reported:

		Note: all parame	ters in this report	will be derived fro	om the Bslq Station					
Month	Total Sludge Hauled (m3)	Avg. Total Solids (mg/L)	Avg. Volatile Solids (mg/L)	Avg. Total Phosphorus (mg/L)	Ammonia (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	TKN (mg/L)	Ammonia + Nitrate (mg/L)	Potassium (mg/L)
Site	SHELBURNE WASTEWATER	TREATMENT FACE	EITY			00 235				
Station	Osiq Station only							-		
Parameter Short Name	HauledVol	TS	vs	1P	NH3p_NH4p_N	NO3-N	NOZ-N	TICN		K
1/s	iH Month.Total	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	tab Published Month Mean	report + no T/5	Lub Published Month Mean
Jan		30,300.000		450 000	332.000	0.300	1.000	1,400.000	166.150	91.000
Feb		30,000.000		550.000	264.000	0.300	1.400	1,780.000	132 150	100 000
Mar		39,350.000		665.000	329.500	0.300	0.800	1,970.000	164.900	115.000
Apr		37,450.000		615.000	350.500	0.300	0.850	2,085.000	175.400	105.000
May	5,457.000	36,200.000		600.000	367.000	0.300	1.500	2,040.000	183 650	100.000
Jun		26,800.000		560.000	266.000	0.300	0.400	1,480,000	133.150	99.000
Jul		22,100.000		390.000	299.000	0.300	2.000	1,100.000	149.650	66 000
Aug		19,800.000		290.000	371.000	0.300	0.300	1,020 000	185.650	48.000
Sep	2,153.000	24,900.000		390.000	398.000	0.800	8.200	1,230.000	199.400	53.000
Oct		23,800.000		410.000	317.000	0.300	0.200	1,110 000	158.650	70.000
Nov		23,400.000		420 000	278.000	0.300	0.300	1,220.000	139.150	89.000
Dec		23,700.000		330.000	251.000	0.300	0.200	1,360.000	125.650	77.000
Average	3,805.000	28,150.000		472.500	318.583	0.342	1.429	1,482 917	159.463	84.417
Total	7,610.000	337,800.000	0.000	5,670 000	3,823.000	4.100	17.150	17,795.000	1,913.550	1,013.000

Ontario Clean Water Agency Biosolids Quality Report - Liquid Digestor Type: AEROBIC Metals and Criteria

Facility: Works: Period:

SHEUBURNE WASTEWATER TREATMENT FACILITY 5773 01/01/2018 to 12/01/2018

Note: all parameters in this report will be derived from the Bslq Station

Month	Arsenic (mg/L)	Cadmium (mg/L)	Cobalt (mg/L)	Chromium (mg/L)	Copper (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/t)	Lead (mg/L)	Selenium (mg/L)	Zinc (mg/L)
Ske	SHELBURNE WA	STEWATER TREAT	MENT FACILITY	195			-		300		
Station	Bsiq Station only										
Parameter Short Hame	As	Cd	Ce	Cr	Cu	Hg	Mo	N	Pb	Se	Zπ
1/1	Lab Published Month Mean	Leb Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean					
Jan	0.400	0.020	0.080	0.430	7.700	0.010	0.220	0.200	0.700	0.100	11.000
Feb	0.500	0.028	0.100	0.730	9.100	0.018	0.350	0.420	0.800	0.100	13.000
Mar	0.550	0.030	0.130	0.940	11.500	0.025	0.370	0.560	0.850	0.100	16.500
Apr	0.550	0.031	0.135	0.875	11.000	0.010	0.375	0.510	0.850	0.100	15.500
May	0.500	0.027	0.110	0.870	11.000	0.021	0.370	0.510	0.800	0.100	15.000
Jun	0.300	0.029	0.080	0.780	7,700	0.017	0.260	0.430	0.500	0.100	11.000
Jul	0.300	0.020	0.070	0.710	6.700	0:023	0.210	0.390	0.500	0.100	9.200
Aug	0.200	0.013	0.060	0.580	5 100	0.013	0.190	0.320	0.400	0.100	7.600
Sep	0.300	0.018	0.080	0.710	6.400	0.017	0.240	0.390	0.500	0.100	10.000
Oct	0.300	0.022	0.090	0.910	6.500	0.017	0.210	0.480	0.600	0.100	11.000
Nav	0.300	0.022	0 080	0.900	7.100	0.021	0.240	0.500	0.600	0.100	11.000
Dec	0.300	0.017	0.080	0.780	\$.900	0.011	0.170	0.430	0.600	0.100	8.800
				<u> </u>							
Average	0.375	0.023	0.090	0.768	7.975	0.018	0.267	0.428	0.642	0.100	11.633
Max. Permissible Metal Concentrations (mg/kg of	170.000	34.000	340.000	2,800.000	1,700.000	11.000	94.000	420.000	1,100.000	34.000	4,200.000
Metal Concentrations in Sludge (mg/kg)	13.321	0.819	3.182	27.279	283.304	0.631	9.488	15.216	22.795	3.552	413.262
					1 1						

Onlano Clean Water Agency Bennelids Quality Report : Liquid : Based on Last & Saregies Orgester Eyper: AEROBIC

Facility: Works: Period.

SHELBURHE WASTEWATER TREATMENT FACILITY 5773 01/01/2018 to 12/01/2018

Note: all parameters in this report will be derived from the fising Station

Perameter Shart Maree	Time Series	05/25/2018	19/31/2018	11/19/2018	12/10/2010	Average	Metal Concentrations in Shelps [mg/kg]:	Max. Permissible Meta Concentrations (mg/kg
As [mg/L]	Lab Published	g 300	0.100				proofe (uff\rf):	el Selids):
				0 300	Ø 300	0 300	12.526	170
Cd (mg/L)	Lob Published	0.016	0 022	0.053	0.017	0.070	0.035	ы
Co [mg/L]	Lab Published	0.080	0.090	0.000	0.060	0.065	1 424	340
Cr (mg/L)	Lab Published	0.710	B 910	9 900	D 780	0.625	34 447	2800
Ciriling/L)	Life Published	6.400	6 500	7 (00)	5 900	6.475	270.353	1700
He line/L)	Lab Published	0.017	0.017	0.021	0011	0 017	0 710	11
Me (mg/L)	Leb Published	B 240	0 210	0 240	0.170	G 215	8 977	94
M (mg/L)	Lab Published	6 390	0 480	0 500	0 430	0.450	18 799	420
Ph (mg/L)	- Life Published	0.500	0 600	9 600	0 600	0.575	24.008	1100
Se (mg/L)	Lab Published	8 100	0.100	Ø 100	6 100	0 100	4 175	34
Su [mg/L]	Lab Published	10 000	11.000	11 000	B \$00	10 200	425.867	4200
E, Call: Dry Wt (chi/E)	Lab Published	19,679,000	25,830,000	76,923,000	138,143,000	46,270 475	E Coll average is the GLED	
15 (mg/L)	Lab Published	24,900 000	25,800 dasp	23,400,000	23,700 000	23,950 000		
VS (mg/L)	Lin Published							
TP (mg/L)	Enh Published	990,000	410 000	420 000	110 000	387.500		
NO2-10 (mg/L)	Lab Published	8.700	0.200	0.300	0.200	2 225	ĺ	
TION (reg/L)	Lab Published	1,230,000	1,110 000	1,220 000	1,360,000	1.730 0000		
K (mg/L)	Inh Poblished	\$1 000	70 000	41 000	77.000	71 250		
10(3p_)6(4p_)1 (mg/L)	tab Published	994 DIXI	317 000	275.000	251.000	111,000		
1001-H (mg/L)	Lob Published	0 800	8 100	d 30p	0.100	0 425		

2018 Annual Performance Report Shelburne Wastewater Treatment Plant Amended Environmental Compliance Approval No. 6413-ABLQQS

Appendix C

Calibration Reports

2018



Eastern Office 1602 Old Wooler Road Wooler, Ontario KOK 3MO

AS FOUND CERTIFICATION

PASS

Ç.		NI.	DE	IA	IL
C	US1	roi	MER	3	- (

MANUFACTURER

OCWA - West Highlands Hub.

CONTACT Don Irvine

Process Compliance Technician

p 519 925-1938 x225 c 519-321-9474 e_dirvine@ocwa.com

[MUT] MANUFACTURER

MODEL

CONVERTER SERIAL NUMBER

EQUIPMENT DETAIL Magnehelic

2000 Series N/A

PLANT ID METER ID

FIT ID **CLIENT TAG** Digester Floy/ N/A HIA

Shelburne VVVTP

OTHER **GPS COORDINATES**

OCWA# 62546 H/A

September 19 2018

VERIFICATION DATE CAL. FREQUENCY CAL. DUE DATE

AS FOUND CERTIFICATION TEST

ALLOWABLE [%] ERROR

ERROR, represented as % F.S.

