



# Meaford Water Pollution Control Plant Annual Report for the year 2020

## Environmental Compliance Approval: 9036-AZFPV6

This 2020 Report for the above-referenced facility summarizes the performance and related activities in accordance with ECA; Condition 11 (4) a through m as follows;

**Table 1: Sampling Type and Frequency**

Source (Composite)	Parameter	Frequency	Method
Influent	Flow (m3)	Daily	Flow Meter
	CBOD5, TSS, TP, TKN, Ammonia Nitrogen, Nitrite & Nitrate Nitrogen, Alkalinity, pH	Monthly	External Analysis
Effluent	Flow (m3)	Daily	Open Channel Flow Meter
	CBOD5, TSS, TP, TKN, Ammonia Nitrogen, Nitrite & Nitrate Nitrogen	Weekly	External Analysis
	E. Coli	Weekly	External Analysis
	pH	Weekly	In-House & External Analysis
	Temperature	Weekly	In-House & External Analysis

## Introduction

The Municipality of Meaford is pleased to provide the Ministry of the Environment, Conservation and Parks (MECP) with the 2020 Annual Report for the Meaford Water Pollution Control Plant. In 2020 the Meaford WPCP operated under the Environmental Compliance Approval Number 9036-AZFPV6 dated October 10, 2018.

The Report is designed to inform the MECP of the quality of effluent being discharged from this plant. The entire treatment process at the Meaford Water Pollution Control Plant can best be described as a “transformation”.

A transformation from a harmful wastewater into two useful end products:

- a) A disinfected treated effluent
- b) An agricultural liquid fertilizer

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## System Description

The Meaford WPCP is a high rate plant consisting of three remote and one onsite sewage pumping stations. The facility is located in a residential area, which is susceptible to noise and odour complaints. The facility has received significant improvements over the past several years, including the addition of a leachate/septic receiving facility during 2005. Also during this upgrade, the headworks was upgraded with the addition of a fine screen and auger system, the mechanical aeration was replaced with fine air diffusers/blowers, and the chlorine disinfection system was replaced with a UV disinfection system. Past upgrades include the Bighead Pumping station (#1) replacement in 1991, the #3 Station (highway 26 West) was replaced in 1994, and in 1996 the additional biosolids storage facility was completed. In 2014, the existing generator at the main plant was replaced with a new 120kW generator.

- Capacity: 3,910 m<sup>3</sup>/day
- Classification: Class 3 Wastewater Collection, Class 2 Wastewater Plant
- Service Area: Municipality of Meaford
- Service Population: 4,749
- In Service Date: 1970
- Effluent Receiver: Georgian Bay
- Major Plant Processes: High Rate Process with Continuous Effluent Discharge  
Continuous Ultraviolet Disinfection (new in 2005)  
No Phosphorus Removal  
Aerobic Digestion with agricultural land disposal of biosolids

## Sampling Procedures

**Table 2: Raw Sewage Monitoring**

Parameters	Sample Type	Frequency
CBOD5	Composite	Monthly
Total Suspended Solids	Composite	Monthly
Total Phosphorus	Composite	Monthly
Total Kjeldahl Nitrogen	Composite	Monthly
Ammonia Nitrogen	Composite	Monthly
Nitrite + Nitrate Nitrogen	Composite	Monthly
Alkalinity, pH	Composite	Monthly

**Table 3: Effluent Monitoring**

Parameters	Sample Type	Frequency
CBOD5	Composite	Weekly
Total Suspended Solids	Composite	Weekly
Total Phosphorus	Composite	Weekly
Total Kjeldahl Nitrogen	Composite	Weekly
Ammonia Nitrogen	Composite	Weekly
Nitrite + Nitrate Nitrogen	Composite	Weekly
pH	Grab	Weekly
Escherchia Coli	Grab	Weekly
Temperature	Grab	Weekly

Aerobic sludge is collected and tested as per the sampling requirements found in Schedule D in ECA #9036-AZFPV6

All chemical and bacteriological sample analyses are conducted by an accredited lab, SGS Lakefield Research Ltd.