Annual September 2019 TEST CRITERIA

yes

5

no

VER, BY - FM Pans Machuk/Travis Krayetski 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 PRIMARY DEVICE

PRIMARY ELEMENT		Venturi	
DIAMETER	inches	7	
TRANSMITTER INFORMATION			
LSL (Lower Sensor Limit)	PSI	0.00	
USL (Upper Sensor Limit)	PSI	15 00	
SCALING INFORMATION			
110 41			

LVI. (Lower Value Limit) PSI 0.00 **UVL (Upper Value Limit)** PS1 0.92 Full-scale Diff Pressure PSI 0 92 Full-scale Flow Rate LPS 1000.00

COMI	PONEN	ITS T	ESTED

CONVERTER DISPLAY yes **mA OUTPUT** NO Flow (F) or Pressure (P) OUTPUT - Linear (L) or SQRT (S) S

COMPARISON TESTING		0.02	0 06	0.23	0.52	0.92	Target Press.
		0.00	6 51	24.97	56.46	99 89	% dP F.S.
REF. PRESSURE, actual		0.00	0.05	0.23	Đ 52	0.92	PSI
REF. FLOW RATE, calculated			255.24	499.73	751.40	999,46	LPS
MUT [Reading]		0.60	260 00	505 00	755 00	1000 00	LPS
MUT (Difference)		0.00	4.76	5.27	3.60	0.54	LPS
MUT (% Error), PRESSURE		n/a	r/a	n/a	n/a	n/a	% O.R.
MUT (% Error), FLOWRATE			1 87	1 05	0.48	0.05	% O R.
mA OUTPUT							78 O.K.
MUT (Reading) min 4 000	mA		l .				
MUT (Difference max, 20 000	mA						1
MUT (% Error)							1

unknown

ZERO	Balance/Equalization Test

IAFI **PSI** IALL PSI

7 LPS 2 LPS QUALITY MANAGEMENT STANDARDS INFO.

[OMS] INFORMATION IDENT 1D# [REFERENCE] CRYS **PROCESS METER** PM

COMMENTS

Note: Poor resolution on gauge at lower Foxes Flows estimated based on visual observation

TESTING RESULTS

TEST	AVG % O.R.	PASS FAIL
MA OUTPUT	0.86 N/A	PASS N/A

A relatence pressure gauge was used to venily the overall reading accuracy of this device to within the tolerance limits as define above in this report

Serving Ontario In Calibration Services

For Service Call 519-870-3569



Eastern Office 1602 Old Wooler Road Wooler, Ontario KOK 3M0

AS FOUND CERTIFICATION

CLIENT DETA	H							PASS
CUSTOMER CONTACT	Ontario Clean Water Agency Lisa Benoit Process Compliance Technici Highlands Hub 136 Main St. East	an			MODE	MANUFACTURI L ERTER SERIAL	ER	Magneheli Magneheli 2000 Serie NA
	Shelburne ON L9V3K5 Tel 519-925-1938 x225 Cel 519-938-7255 Elbenoit@ocviri.com				PLAN METE FIT ID CLIEN	RID		Shelburne VVVTI Aeration Flor N/A
VED DV ELL	T				OTHE			OCWA# 6254
	Travis KrayetskilParis Machuk gement Standards Informatic				GPS 0	OORDINATES		N//
OMS docume PRIMARY DEV MANUFACTUR PRIMARY ELEI	ER		unknovn	<u></u>	CAL E	REQUENCY DUE DATE UND CERTIFICA	ATION TEST	September 201 TEST CRITERIA
PRIMART ELEI DIAMETER			Venturi			VABLE [%] ERR		
DAMETER	inchi	05	7		ERRO	R, represented a	5 % F S.	n
TRANSMITTER	RINFORMATION							
LSL (Lower Ser	isor Limit) p	OSI	0.00		CONT	ERTER DISPLAY		ONENTS TESTED
USL (Upper Sei		131	15 00		mA Ot		ı	ye.
SCALING INFO						Flow (F) or Pres	eeura (D)	no F
LVL (Lower Val		SĪ	0.00			OUTPUT - Line		
UVL (Upper Val		151	0.92			DO II DI LIIIC	or (c) or our	. (9)
Full-scale Diff, F	, , , , , , , , , , , , , , , , , , ,	isi	0.92					
Full-scale Flow	Rate LP	25	1000 00					
COMPARISON	TESTING		0 02	0.06	0.23	0.50		
		\vdash	0 00	6.51	24.97	0.52	0 92	Target Press.
REF. PRESSUF	RE, actual		0.00	0.06	0.23	56.46 0.52	100.00	% dP F.S.
	TE calculated		0.00	355.04	0 23	0.05	0.92	psi

COMPARISON TESTING	•	L	0 02	0.06	0 23	0.52	0 92	Target Press.	
			0 00	6.51	24.97	56 46	100.00	% dP F.S.	
REF. PRESSURE, actua			0.00	0.06	0.23	0.52	0.92	psi	
REF. FLOW RATE, calcu	rlated		0 00	255.24	499 73	751.40	1000 00		
MUT [Reading]	-	T	0.00	245 00	495 00	749 00	1000 00	LPS	
MUT [Difference]			0 00	-10.24	-4 73	-11.40	0.00 LPS n/a % O.R. 0.00 % O.R.		
MUT (% Error), PRESSUI	₹E		n/a	n/a	r/a	n/a			
MUT [% Error]. FLOWRA	TE			-4 01	-0.95	-1 52			
mA OUTPUT MUT [Reading] min.	4 000	mA							
MUT Difference max.	20 000	mA							
MUT (% Error)								1	

Trac n-1			
	/Equalization Test		Oliai ITV Maha Control
(AF)	psi	LPS	QUALITY MANAGEMENT STANDARDS INFO.
[AL]	psı	LPS	[QMS] INFORMATION IDENT. ID#
			[REFERENCE] CRYS
COMMENTS			PROCESS METER PM 2

COMMENTS

Note: Poor resolution on gauge at lower flows. Flows estimated based on visual observation.

TESTING RESULTS

TEST	AVG % O R.	PASS FAIL
ma Output	-1 62 N/A	PASS N/A

A reference pressure gauge was used to verify the overall reading accuracy of this device to within the tolerance limits as define above in this report

Serving Ontario in Calibration Services

For Service Call 519-870-3569





Eastern Office 1602 Old Wooler Road Wooler, Ontario KOK 3MO

AS FOUND CERTIFICATION

FORWARD FLOW DIRECTION

PASS

CLIENT DETAIL							-		
CUSTOMER (OCWA - West Hig	shtands Hut	b		DAUTO	MANUFACTU		JIPMENT	
	Dan Irvina	,	_		MODE		KER		Krohr
	rocess Complian	ice Tacheir	930			_			IFC010
	519-925-1938 x		PLICE !			L NUMBER		A:	99 1569
	519-321-9474	229			FUSE				
	dirvine@ocwa o	n m							
,	an Ame a posta c	JUHH			PLAN1			She!burn	
					METE	RID		M	VAS Flo
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•					CLIEN			OCW/	N# 6247
VER, BY - FM 1	Penning (Constants)				OTHE				N/A
Quality Manage	ment Standards	s Informati	ion -		GPS C	OORDINATES	N44 05 06	3 W08	10 11 53
Reference equi	oment and instr	umentation	n used to		VERIFI	ICATION DATE	\$6	eptember	10 201
conduct this ver	ilication test is f	ound in or	Jr AC-			REQUENCY	- 414	.premizei	Annu.
QMS document	at the time this	test was				UE DATE		Septemb	
						ou brile		achteint	251 501
PROGRAMMING	PARAMETERS	-		·		FORW	ARD TOTALIZE	D INCOD	MAZIO
DIAMETER (DN)		mm	80		AS FO		MID TOTALLEL	452622	
F.S. FLOW - MAG	3	LPS	39.5		AS LEI			452627	
F.S. RANGE - O/	P	LPS	27 800			RENCE		432021	***
CAL k-FACTOR		GKL	5 16200		D11 (L1	ILLITOL		_	****
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					mA OU TOTAL	ITPUT IZER	AΥ	WENTS	ye: γe: Ye:
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Zero Offset Flow		LPS	0 0:20		mA OU TOTAL ACCUR	ITPUT IZER RACY BASED (AΥ		ye: ye: Ye:
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	ULATION	LPS	0.0	0.5	mA OU TOTAL ACCUR ERROR	ITPUT IZER RAGY BASED (R DOCUMENTED	ON (% or () IN THIS REPORT	m/s	ye yo Ye: ye: ON % o r
	ULATION	LPS	0.0	5.0	mA OU TOTAL ACCUP ERROR	TPUT IZER RACY BASED (R DOCUMENTED 2.0 20.0	DN [% or [DIN THIS REPORT 5.0 500	m/s	ye ye ye ON % or
FLOW TUBE SIM		LPS .	0.0 0.0 0.0	5.0 7.2	mA OU TOTAL ACCUF ERROR	TPUT IZER RACY BASED (R DOCUMENTED 2.0 20.0 28.5	DN [% o r] DIN THIS REPORT 5.0 50.0 71.2	m/s % F.S.	ye Ye ye ON % or Flow Range
FLOW TUBE SIM		tPS .	0.0 0.0 0.0 0.0	5.0 7.2 1.989	MA OU TOTAL ACCUF ERROR 1.0 10.0 14.3 3.966	2.0 20.0 28.5 7.921	DN [% o r] DIN THIS REPORT 5.0 50.0 71.2 19.784	m/s % F.S.	ye ye ye ON % on
FLOW TUBE SIM REF. FLOW RATION MUT [Reading]		LPS	0.0 0.0 0.0 0.012 0.012	5.0 7.2 1.989	MA OU TOTAL ACCUF ERROR 1.0 10.0 14.3 3.986 3.963	2.0 20.0 28.5 7.921	5.0 5.0 5.0 71.2 19.784	m/s % F.S.	ye Ye ye ON % or Flow Range
FLOW TUBE SIM REF. FLOW RATI MUT [Reading] MUT [Difference]		LPS	0.0 0.0 0.0 0.012 0.012 -0.002	5.0 7.2 1.989 1.592 0.010	mA OU TOTAL ACCUF ERROR 10.0 14.3 3.986 3.961 -0.003	2.0 20.0 28.5 7.921 7.922 0.001	5.0 5.0 5.0 71.2 19.784 19.795 0.011	m/s % F.S. % F.S.	ye ye ye ON % or Flow Range
FLOW TUBE SIM REF. FLOW RATI MUT [Reading] MUT (Difference) MUT (% Error)		LPS	0.0 0.0 0.0 0.012 0.012 -0.002 -16.67	5.0 7.2 1.989 1.590 0.010 0.49	MA OUTOTAL ACCUPERROR	2.0 28.5 7.921 7.922 0.001 0.02	5.0 5.0 5.0 71.2 19.784 19.795 0.011 0.06	m/s W.F.S.	ye ye ON % or Flow Range PS PS
REF. FLOW RATI MUT [Reading] MUT [Difference] MUT [% Error] MA OUTPUT	E		0.0 0.0 0.0 0.012 0.016 -0.002 -16.67 4.000	5.0 7.2 1.989 1.593 0.010 0.49 5.145	MA OU TOTAL ACCUF ERROR 1.0 10.0 14.3 3.966 3.961 -0.003 -0.08 6.283	2.0 2.0 2.0 2.0 2.0 28.5 7.921 7.922 0.001 0.02	5.0 5.0 5.0 71.2 19.784 19.795 0.011	m/s % F.S. % F.S.	ye ye ON % or Flow Ranga PS PS
REF. FLOW RATI MUT [Reading] MUT [Difference] MUT [% Error] nA OUTPUT MUT [Reading]	E mkn 4	000 ma	0.0 0.0 0.0 0.012 0.010 -0.002 -16.67 4.000 3.992	5.0 7.2 1.989 1.590 0.010 0.49 5.145 5.132	mA OU TOTAL ACCUF ERROR 10.0 14.3 3.966 3.961 -0.003 -0.08 6.283 6.290	2.0 28.5 7.921 7.922 0.001 0.02	5.0 5.0 5.0 71.2 19.784 19.795 0.011 0.06	m/s % F.S. % F.S.	ye ye ON % or Flow Ranga PS PS PS %
REF. FLOW RATION (REF. FLOW RATION) AUT [Reading] AUT [Difference] AUT [W. Error] AND TOTAL AUT [Reading] AUT [Difference]	E mkn 4		0.0 0.0 0.0 0.012 0.012 0.010 -0.002 -16.67 4.000 3.992 -0.008	5.0 7.2 1.989 1 599 0.010 0.49 5.145 5 132 -0.013	MA OUTOTAL ACCUPERROR	2.0 2.0 2.0 2.0 2.0 28.5 7.921 7.922 0.001 0.02	5.0 5.0 50.0 71.2 19.784 19.785 0.011 0.06	m/s % F.S. W F.S.	Ye Ye Ye Ye Ye Ye ON % or Flow Ranga PS PS PS PS
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REF. FLOW RATION TO BE SIMUT [Reading] MUT [Difference] MUT [% Error] MUT [Reading] MUT [Difference] MUT [Difference] MUT [% Error]	min 4 max. 20	000 ma	0.0 0.0 0.0 0.012 0.012 0.010 -0.002 -16.67 4.000 3.992 -0.008	5.0 7.2 1.989 1 599 0.010 0.49 5.145 5 132 -0.013	mA OU TOTAL ACCUF ERROR 1.0 10.0 14.3 3.986 3.961 -0.003 -0.08 6.283 6.290 0.007	2.0 20.0 20.0 28.5 7.921 7.922 0.001 0.02 8.559 8.553 -0.006	5.0 5.0 5.0 50.0 71.2 19.784 19.795 0.011 0.06 15.386 15.386 15.387 0.001	m/s % F.S. % F.S.	Flow Ranga PS PS PS RanA nA
REF. FLOW RATION TO THE SIMPLE	min 4 max. 20	000 ma	0.0 0.0 0.0 0.012 0.012 0.010 -0.002 -16.67 4.000 3.992 -0.008	5.0 7.2 1.989 1 599 0.010 0.49 5.145 5 132 -0.013	mA OU TOTAL ACCUF ERROR 1.0 10.0 14.3 3.986 3.961 -0.003 -0.08 6.283 6.290 0.007	2.0 20.0 20.0 28.5 7.921 7.922 0.001 0.02 8.559 8.553 -0.006	5.0 5.0 5.0 50.0 71.2 19.784 19.785 0.011 0.06 15.386 15.386 0.001 0.00	m/s % F.S. % F.S.	Flow Range PS PS PS MnA nA nA
REF. FLOW RATI MUT [Reading] MUT [Difference] MUT [W Error] MA OUTPUT MUT [Reading] MUT [W Error] OTALIZER - REI OTALIZER [MUT EST TIME	min 4 max. 20 F. FLOW RATE	000 ma	0.0 0.0 0.0 0.012 0.012 0.010 -0.002 -16.67 4.000 3.992 -0.008	5.0 7.2 1.989 1 599 0.010 0.49 5.145 5 132 -0.013	mA OU TOTAL ACCUF ERROR 1.0 10.0 14.3 3.986 3.961 -0.003 -0.08 6.283 6.290 0.007	2.0 20.0 20.0 28.5 7.921 7.922 0.001 0.02 8.559 8.553 -0.006	5.0 5.0 5.0 50.0 71.2 19.784 19.785 0.011 0.06 15.386 15.386 0.001 0.00 19.784	m/s % F.S. % F.S. LL	Ye Y
REF. FLOW RATION TUBE SIME REF. FLOW RATION TO THE READING TO THE READING TO THE READING TO THE REST TIME CALC. TO TALIZER CALC.	min 4 max. 20 F. FLOW RATE	000 ma	0.0 0.0 0.0 0.012 0.012 0.010 -0.002 -16.67 4.000 3.992 -0.008	5.0 7.2 1.989 1 599 0.010 0.49 5.145 5 132 -0.013	mA OU TOTAL ACCUF ERROR 1.0 10.0 14.3 3.986 3.961 -0.003 -0.08 6.283 6.290 0.007	2.0 20.0 20.0 28.5 7.921 7.922 0.001 0.02 8.559 8.553 -0.006	5.0 5.0 50.0 71.2 19.784 19.795 0.011 0.06 15.386 15.386 0.001 0.00 19.784	m/s % F.S. % F.S. LL LL SECOND	ye ye Ye ye ON % or Flow Range PS PS PS MA AnA AA MA MA MA MO
REF. FLOW RATI AUT [Reading] AUT [Difference] AUT [X Error] AUT [Reading] AUT [X Error] AUT [X Error] OTALIZER - REI OTALIZER [MUT EST TIME CALC. TOTALIZE	min 4 max. 20 F. FLOW RATE	000 ma	0.0 0.0 0.0 0.012 0.012 0.010 -0.002 -16.67 4.000 3.992 -0.008	5.0 7.2 1.989 1 599 0.010 0.49 5.145 5 132 -0.013	mA OU TOTAL ACCUF ERROR 1.0 10.0 14.3 3.986 3.961 -0.003 -0.08 6.283 6.290 0.007	2.0 20.0 20.0 28.5 7.921 7.922 0.001 0.02 8.559 8.553 -0.006	5.0 5.0 50.0 71.2 19.784 19.795 0.011 0.06 15.386 15.387 0.001 0.00 19.784 3	m/s % F.S. % F.S. LL LL SECON	ye ye ye ON % or Flow Range PS PS PS Man A nA nA nA NA PS AG ONDS
REF. FLOW RATI MUT [Reading] MUT [Difference] MUT [% Error] MUT [Reading] MUT [Difference] MUT [% Error] MUT [% Error] MUT [MUT [MUT MUT [MUT MUT [MUT MUT MUT MUT MUT MUT MUT MUT MUT MUT	min 4 max. 20 F. FLOW RATE	000 ma	0.0 0.0 0.0 0.012 0.012 0.010 -0.002 -16.67 4.000 3.992 -0.008	5.0 7.2 1.989 1 599 0.010 0.49 5.145 5 132 -0.013	mA OU TOTAL ACCUF ERROR 1.0 10.0 14.3 3.986 3.961 -0.003 -0.08 6.283 6.290 0.007	2.0 20.0 20.0 28.5 7.921 7.922 0.001 0.02 8.559 8.553 -0.006	5.0 5.0 50.0 71.2 19.784 19.795 0.011 0.06 15.386 15.386 0.001 0.00 19.784 3	m/s % F.S. % F.S. LL LL SECON	ye ye Ye ye ON % or Flow Range PS PS PS MA AnA AA MA MA MA MO
REF. FLOW RATI MUT [Reading] MUT [Dilference] MUT (% Error) MA OUTPUT MUT [Reading] MUT [Dilference] MUT [% Error] FOTALIZER - REI OTALIZER [MUT EST TIME CALC. TOTALIZE	min 4 max. 20 F. FLOW RATE	000 ma	0.0 0.0 0.012 0.012 0.010 -0.002 -16.67 4.000 3.992 -0.008 -0.20	5.0 7.2 1.889 1.599 0.010 0.48 5.145 5.132 -0.013 -0.25	mA OU TOTAL ACCUF ERROR	2.0 2.0 20.0 28.5 7.921 7.922 0.001 0.02 8.559 8.553 -0.006 -0.07	5.0 5.0 5.0 50.0 71.2 19.784 19.795 0.011 0.06 15.386 15.386 0.001 0.00 19.784 3 15.176 3.002 -0.08	m/s % F.S. % F.S. LL LL SECON	Flow Range PS PS Man A MA M
REF. FLOW RATI AUT [Reading] AUT [Difference] AUT [W. Error] AUT [Reading] AUT [Difference] AUT [W. Error] OTALIZER - REI OTALIZER [MUT EST TIME CALC. TOTALIZE	min 4 max. 20 F. FLOW RATE	000 ma	0.0 0.0 0.012 0.012 -0.002 -16.67 4.000 3.992 -0.008 -0.20	5.0 7.2 1.889 1.599 0.010 0.48 5.145 5.132 -0.013 -0.25	mA OUTOTAL ACCURERROR 1.0 10.0 14.3 3.966 3.961 -0.003 -0.08 6.283 6.290 0.007 0.11	2.0 2.0 2.0 28.5 7.921 7.922 0.001 0.02 8.559 8.553 -0.006 -0.07	5.0 5.0 5.0 50.0 71.2 19.784 19.795 0.011 0.06 15.386 15.386 0.001 0.00 19.784 3 15.176 3.002 -0.08	m/s W.F.S. W.F.S. LL LL SECO	Flow Range PS PS PS MinA MA MinA MinA MinA MinA MinA MinA M
REF. FLOW RATI MUT [Reading] MUT [Dilference] MUT (% Error) MA OUTPUT MUT [Reading] MUT [Dilference] MUT [% Error] FOTALIZER - REI OTALIZER [MUT EST TIME CALC. TOTALIZE	min 4 max. 20 F. FLOW RATE	000 ma	0.0 0.0 0.012 0.012 0.012 -0.002 -16.67 4.000 3.992 -0.008 -0.20	5.0 7.2 1.889 1.599 0.010 0.49 5.145 5.132 -0.013 -0.25	mA OUTOTAL ACCURERROR 1.0 10.0 14.3 3.986 3.961 -0.003 -0.08 6.283 6.290 0.007 0.11	2.0 2.0 20.0 28.5 7.921 7.922 0.001 0.02 8.559 8.553 -0.006 -0.07	5.0 5.0 5.0 50.0 71.2 19.784 19.795 0.011 0.06 15.386 15.386 0.001 0.00 19.784 3 15.176 3.002 -0.08	m/s % F.S. % F.S. LL LL A SECC	Flow Range PS PS PS W MA MA MA MA W PS AJ ONDS M3 W PASS
REF. FLOW RATI MUT [Reading] MUT [Dilference] MUT (% Error) MA OUTPUT MUT [Reading] MUT [Dilference] MUT [% Error] FOTALIZER - REI OTALIZER [MUT EST TIME CALC. TOTALIZE	min 4 max. 20 F. FLOW RATE	000 ma	0.0 0.0 0.012 0.012 0.010 -0.002 -16.67 4.000 3.992 -0.008 -0.20	5.0 7.2 1.889 1.502 0.010 0.49 5.145 5.132 -0.013 -0.25 TY MANAGEME NFORMATION IENCE) FTS	MA OUTOTAL ACCUFERROR 1.0 10.0 14.3 3.996 3.961 -0.003 -0.08 6.283 6.290 0.007 0.11 NT STANDARD: IDENT.	2.0 2.0 20.0 28.5 7.921 7.922 0.001 0.02 8.559 8.553 -0.006 -0.07	5.0 5.0 5.0 50.0 71.2 19.784 19.795 0.011 0.06 15.386 15.386 15.386 15.386 3.001 0.001 0.00 19.784 3.002 -0.08	m/s % F.S. % F.S. LL LL A SECCION A SULTS AVG	Flow Ranga PS PS Man An A MA PS A A A B PS A A A A B PS A A A A B A B A A A B A B A B A B A B
REF. FLOW RATI MUT [Reading] MUT [Dilference] MUT (% Error) MA OUTPUT MUT [Reading] MUT [Dilference] MUT [% Error] FOTALIZER - REI OTALIZER [MUT EST TIME CALC. TOTALIZE	min 4 max. 20 F. FLOW RATE	000 ma	0.0 0.0 0.012 0.012 0.012 -16.67 4.000 3 992 -0 008 -0.20	5.0 7.2 1.889 1.509 0.010 0.49 5.145 5.132 -0.013 -0.25 TY MANAGEME NFORMATION LENCEJ FTS SS METER	MA OUTOTAL ACCUFERROR 1.0 10.0 14.3 3.996 3.963 -0.08 6.283 6.290 0.007 0.11 NT STANDARD: IDENT. KRO PM	2.0 20.0 20.0 28.5 7.921 7.922 0.001 0.02 8.559 8.553 -0.006 -0.07	5.0 5.0 5.0 50.0 71.2 19.784 19.795 0.011 0.06 15.386 15.386 15.386 15.386 25.387 0.001 0.00 19.784 3 25.176 3.002 -0.08	m/s % F.S. % F.S. LL LL N SECC	Flow Range PS PS Range PS Rang
FLOW TUBE SIM REF. FLOW RATI MUT [Reading] MUT (Difference) MUT (% Error)	min 4 max. 20 F. FLOW RATE	000 ma	0.0 0.0 0.012 0.012 0.012 -16.67 4.000 3 992 -0 008 -0.20	5.0 7.2 1.889 1.509 0.010 0.49 5.145 5.132 -0.013 -0.25 TY MANAGEME NFORMATION ENCEJ FTS SS METER G METER	MA OUTOTAL ACCUFERROR 1.0 10.0 14.3 3.996 3.961 -0.003 -0.08 6.283 6.290 0.007 0.11 NT STANDARD: IDENT.	2.0 2.0 20.0 28.5 7.921 7.922 0.001 0.02 8.559 8.553 -0.006 -0.07	5.0 5.0 5.0 50.0 71.2 19.784 19.795 0.011 0.06 15.386 15.386 15.386 15.386 3.001 0.001 0.00 19.784 3.002 -0.08	m/s % F.S. % F.S. LL LL A SECCION A SULTS AVG	Ye