## Flows

The total flow treated in 2020 was 1,057,485 m3. The 2020 annual average daily flow was 2,919 m3 per day, operating at 74.7% of the design capacity. The Maximum peak daily flow of 236 L/s occurred in August 2020 which was caused by heavy rains.

**Table 4: 2019 and 2020 Daily Flow Data**

	Average Day 2019 m3	Average Day 2020 m3	Peak Day 2019 m3	Peak Day 2020 L/s	Total Month 2019 m3	Total Month 2020 m3
January	2,710	3,462	6,150	158	84,004	107,320
February	3,228	2,445	12,546	140	90,378	70,940
March	3,937	3,842	14,268	156	122,044	119,103
April	5,469	2,775	12,792	154	164,080	83,245
May	3,918	2,421	10,332	129	121,443	75,046
June	2,607	2,206	6,396	162	78,218	66,176
July	2,032	2,119	6,642	145	62,997	65,679
August	1,779	3,108	6,396	236	55,147	96,344
September	1,856	2,568	13,284	147	55,693	77,038
October	2,045	2,860	6,642	149	63,405	88,671
November	2,982	2,986	6,150	133	89,449	89,569
December	2,790	3,818	5,904	154	86,485	118,354
Totals					1,073,343	1,057,485

## Plant Performance & Effluent Quality

There were no operating problems encountered or corrective actions required at the Meaford Water Pollution Control Plant, however the plant ran at half capacity for a portion of the year due to the Planned maintenance project that was taking place on Clarifier #2. All repairs/maintenance can be found in the Maintenance and Calibration Activities section.

Detailed (daily) analytical data is available at the Meaford WPCP office. The annual and monthly averages and loadings are summarized below.

Although the Meaford WPCP is designed as a High Rate Activated Sludge Plant, it continues to perform well, being operated as an activated sludge plant. During 2020, all annual loading limits and monthly average concentration limits were met as per the Certificate of Approval.

All lab analysis for the Meaford WPCP were tested by an accredited lab, SGS Lakefield, and collected as per Guidelines set by the Ministry of Environment, Conservation and Parks.

**Table 5: Treatment Efficiency and Loading Limits**

	Annual Average Raw	Annual Average Effluent	Annual Average Loading Limits	Efficiency %
CBOD	109.50	4.10	11.82	96.3
T.S.S	66	5	14.90	92.2
Total Phosphorus	1.69	1.47	4.25	13.0
Ammonia Nitrogen	15.20	0.54		96.5

Loading Limits

	CBOD Annual Avg. (Limit 78.2kg/d)	TSS Annual Avg. (Limit 78.2kg/d)	Phosphorus Annual Avg. (Limit 15.6kg/d)
January	14.539	17.308	3.351
February	9.784	13.453	3.143
March	10.757	12.293	3.066
April	6.243	6.243	3.433
May	7.262	10.288	2.802
June	7.499	8.381	4.125
July	19.913	26.269	5.211
August	14.916	16.781	4.792
September	8.987	11.554	5.405
October	11.440	15.015	5.198
November	13.732	18.509	4.490
December	12.407	16.224	3.541

The final effluent E-coli maximum monthly geometric mean density was 70.6 per 100ml.

### Effluent Objectives and Limits

The effluent from the facility did not meet the monthly Total Phosphorus objective for July, and September 2020 due to the fact there is no phosphorus removal in the plant. All other effluent objectives and limits were met for 2020.

### By-passing, Overflow and Abnormal Conditions

There were no bypass events at the Meaford WPCP during 2020.

There were 4 instances of overflow conditions during 2020 at the WPCP, summarized in table below.