Eastern Office 1602 Old Wooler Road Wooler, Ontario KOK 3M0

AS FOUND CERTIFICATION

FORWARD FLOW DIRECTION

PASS

CLIENT DETA	П								PA55
CUSTOMER		When the transfer and						UIPMEN'	T DETAIL
CONTACT	Don Irvin	West Highlands Hub				JT] MANUFACTUI	RER		Krohn
CONTACT		-				DEL			(FC010)
		Compliance Technici:	an .		SE	RIAL NUMBER		A	.99 1597.
		25-1938 x225			FU	SE		On B	oard Plui
	c 519-32								
	e dirvine	@ocwa com			PL	ANTID		Shelburn	e WWTI
					ME	TER ID			S Tank #
					FIT	ID			FIT-0
					CL	ENT TAG		OCW	A# 6247!
					OT	HER			N/A
VER, BY - FM					GP	S COORDINATES	i		N/A
Reference eq	pripment a	itandards Information and instrumentation n test is found in out	trend to			RIFICATION DATE	Si	eptember	
QMS docume	ent at the	time this test was				LFREQUENCY			Annua
					LA	L DUE DATE		Septem	ber, 2019
PROGRAMMIN	IG PARA	METERS				CODIA		- 1	
DIAMETER (DI		mm	100		40		ARD TOTALIZE		
F.S FLOW-M		LPS	62 B		_	FOUND LEFT		780902	
F.S. RANGE - (LPS	66 700					780903	
CAL. k-FACTO		GKL	5 24360		DIF	FERENCE		1	- 4100
		67/47	0 67300		4.0	Editor		TEST C	RITERIA
						FOUND CERTIFIC			Yes
						WARD FLOW DI			Yes
					ALI	OWABLE % ERI			5
					60	N/COTED DIGG.		DHENTS	TESTED
						NVERTER DISPLA OUTPUT	A.T		yes
						TALIZER			yes
						CURACY BASED (had one -		Yes
Zero Offset Flo	W	LPS	0.0200		FRI	ROR DOCUMENTED	M [% O.F]	DACCO	yes
		_				. OIL DOUBLING IT EL	IN THE REPURI	, DASED	UN % 0 F.
FLOW TUBE 5	IMULATIO	N							
			0.0	1.0	2.0	5.0	10.0	lm/s	
			0.0	10.0	20.0	50.0	100.0	% F.S.	Flow
			0.0	9.4	18.6	47.1	94.1		Range
REF. FLOW RA	TE		0.020	6,296	12.571	31,398	62,776		PS PS
MUT [Reading]			0.010	6 300	12 560	31 400	62 790		PS
MUT [Difference	₽ [-0.010	0 004	-0.011	0.002	0.014		PS
MUT [% Error]			-50.00	0 07	-0 09	0.01	0.02	_	%
mA OUTPUT		-	4.000	5.510	7.016	11.532	19.059		nΑ
MUT (Reading)		min. 4 000 mA	3.999	5 506	7 010	11 525	19 042		nA
MUT [Difference	e) (e	max. 20 000 mA	-0 005	-0.004	-0 006	-0.007	-0.017		nA
MUT [% Error]			-0.12	-0 08	-0.08	-0.06	-0.09		%
TOTALIZER - R		VRATE				0.50	62,776		PS PS
TOTALIZER IMI	UTJ						6	_	
FEST TIME							95 87		A3 ONOs i
CALC TOTALIZ	ER.						0.000		
ERROR							6.018		A3
							-0.31		%
OMMENTS									
			QUALI	TY MANAGEM	ENT STANDA	RDS INFO.	RES	SULTS	
			[OMS] I	NFORMATION	IDENT	ID#		AVG	PASS
				RENCE FTS	KRO	1	TEST		
				SS METER	PM	2	DISPLAY	% or	FAIL
				G METER	AM	N/A	mA OUTPUT	0 00	PASS
			STOP		SW	NIA	TOTALIZER	-0.09	PASS
							- COLLECT	-0 31	PASS
							I.	1	



Eastern Office 1602 Old Wooler Road Wooler, Ontario кок эмо

AS FOUND CERTIFICATION

FORWARD FLOW DIRECTION

PASS

CLIENT DETA	ılL.								PASS
CUSTOMER		est Highlands Hub			IMILITI	MANUFACTU		UIPMENT	
CONTACT	Don Irvine				MODE		RER		Krohn
	Process Co	impliance Technicia	iri			L NUMBER			IF C0 10[
	p 519-925				FUSE	ar HOWOEK			99 1597
	c 519-321-	9474			1001			Pull Plug	on boan
	e dirvine@	ocwa com			PLAN	T ID		Shelburn	. 140APEF
	_				METE				
					FIT ID	1110		RAS	Tank #2
						T TAG		OCINI	FIT 03
					OTHE			OCVV	V# 62480
VER, BY - FM	Travis Kray	elski				OORDINATES	ì		N/A
Quality Mana	gement Sta	ndards Informatio	Π-		-, -, -	77.	,		PHY
Reference ed	luioment an	d instrumentation	used to		VERIF	ICATION DAT	F	eplember	10 2010
conduct inis v	verilication li	est is found in nur	AC-			REQUENCY	- 3	ерненност	Annua
UMS docume	ent at the tim	ne this test was				DUE DATE		Septenit	
								achtern	JEI ZUIS
PROGRAMMII DIAMETER (DI		TERS mm	100				ARD TOTALIZE	R INFOR	MATION
F.S. FLOW - M	•	LPS	63.7		AS FO			8231859	M3
F.S. RANGE -		LPS	66 700		AS LE			8231676	! М3
CAL k-FACTO		GKL	5 3 1 8 0 0		DIFFE	RENCE		19	M3
SAL K-IACIO	""	CHALL	2 21600					TEST C	RITERIA
						UND CERTIFIC			Yes
						ARD FLOW D			Yes
					ALLOV	VABLE [14 ER			5
								ONENTS	TESTED
						ERTER DISPL	RΥ		yes
					mA Ol				yes.
					TOTAL				Yes
Zero Offset Flo	w	LPS	0.0400		ERROI	RACY BASED	UM (% O.C.)) IN THIS REPOR		yes
					Lintoi	COCOMENTE	A IN THIS REPUR	BASED	7.0 % MC
FLOW TUBE S	IMULATION								
			0.0	1.0	2.0	5.0	10.0	m/s	
			0.1	10.1	20.1	50.1	100.1	% F.S.	
REF. FLOW RA	ATE		0.040	9.6 6.405	19.1	47.8	95.5	% F.S.	
MUT [Reading]			0.040	5 390	12.771	31.867	63.694		P\$
MUT (Ditterence			-0.040	·D.015	12 765	31 870	63710		P\$
MUT (% Error)	~,		-100.00	-0.015 -0.24	-0.011 -0.08	0.003	0.016	_	PS
nA OUTPUT			4.000	5.537		0.01	0.03		%
WUT [Reading]	mi	in. 4 000 mA	3 997	5 531	7.063	11.644	19.279		τÁ
MUT (Difference	1	ax. 20 000 mA	-0.003	-0 006	7 003 0 000	11650	19 287		1A
MUT [% Error]	-' ''`	ES COO HAY	-0.08	-0.10		0.006	0 008		1A
OTALIZER - F	REF. FLOW F	RATE	-0.00	-0,10	-0.01	0 05	0.04		%
TOTALIZER (M							63.694	_	PS
EST TIME							7		43
CALC TOTALIZ	ZER						110 53	1	ONDS
RROR							7.065	1	13
							-0.94	1 1	%
COMMENTS							T		
					NT STANDARD		RE	SULTS	
				NFORMATION		ID#	TEST	AVG	PASS
				ENCE] FTS	KRO	1		%or	FAIL
				SS METER	PM	2	DISPLAY	-0.07	PASS
						1410			

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.

AM

SW

N/A

N/A

ANALOG METER

STOP WATCH

-0.02

-0.94

mA OUTPUT

TOTALIZER

PASS

PASS





Eastern Office 1602 Old Wooler Road Wooler, Ontario KOK 3M0

AS FOUND CERTIFICATION

FORWARD FLOW DIRECTION

PASS

CLIENT DETAIL			<u> </u>						PA 55
	DCWA - West Hight	ands Hub			IMUT	THANKIERCTHE		JIPMENT	
	Don Irvine	01702 1700			MOD] MANUFACTUR	CEK		Krohru
	Process Compliance	Tochnicia	4						IFC0100
	519-925-1938 ×22		l'			AL NUMBER			
,	519-321-9474				FUSE	-	ŧ	IFCC A99 1 Pultiplug on E Shelburne W Truck Fill FI OCWA# 6 September 19 Ar September 19 TOTALIZER INFORMAT 47402 47422 20 TEST CRITE	on Boar
	dirvine.@ocka.cor	in.			PLAN	IT ID			
	. diretting goonta con	,,			. —		4		
					METE			Truck	
					FIT IC	_			FIT-0
						NT TAG			n/a
VER. BY - FM	Pans Machok				OTHE	::K COORDINATES		OCVVA	
Quality Manage	ment Slandards I	niormatio	1-		0.0	OCCITORIATES			n/a
Reference equir	oment and instru	rentation i	used to		VERI	FICATION DATE	Se	otember	19 2018
conduct this ver	rification lest is for	ınd in bur	AC-			FREQUENCY		PIETITOCI	Annua
UMS document	at the time this te	st was				DUE DATE		Sentemb	
								G Cpterno	7C1 2015
PROGRAMMING DIAMETER (DN)			100				ARD TOTALIZE		
F.S. FLOW - MAG		nm .PS	100 60.4			DUND			
F.S. RANGE - O/	-	_			AS LE			47422	M3
CAL K-FACTOR	5.7	.PS	75 000		DIFF	ERENCE		20	I M3
CAL K-FACTOR	34	KL	5 04500					TEST CI	RITERIA
						DUND CERTIFIC			Yas
						NARD FLOW DI			Yes
					ALLO	WABLE [%] ERF	ROR		5
								NENTS	TESTED
						VERTER DISPLA	λΥ.		yes
						UTPUT			yes
						LIZER			Yes
Zero Offset Flow		PS	0.0100		ACCL	JRACY BASED (DN [% o.r.]		yes
Zero Oliset Flow		ro	0.0300		ERRC	OR DOCUMENTED	IN THIS REPORT	BASED	ON% pr
FLOW TUBE SIM	IULATION					· .			
			0.0	1.0	2.0	5.0	10.0	lm/s	
			0.0	10.0	20.0	50.0	100.0	% F.S.	Flow
			0.0	B.1	16.1	40.3	80.6	% F.S.	
REF. FLOW RATI	E		0.03	6,07	12.11	30,22	60.42		PS
MUT [Reading]			0.03	6.04	12.08	30 14	60.24	_	PS
MUT [Difference]			0 00	-0 03	-0.05	-0.0a	-0.18	_	PS .
MUT [% Error]			0 00	-0.47	-0,39	-0.27	-0 29	1 -	%
mA OUTPUT			4.000	5.295	6.583	10,448	16,989		nA
MUT [Reading]	min 4 0	00 mA	3 598	5 292	6 586	10.449	16 873		nA
MUT [Difference]	max. 20-0	100 mA	-0 002	-0.003	0.003	0.001	-0 016		nA
MUT [% Error)			-0 05	-0.05	0.05	0.01	-0.09		% %
TOTALIZER - RE	F. FLOW RATE					0,01	60,416		PS PS
TOTALIZER [MUT	Ŋ						15%] -	r3 //3
TEST TIME	•						245 91		onds
CALC TOTALIZE	R						0.40000000000		
ERROR							15 038		A3
							-0 25	<u> </u>	%
COMMENTS							T		
COMMENIS			OHÁLD	TY MANAGEM	ENT STANDAR	DS INFO.	RES	SULTS	
COMMENIS									
COMMENTS			[QMS] I	NFORMATION	IDENT.	ID#	TERT	AVG	PASS
COMMENIS			(QMS) I (REFER	NFORMATION RENCE] FTS			TEST	AVG % o.r	PASS
COMMENIS			(QMS) I (REFER PROCE	NFORMATION LENCE] FTS SS METER	IDENT. KRO PM	ID#	TEST		
COMMENIS			(QMS) I (REFER PROCE	NFORMATION RENCE] FTS	IDENT. KRO	ID#		% o.r	FAIL PASS
COMMENIS			(QMS) I (REFER PROCE	NFORMATION RENCE] FTS SS METER G METER	IDENT. KRO PM	ID#	DISPLAY	% o r -0 36	FAIL