EVENT # (YYYY-##)	LOCATION	RECEIVING WATER	VOLUME (m <sup>3</sup> )	APPROX. START	APPROX. END	DURATION (HRS)
2020-01	WWTP	Georgian Bay	919 m <sup>3</sup>	June 10 19:30	June 11 12:30	17 hrs
2020-02	WWTP	Georgian Bay	887.69 m <sup>3</sup>	June 23 13:37	June 24 05:55	16.33 hrs

2020-03	WWTP	Georgian Bay	234.2 m <sup>3</sup>	July 12 13:09	July 13 02:05	13 hrs
2020-04	WWTP	Georgian Bay	1966 m <sup>3</sup>	Aug 28 23:17	Aug 29 19:35	20.25 hrs

### Maintenance and Calibration Activities

Plant maintenance, including non-scheduled maintenance is monitored using a manual workorder system. Detailed maintenance reports are available. All routine and preventative maintenance was conducted as scheduled in 2020. All three (3) standby generators were tested on a monthly basis.

3<sup>rd</sup> Party Calibration reports can be found in Appendix A.

A number of repairs or improvements to equipment on the works were made or identified in 2020 as follows:

#### Plant:

Clarifier #2 all internal components and mechanisms replaced.  
 Return Sludge Slip Valves #1 and #2 replaced.  
 Total Power - Annual Generator Maintenance.  
 ROHES – Cleaning of Aeration Tank #1 and Septage Receiving tank.  
 Vaughn Chopper pump replaced in Septage receiving facility.  
 Victaulic valves for air supply of Digester and Sludge storage tanks replaced.  
 Diffusers replaced on Outfall  
 R/S MCC Electrical review  
 Sludge Loading arm Retrofit

#### Pumping Stations:

Caldecott – Station #2 upgrades which included new wet well exhaust fan, wet well entrance retrofit, and addition of crane jibs in dry well and new davit base plates.  
 Total Power – Generator Maintenance and Service – Bighead, Station #2 and Station #3  
 New 3hp Myers pump and all new floats Station #5

#### Septage Receiving Works

The Meaford WPCP continued to only accept septage from within its Municipal Boundaries as previously decided by council. In 2020, the Meaford WPCP treated approximately 83,865 gallons of septage/holding tank waste.

**Table 6: Septage**

Month	Portables		Holding Tanks		Septic		Totals
	Loads	Gallons	Loads	Gallons	Loads	Gallons	Gallons
January	0	0	1	2800	2	2100	4900
February	0	0	1	2400	3	2400	4800
March	3	585	0	0	9	9800	10385

April	0	0	0	0	9	9750	9750
May	4	845	0	0	0	0	845
June	5	970	0	0	0	0	970
July	5	1110	2	1000	3	2500	4610
August	16	4645	3	6100	15	14850	25595
September	6	1810	2	5000	1	600	7410
October	4	940	0	0	4	6600	7540
November	0	0	0	0	0	0	0
December	2	260	0	0	5	6800	7060
<b>Overall Total</b>						<b>83865</b>	

## Biosolids Facility

Digested sludge produced at the Meaford WPCP was land-applied in accordance with the Nutrient Management Act 2002 and Ontario Regulation 267/03.

Grab samples of digested (aerobic) sludge are collected as the sludge truck is being filled. In 2020 sludge sample analyses was carried out by SGS Lakefield Research Limited.

Saugeen Agri is still contracted to haul and spread sludge from the Meaford plant in 2020.

The following sites were certified in 2018:

NASM plan:

- #23398 – Anthony and Darla Penner

A total Volume of 2,917 m<sup>3</sup> of sludge was applied to the field of NASM plan #23398. Estimated hauled sludge amounts have been estimated at approximately 2,600 m<sup>3</sup> annually.

The plant is achieving greater storage capacity than the 6 month storage capacity that is presently required by the Ministry of Environment, Conservation and Parks.

Monthly Haulage volumes from the plant were as follows:

Month	Cubic Metres	Month	Cubic Metres
January	0	July	0
February	0	August	0
March	0	September	0
April	0	October	0
May	2156	November	761
June	0	December	0

## Discussion

The following is a table summarizing the results received for the period of January 2020 to December 2020 for the following parameters, with the maximum concentrations of the effluent parameters as outlined in the Terms and Conditions for ECA 9036-AZFPV6.