Eastern Office 1602 Old Wooler Road Wooler, Ontario KOK 3M0

AS FOUND CERTIFICATION

PASS

CLIENT DETA	NL					700
CUSTOMER CONTACT	OCWA - West Highla Don Irvine Process Compliance p. 519-925-1938 x220	Technician		[MUT] MANUFACTURER MODEL CONVERTER SERIAL NUMBER		ETAIL Ironics ICM-III N/A
	c 519-321-9474					
	e dirvine@ocwa.com	7		PLANT ID METER ID	Shelburne V	
				FIT ID		FIT-05
				CLIENT TAG	OCWA#	62500
VED DV 514	160			OTHER		NIA
	Paris Machuk/Travis	*		GPS COORDINATES		N/A
conduct this	gement Standards fr quipment and instrum verification test is fou ent at the time this tes	entation used and in our AC-	lo	VERIFICATION DATE CAL. FREQUENCY CAL. DUE DATE	September 19 / Septembe	Annual
	NG PARAMETERS				TOTAL	LIZER
THROAT DIME		inches	9	AS FOUND	15271950	М3
EMPTY DISTA	NCE	w	0 870	AS LEFT	15271975	M3
MAX. HEAD DEAD ZONE		tu	0 345	DIFFERENCE	25	М3
DEAD ZONE BLANKING DIS	CTANCE	m	0.525		TEST CRIT	TERIA
MAX. FLOW	DIANCE	m LPS	0.305	AS FOUND CERTIFICATION TEST		Yes
F.S. RANGE	O/P	LPS	105.0 105.0	ALLOWABLE % ERROR		5
I D. IGARGE						ETEN
I S. HARGE				COM	ONENTS TE	
				CONVERTER DISPLAY	PONENTS TE	
. J. MARGE					ONENTS TE	yes ves
. J. MARGE				CONVERTER DISPLAY MA OUTPUT TOTALIZER	ONENTS TE	yes
	sor installed to ensure f	. N		CONVERTER DISPLAY mA OUTPUT		yes yes yes

AS FOUND TEST RE	SULTS								
				0,0	15.0	43.5	80.8	89.2	% F.S. Range
				0.600	0 100	0 200	0 300	0.320	m
REF. FLOW RATE				0.000	15.801	45.630	84.854	93,661	LPS
MUT (Reading)				0 000	16 100	45 230	84 400	93 086	LPS
MUT (Difference)			0.000	0.299	-0.400	-0.454	-0.575	LPS	
MUT (% Enor)				n/a	0.28	-0.38	-0.43	-0.55	%
mA OUTPUT				4.000	6.408	10.954	16,931	18.273	mA
MUT [Reading]	min.	4 000	mA	3 981	6 433	10 882	16.845	18 167	mΑ
MUT [Difference]	max.	20 000	mA	-0.019	0.025	-0.072	-D 088	-0.106	mA
MUT [% Error]				-0.10	0.13	-0.36	-0.44	-0.53	%
TOTALIZER - REF. FL	OW RA	TE					0.77	93.661	LPS
TOTALIZER [MUT]								10	
TEST TIME								107.82	M3
CALC. TOTALIZER									SECONDS
ERROR								10 099	M3
								-0 99	(% I

COMMENTS	QUALITY MANAGEMENT	O. RE	RESULTS		
	IQMS INFORMATION ID	ENT. ID m BOARD n/	TEST	AVG %FS -0.27 -0.26 -0.99	PASS FAIL PASS PASS
	STOP WALLET	rv n/			





Eastern Office 1602 Old Wooler Road Wooler, Ontario KOK 3MO

AS FOUND CERTIFICATION FORWARD FLOW DIRECTION

PASS

O. 15415 D. 22							PASS
CLIENT DETA						EQI	JIPMENT DETAIL
CUSTOMER	OCWA - West H	ighlands Hub		[MUT]	MANUFACTURE	ER	ROSEMOUN
CONTACT	Don frane			MODE			871
	Process Camplia		an	CONV	ERTER SERIAL	NUMBER	086018815
	p 519-925-1938	×225					
	c 519 321-9474						
	e dirvine@ocwa	com		PLAN1	ΓID		Shelburne WW/TI
				METE	R ID	1	Raw Sewage Flo
				FITID			FIT-0
				CLIEN	TTAG		n/
				OTHE	R		cl.
	Pans Machuk			GPS C	OORDINATES		n/.
Reference eq	Puality Management Standards Information - Leference equipment and instrumentation used to onduct this verification test is found in our AC- IMS document at the time this test was			VERIF	ptember 19 2018		
QMS docume	ent at the time this	s lesi was		CAL. FREQUENCY CAL. DUE DATE			Annua
				ONL	OL DAIL		September 2019
PROGRAMMII DIAMETER (DI	NG PARAMETERS				FORWA	RD TOTALIZE	R INFORMATION
F.S. FLOW - M		mm	200	AS FO		81	95950720 LITER
F.S. FLUVV - M F.S. RANGE - 1		LPS	387 3	AS LEFT			LITER
		LPS	150 000				95950720 LITER
TUBE CAL. FA	CIOR	1	025505911000011				TEST CRITERIA
				AS FQ	UND CERTIFICA	ATION TEST	Ye
				FORW	ARD FLOW DIR	ECTION	Ye
				ALLOV	VABLE [%] ERRO	OR	
					• •		NENTS TESTED
				CONV	ERTER DISPLAY		Ye:
				mA OU	TPUT		ve:
				TOTAL	IZER		ya:
				ACCURACY BASED ON [% or [
	CAL. FACTOR	1	000015010000000	ERROF	DOCUMENTED I	N THIS REPORT	BASED ON % a.r
16-digits) FLOW TUBE S	THUI ATION						
CO11 10DC 3	IMOLATION		1 0 1	1 .	1	1	1
DISPLAY			0.000	3 000	10	30	fVs
AUT Reading			0 000	3 000	10 000	30 000	it/s
AUT % Error			n/a	0.00	10 000	30 010	ft/s
A OUTPUT			4.000	5,600	0 00	0.03	%
IUT Reading	4	mA.	3 909	5.600	9 333	20.000	mA
IUT % Error	20	mA	-0 02	0.02	9.336	20 009	mA
OTALIZER				0.02	1 0.03	0.05	%
EST Accumula	alion					30.00	ft/s
IME	***					2032 00	n
ALC Velocity						67 69	seconds
6 Error						30.02	ft/s
						D 06	%

"All values are for "As Found" values.

QUALITY MANAGEMENT S	QUALITY MANAGEMENT STANDARDS INFO.			
[QMS] INFORMATION IDEN	IT ID#		AVG	PASS
(REFERENCE) FTS ROS	1	TEST	% or	FAIL
PROCESS METER PM	11	DISPLAY	0.01	PASS
ANALOG METER AM	r/a	mA QUTPUT	0.03	PASS
STOP WATCH SW	Yes	TOTALIZER	0.06	PASS



Western Office London, Ontario NSV 3P6

Eastern Office 2088 Jetstream Road 1602 Old Wooler Road Wooler, Ontario кок эмо

MAGMASTER Verification Report

AS FOUND CERTIFICATION

FORWARD FLOW DIRECTION

PASS

CLIENT DETA	AIL.				EQUIPMENT DE	ETAIL
CUSTOMER	OCWA - West High	ilands H	ub	[MUT] MANUFACTURER	EGOIPMENT DE	ABB
CONTACT	Don Irvine			MODEL	Mank	Master
	Process Compliano	e Techn	lician	CONVERTER SERIAL NUMBER		
	p 519-925-1938 x2	25		FUSE	Panel G - Break	
	c 519-321-9474			·		1141 174
	e dirvine@ocwa co	m		PLANT ID	Shelburna V	MA/TP
				METER ID	Storm Return	
				FIT ID		FIT-08
				CLIENT TAG		N/A
				OTHER		18/A
VER, BY - FM	Travis Krayetski			GPS COORDINATES N44	05 063 W080 1	
Quality Mana	agement Standards I	Informa	ition -			
Reference ed	quipment and instrur verification test is fo	mentali	on used to	VERIFICATION DATE	September 19	2018
conduct this	verification lest is fo	und in o	our AC-	CAL. FREQUENCY		\nnual
	IMS document at the time this test was					
UMS docum	ent at the time this to	esi was	•	CAL DUE DATE	September:	
		esi was			September	2019
PROGRAMMI	NG PARAMETERS		<u></u>	FORWARD TOTA	September	2019
PROGRAMMI DIAMETER (D	NG PARAMETERS	mm	200	FORWARD TOTAL	September ALIZER INFORMA 539764	2019
PROGRAMMI DIAMETER (D F.S. FLOW - N	NG PARAMETERS (N) MAG	mm LPS	200 468.4	FORWARD TOTA AS FOUND AS LEFT	September	2019 TION
PROGRAMMI DIAMETER (D F.S. FLOW - N F.S. RANGE -	NG PARAMETERS (N) MAG O/P	mm	200 468.4 100 000	FORWARD TOTAL	September ALIZER INFORMA 539764 539783 19	2019 ATION M3 M3 M3
PROGRAMMI DIAMETER (D F.S. FLOW - N	NG PARAMETERS (N) MAG O/P	mm LPS	200 468.4	FORWARD TOTA AS FOUND AS LEFT DIFFERENCE	September ALIZER INFORMA 539764 539783 19 TEST CRIT	2019 ATION M3 M3 M3
PROGRAMMI DIAMETER (D F.S. FLOW - N F.S. RANGE -	NG PARAMETERS (N) MAG O/P	mm LPS	200 468.4 100 000	FORWARD TOTA AS FOUND AS LEFT DIFFERENCE AS FOUND CERTIFICATION TE	September ALIZER INFORMA 539764 539783 19 TEST CRIT	2019 ATION M3 M3 M3
PROGRAMMI DIAMETER (D F.S. FLOW - N F.S. RANGE -	NG PARAMETERS (N) MAG O/P	mm LPS	200 468.4 100 000	FORWARD TOTA AS FOUND AS LEFT DIFFERENCE AS FOUND CERTIFICATION TE FORWARD FLOW DIRECTION	September ALIZER INFORMA 539764 539783 19 TEST CRIT	ATION M3 M3 M3 M3 ERIA
PROGRAMMI DIAMETER (D F.S. FLOW - N F.S. RANGE -	NG PARAMETERS (N) MAG O/P	mm LPS	200 468.4 100 000	FORWARD TOTAL AS FOUND AS LEFT DIFFERENCE AS FOUND CERTIFICATION TE FORWARD FLOW DIRECTION ALLOWABLE [M] ERROR	September ALIZER INFORMA 539764 539763 19 TEST CRIT	ATION M3 M3 M3 ERIA Yes Yes
PROGRAMMI DIAMETER (D F.S. FLOW - N F.S. RANGE -	NG PARAMETERS (N) MAG O/P	mm LPS	200 468.4 100 000	FORWARD TOTAL AS FOUND AS LEFT DIFFERENCE AS FOUND CERTIFICATION TE FORWARD FLOW DIRECTION ALLOWABLE [%] ERROR C	September ALIZER INFORMA 539764 539783 19 TEST CRIT	ATION M3 M3 M3 ERIA Yes Yes
PROGRAMMI DIAMETER (D F.S. FLOW - N F.S. RANGE -	NG PARAMETERS (N) MAG O/P	mm LPS	200 468.4 100 000	FORWARD TOTAL AS FOUND AS LEFT DIFFERENCE AS FOUND CERTIFICATION TE FORWARD FLOW DIRECTION ALLOWABLE [1/4] ERROR CONVERTER DISPLAY	September ALIZER INFORMA 539764 539763 19 TEST CRIT	ATION M3 M3 M3 ERIA Yes Yes
PROGRAMMI DIAMETER (D F.S. FLOW - N F.S. RANGE -	NG PARAMETERS (N) MAG O/P	mm LPS	200 468.4 100 000	FORWARD TOTAL AS FOUND AS LEFT DIFFERENCE AS FOUND CERTIFICATION TE FORWARD FLOW DIRECTION ALLOWABLE [%] ERROR CONVERTER DISPLAY THAN OUTPUT	September ALIZER INFORMA 539764 539763 19 TEST CRIT	ATION M3 M3 M3 ERIA Yes Yes STED
PROGRAMMI DIAMETER (D F.S. FLOW - N F.S. RANGE -	NG PARAMETERS (N) MAG O/P	mm LPS	200 468.4 100 000	FORWARD TOTALIZER FORWARD TOTALIZER FORWARD CERTIFICATION TE FORWARD FLOW DIRECTION ALLOWABLE [14] ERROR CONVERTER DISPLAY TOTALIZER	September, ALIZER INFORMA 539764 539783 19 TEST CRIT	TION M3 M3 M3 FERIA Yes Yes STED
PROGRAMMI DIAMETER (D F.S. FLOW - N F.S. RANGE -	NG PARAMETERS (N) MAG O/P	mm LPS	200 468.4 100 000	FORWARD TOTAL AS FOUND AS LEFT DIFFERENCE AS FOUND CERTIFICATION TE FORWARD FLOW DIRECTION ALLOWABLE [%] ERROR CONVERTER DISPLAY THAN OUTPUT	September, ALIZER INFORMA 539764 539783 19 TEST CRIT	XTION M3 M3 M3 Yes yes yes yes yes

FLOW TUBE SIMUL		г	0.0					
		- 1-	0.0	0.2	0.5	1.0	2.0	m/s
			0	2	5	10	20	% F.S. Flow
			0.0	9,4	23.4	46.8	93.7	% F.S. Range
REF. FLOW RATE		1	0.00	9.37	23.42	46.64	93.68	LPS
MUT [Reading]			0.00	933	23.42	46 83	5368	LPS
MUT [Difference]			0 00	-0 04	0.00	-0 01	0.00	LPS
MUT (% Error)			n/a	-0.41	0.00	-0 03	0.00	%
mA OUTPUT			4.000	5.499	7.747	11,495	18,989	Am
MUT [Reading]	min. 4 000	mA	3 991	5 493	7 732	11 471	10 954	mΑ
MUT [Difference]	max. 20 000	mA	-0.009	-0 006	-0.015	-0 024	-0.035	mA
MUT [% Error]			-0.22	-0.11	-0.20	-0 21	-0.19	%
TOTALIZER - REF. F	LOW RATE						93.683	LPS
TOTALIZER (MUT)							10	M3
TEST TIME							107 04	SECONDS
CALC TOTALIZER							10.028	M3
ERROR							-0 28	%

QUALITY MANAGEMENT STAP	IDARDS INFO.	ARDS INFO.		SULTS	
IQMS) INFORMATION IDENT	ID#		LAVG	PASS	
[REFERENCE] FTS ABBMM	2	TEST	% or	FAIL	
PROCESS METER PM	N/A	DISPLAY	-0.11	PASS	
ANALOG METER AM	N/A	mA OUTPUT	-0 18	PASS	
STOP WATCH SW	N/A	TOTALIZER	-0.28	PASS	