Month	Raw	Parameters	Effluent Sample Sets						Monthly Average Concentration	Monthly Average Concentration Objective	Monthly Average Concentration Limits	MIN	MAX	Monthly Geometric Mean
			1	2	3	4	5	6						
January	82	CBOD5		6	4	3	4	4	4.2	15.0	20.0mg/l	3	6	
	44	T.S.S		8	5	4	2	6	5.0	15.0	20mg/l	2	8	
	1.22	Total Phosphorus		1.19	1.38	0.68	0.86	0.73	1.0	2.0	4mg/l	0.68	1.38	
	13.2	T.A.N-Freezing		0.4	0.2	0.2	0.4	0.4	0.3	3.0	Freezing Period- 5mg/l	0.2	0.4	
		E-Coli	96	46	12	24	2	14	32.3	N/A	200 cfu/100mL	2	96	19.1
	22	TKN		1.2	1.7	0.5	0.8	0.5	0.9			0.5	1.7	
	7.72	pH		6.92	8.21	7.34	7.42	7.36	7.45	pH maintained between 6-9.5		6.92	8.21	
February	79	CBOD5	6	3	4	3			4.0	15.0	20.0mg/l	3	6	
	62	T.S.S	11	5	2	4			5.5	15.0	20mg/l	2	11	
	1.29	Total Phosphorus	1.1	1.16	1.58	1.3			1.3	2.0	4mg/l	1.1	1.58	
	12.3	T.A.N-Freezing	0.4	1	1.2	1.1			0.9	3.0	Freezing Period- 5mg/l	0.4	1.2	
		E-Coli	2	2.0	2	6			3.0	N/A	200 cfu/100mL	2	6	2.6
	16.4	TKN	1.4	2.3	1.4	1.3			1.6			1.3	2.3	
	7.58	pH	7.38	7.4	7.29	7.31			7.3	pH maintained between 6-9.5		7.29	7.4	
March	106	CBOD5	3	3	2	4	2		2.8	15.0	20.0mg/l	2	4	
	80	T.S.S	6	3	2	2	3		3.2	15.0	20mg/l	2	6	
	1.62	Total Phosphorus	1.29	0.54	0.51	0.75	0.9		0.8	2.0	4mg/l	0.51	1.29	
	14	T.A.N-Freezing	0.5	0.6	0.7	0.8	0.6		0.6	3.0	Freezing Period- 5mg/l	0.5	0.8	
		E-Coli	2	34	6	4	8		10.8	N/A	200 cfu/100mL	2	34	6.7
	16.5	TKN	0.8	1.5	0.7	0.5	1.2		0.9			0.5	1.5	
	7.53	pH	7.37	7.71	7.52	7.54	7.34		7.5	pH maintained between 6-9.5		7.34	7.71	

Month	Raw	Parameters	Effluent Sample Sets					Monthly Average Concentration	Monthly Average Concentration Objective	Monthly Average Concentration Limits	MIN	MAX	Monthly Geometric Mean
			1	2	3	4	5						
April	77	CBOD5	2	2	3	2		2.3	15.0	20.0mg/l	2	3	
	44	T.S.S	3	2	2	2		2.3	15.0	20mg/l	2	3	
	1.76	Total Phosphorus	1	1.29	1.32	1.34		1.24	2.0	4mg/l	1	1.34	
	13	T.A.N-Freezing	0.4	0.2	0.2	0.4		0.3	3.0	Freezing Period- 5mg/l	0.2	0.4	
		E-Coli	16	4	2	8		7.5	N/A	200 cfu/100mL	2	16	5.7
	14.9	TKN	1.1	1	1.3	1.3		1.2			1	1.3	
	7.87	pH	7.44	7.38	7.34	8.03		7.5	pH maintained between 6-9.5		7.34	8.03	
May	100	CBOD5	2	2	2	6		3.0	15.0	20.0mg/l	2	6	
	93	T.S.S	3	2	4	8		4.3	15.0	20mg/l	2	8	
	1.35	Total Phosphorus	1.24	1.23	0.86	1.3		1.16	2.0	4mg/l	0.86	1.3	
	13.8	T.A.N- NON-Freezing	0.3	0.7	0.4	0.5		0.5	3.0	Non-Freezing Period- 3 mg/l	0.3	0.7	
		E-Coli	80	44	80	6		52.5	N/A	200 cfu/100mL	6	80	36.1
	18.1	TKN	0.5	1.2	0.8	0.9		0.9			0.5	1.2	
	7.56	pH	7.45	7.4	7.39	7.28		7.4	pH maintained between 6-9.5		7.28	7.45	
June	152	CBOD5	4	4	3	2	4	3.4	15.0	20.0mg/l	2	4	
	123	T.S.S	5	3	4	2	5	3.8	15.0	20mg/l	2	5	
	1.95	Total Phosphorus	1.46	1.98	1.86	2.2	1.85	1.87	2.0	4mg/l	1.46	2.2	
	16.4	T.A.N-NON-Freezing	0.2	0.3	0.2	0.3	0.4	0.3	3.0	Non-Freezing Period- 3 mg/l	0.2	0.4	
		E-Coli	14	18	2	18	18	14.0	N/A	200 cfu/100mL	2	18	11.0
	20.5	TKN	1	1.1	0.5	2.1	0.5	1.0			0.5	2.1	
	7.31	pH	7.36	7.28	7.34	7.19	8.08	7.5	pH maintained between 6-9.5		7.19	8.08	