Western Office London, Ontario N5V 3P6

Eastern Office 2088 Jetstream Road 1602 Old Wooler Road Wooler, Ontario KOK 3MO

MAGMASTER Verification Report

AS FOUND CERTIFICATION

FORWARD FLOW DIRECTION

PASS

CLIENT DETA	AIL		·	FOURIER	DET 441
CUSTOMER	OCWA - West Hight	ands Hu	ub	EQUIPMENT [MUT] MANUFACTURER	
CONTACT	Don Irvine			A A MARIA MARIA	ABB
	Process Compliance	1echn	cian	1110	gMaster
	p 519 925 1938 x22			GONVERTER SERIAL NUMBER 3K620001 FUSE Panel G - Bre	
	c 519-321-9474			rangi G · Big	:aker#4
	e dirvine@ocwa.com	n		PLANT ID Shelburne	LARAZTO
				A CONTRACTOR AND ADDRESS OF THE ADDR	rm Flow
				FIT ID	FIT-07
				CLIENT TAG	N/A
				OTHER	N/A
VER BY - FM	Travis Krayetski			GPS COORDINATES N44 05 053 W080	11 535
Quality Mana	igement Standards (រាចែណាង	tion -		
Reference ed	uioment and instruc	nentatic	on used to	VERIFICATION DATE September 1	9 2018
	100 47				
conduct this	verification test is fou	and in c	our AC-	CAL FREQUENCY	
conduct this	verification test is fou ent at the time this te	and in c	our AC-	CAL FREQUENCY	Annual
QMS docume	verification test is fou ent at the time this te	and in c	жіг АС-	CAL FREQUENCY	Annual
OMS docume	verification test is fou and at the time this te NG PARAMETERS	und in d		CAL FREQUENCY CAL DUE DATE September	Annual er 2019
PROGRAMMII DIAMETER (D	verification test is fou ent at the time this te NG PARAMETERS N)	und in destanding of the second secon	250	CAL FREQUENCY	Annual er 2019
PROGRAMMII DIAMETER (D F.S. FLOW - N	verification test is found to the lime this te the lime this te the lime this te the lime this term of the lime this term of the lime this term of the lime	und in cost was	250 670.8	CAL FREQUENCY CAL DUE DATE Septembr	Annual er 2019 AATION M3
PROGRAMMA DIAMETER (D F.S. FLOW - N F.S. RANGE -	verification test is found at the time this te	and in cest was	250 670.8 200 000	CAL FREQUENCY CAL DUE DATE Septembr FORWARD TOTALIZER INFORM AS FOUND 516708	Annual er 2019 AATION M3
PROGRAMMII DIAMETER (D F.S. FLOW - N	verification test is found at the time this te	und in cost was	250 670.8	CAL FREQUENCY CAL DUE DATE September FORWARD TOTALIZER INFORM AS FOUND 516708 AS LEFT 516734	Annual er 2019 MATION M3 M3
PROGRAMMA DIAMETER (D F.S. FLOW - N F.S. RANGE -	verification test is found at the time this te	and in cest was	250 670.8 200 000	CAL FREQUENCY CAL DUE DATE Septembrie FORWARD TOTALIZER INFORM AS FOUND \$16708 AS LEFT \$16734 DIFFERENCE 26	Annual er 2019 MATION M3 M3
PROGRAMMA DIAMETER (D F.S. FLOW - N F.S. RANGE -	verification test is found at the time this te	and in cest was	250 670.8 200 000	CAL. FREQUENCY CAL. DUE DATE FORWARD TOTALIZER INFORM AS FOUND AS LEFT DIFFERENCE 26 AS FOUND CERTIFICATION TEST FORWARD FLOW DIRECTION	Annual er 2019 MATION M3 M3 M3
PROGRAMMII DIAMETER (D F.S. FLOW - M F S. RANGE -	verification test is found at the time this te	and in cest was	250 670.8 200 000	CAL. FREQUENCY CAL. DUE DATE FORWARD TOTALIZER INFORM AS FOUND AS LEFT DIFFERENCE 26 TEST CR	Annual er 2019 MATION M3 M3 M3 M3 HTERIA Yes
PROGRAMMA DIAMETER (D F.S. FLOW - N F.S. RANGE -	verification test is found at the time this te	and in cest was	250 670.8 200 000	CAL. FREQUENCY CAL. DUE DATE FORWARD TOTALIZER INFORM AS FOUND AS LEFT 516734 DIFFERENCE 26 TEST CR AS FOUND CERTIFICATION TEST FORWARD FLOW DIRECTION ALLOWABLE [%] ERROR COMPONENTS T	Annual er 2019 MATION M3 M3 M3 IITERIA Yes Yes 5
PROGRAMMA DIAMETER (D F.S. FLOW - N F.S. RANGE -	verification test is found at the time this te	and in cest was	250 670.8 200 000	CAL. FREQUENCY CAL. DUE DATE FORWARD TOTALIZER INFORM AS FOUND AS LEFT DIFFERENCE 26 AS FOUND CERTIFICATION TEST FORWARD FLOW DIRECTION ALLOWABLE [%] ERROR	Annual er 2019 MATION M3 M3 M3 IITERIA Yes Yes 5
PROGRAMMA DIAMETER (D F.S. FLOW - N F.S. RANGE -	verification test is found at the time this te	and in cest was	250 670.8 200 000	CAL. FREQUENCY CAL. DUE DATE FORWARD TOTALIZER INFORM AS FOUND AS LEFT 516734 DIFFERENCE 26 TEST CR AS FOUND CERTIFICATION TEST FORWARD FLOW DIRECTION ALLOWABLE [%] ERROR COMPONENTS T	Annual er 2019 MATION M3 M3 M3 HTERIA Yes Yes ESTED yes
PROGRAMMA DIAMETER (D F.S. FLOW - N F.S. RANGE -	verification test is found at the time this te	and in cest was	250 670.8 200 000	FORWARD TOTALIZER INFORM AS FOUND 516708 AS LEFT 516734 DIFFERENCE 26 TEST CR AS FOUND CERTIFICATION TEST FORWARD FLOW DIRECTION ALLOWABLE [%] ERROR COMPONENTS TOTALIZER	Annual er 2019 MATION M3 M3 M3 HITERIA Yes Yes S ESTED yes yes
PROGRAMMA DIAMETER (D F.S. FLOW - N F.S. RANGE -	verification test is found at the time this te	and in cest was	250 670.8 200 000	FORWARD TOTALIZER INFORM AS FOUND 516708 AS LEFT 516734 DIFFERENCE 26 TEST CR AS FOUND CERTIFICATION TEST FORWARD FLOW DIRECTION ALLOWABLE 1% ERROR COMPONENTS T	Annual er 2019 MATION M3 M3 M3 W5 M3 WFESTED

FLOW TUBE SIMUL	ATION						
		0.0	0.2	0.5	1.0	2.0	m/s
		0	2	5	10	20	% F.S. Flow
		0.0	6.7	16.8	33.5	67.1	% F.S. Range
REF. FLOW RATE		0.00	13.42	33,54	67.08	134.16	LPS
MUT (Reading)		0.00	13.39	33.55	6703	134 15	LPS
MUT [Difference]	0.00	-0.03	0.01	-0.05	-0.01	LPS	
MUT [% Error]		n/a	-0.19	0.03	-0.07	0.00	%
mA OUTPUT		4.000	5.073	6.683	9.366	14.732	mA
MUT [Reading]	min. 4 000 mA	3 991	5 062	6 672	9 347	14.704	mA
MUT [Difference]	max. 20 000 mA	-0 009	-0.011	-0 011	-0.019	-0 028	mA
MUT (% Error)		-0.22	-0.22	-0.17	-0.21	-0.19	%
TOTALIZER - REF. F	LOWRATE					134,156	LPS
TOTALIZER [MUT]						17	M3
TEST TIME						126 86	SECONDS
CALC. TOTALIZER						17.019	M3
ERROR						-0.11	%
						-2.11	70

QUALITY MANAGEMENT	QUALITY MANAGEMENT STANDARDS INFO.				
[QMS] INFORMATION ID	ENT	ID#		AVG	PASS
(REFERENCE) FTS A	ВВИМ	1	TEST	%or	FAIL
PROCESS METER PI	М	1	DISPLAY	-0.06	PASS
ANALOG METER A	M	NIA	mA OUTPUT	-0.20	PASS
STOP WATCH ST	w	Yes	TOTALIZER	-0 11	PASS



Eastern Office 1602 Old Wooler Road Wooler, Ontario KOK 3M0

ABB MAGMASTER Verification Report

AS FOUND CERTIFICATION

FORWARD FLOW DIRECTION

PASS

CLIENT DETA	PI				PASS
CUSTOMER CONTACT	OCWA - West F Don Irvine Process Compli- p 519-925-1938 c 519-321-9474	ance Techn 1 x225			[MUT] MANUFACTURER MODEL CONVERTER SERIAL NUMBER FUSE EQUIPMENT DETAIL ABB MagMaster 3K620000015302 Panel G = Breaker #8
	e dirvine@ocwa				PLANT ID Shelburne WWTP METER ID Sludge Transfer Flow FIT ID FIT-09 CLIENT TAG N/A OTHER
VER. BY - FM Travis Krayetski					GPS COORDINATES N44 05 063 W080 11 535
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 CAL. FREQUENCY CAL. DUE DATE September 19 2018 September 2019
PROGRAMMIN DIAMETER (DI	NG PARAMETER		-		FORWARD TOTALIZER INFORMATION
F S. FLOW - M		mm LPS	200 468 7		AS FOUND 27652 M3
F.S. RANGE - (LPS	80 860		AS LEFT 27664 M3 DIFFERENCE 12 M3
TUBE CAL. FA	CTOR	1	1 49 194		12 1113
					AS FOUND CERTIFICATION TEST CRITERIA AS FOUND CERTIFICATION TEST FORWARD FLOW DIRECTION ALLOWABLE [%] ERROR TEST CRITERIA Yes 5
					COMPONENTS TESTED
				· ·	CONVERTER DISPLAY yes mA OUTPUT yes TOTALIZER yes
					ACCURACY BASED ON [% o.r.] ERROR DOCUMENTED IN THIS REPORT, BASED ON % o.r.
FLOW TUBE S	IMULATION		0.0	0.1	0.2 0.5 1.0 m/s

FLOW TUBE SIMULA	TION							
		0.0	0.1	0.2	0.5	1.0	mis	
		0	5.9	11.7	5 29.3	10 58,6	% F.S. Flow	
		0.0					% F.S. Range	
REF. FLOW RATE		0.00	4.69	9.37	23.44	46.87	LPS	
MUT [Reading]			4 68	9 34	23 42	45.74	LPS	
MUT (Difference)	0.00	-0.01	-0.03	-0 02	-0.13	LPS		
MUT (% Error)		n/a	-0.15	-0 36	-0 07	-0.28	%	
mA OUTPUT	1	4.000	4.937	5.875	8.687	13,374	mA	
MUT [Reading]	min. 4 000 mA	3 992	4 923	€ 860	8 664	13 333	mA	
MUT (Difference)	max. 20 000 mA	800 0-	-0.015	-0 015	-0.023	-0 041	mA	
MUT (% Error)		-0.20	-0 31	-0.25	-0 27	-0.31	%	
TOTALIZER - REF. FLOW RATE							LPS	
TOTALIZER (MUT)						5	M3	
TEST TIME						106 84	SECONDS	
CALC TOTALIZER						5.008	M3	
ERROR						-0.15	1 %	

COMMENTS	QUALITY MANAGEMENT	RESULTS				
	[QMS] INFORMATION ID		ID#	TEST	AVG % 0 F	PASS
	[REFERENCE] FTS A					
		М	1.	DISPLAY	-0.21	PASS
	ANALOG METER A	М	NIA	mA OUTPUT	-0.27	PASS
	STOP WATCH S	W	Yes	TOTALIZER	-0 15	

2018 Annual Performance Report Shelburne Wastewater Treatment Plant Amended Environmental Compliance Approval No. 6413-ABLQQS

Appendix D

Process Flow Schematic

2018