Month	Raw	Parameters	Effluent Sample Sets					Monthly Average Concentration	Monthly Average Concentration Objective	Monthly Average Concentration Limits	MIN	MAX	Monthly Geometric Mean
			1	2	3	4	5						
July	163	CBOD5	8	13	13	6	7	9.4	15.0	20.0mg/l	6	13	
	44	T.S.S	6	20	17	8	11	12.4	15.0	20mg/l	6	20	
	2.96	Total Phosphorus	2.99	2.12	1.95	2.5	2.74	2.46	2.0	4mg/l	1.95	2.99	
	24.9	T.A.N-NON-Freezing	1.5	5.5	1.5	1.3	0.6	2.08	3.0	Non-Freezing Period- 3mg/l	0.6	5.5	
		E-Coli	22	340	14	380	44	160.0	N/A	200 cfu/100mL	14	380	70.6
	28.6	TKN	2.2	6.5	3.7	1.3	1.6	3.06			1.3	6.5	
	7.41	pH	7.48	7.17	7.21	7.1	7.86	7.4	pH maintained between 6-9.5		7.1	7.86	
August	255	CBOD5	5	8	3	5	3	4.8	15.0	20.0mg/l	3	8	
	101	T.S.S	7	6	4	5	5	5.4	15.0	20mg/l	4	7	
	2.05	Total Phosphorus	1.08	1.92	1.44	2.42	0.85	1.54	2.0	4mg/l	0.85	2.42	
	17.5	T.A.N- NON-Freezing	0.7	0.3	0.3	0.3	0.1	0.34	3.0	Freezing Period- 3 mg/l	0.1	0.7	
		E-Coli	152	18	2	2	2	35.2	N/A	200 cfu/100mL	2	152	7.4
	22.3	TKN	1.4	1.2	0.9	2.4	0.5	1.28			0.5	2.4	
	7.6	pH	7.09	7.32	7.45	7.29	6.98	7.2	pH maintained between 6-9.5		6.98	7.45	
September	60	CBOD5	2	2	3	7		3.5	15.0	20.0mg/l	2	7	
	42	T.S.S	3	5	6	4		4.5	15.0	20mg/l	3	6	
	1.5	Total Phosphorus	1.65	1.75	2.3	2.72		2.11	2.0	4mg/l	1.65	2.72	
	15.5	T.A.N-NON-Freezing	0.2	0.1	0.2	0.4		0.23	3.0	Freezing Period- 3 mg/l	0.1	0.4	
		E-Coli	2	2	2	10		4.0	N/A	200 cfu/100mL	2	10	3.0
	17.1	TKN	0.5	1.1	0.9	1.2		0.93			0.5	1.2	
	7.66	pH	7.6	7.54	7.48	7.26		7.5	pH maintained between 6-9.5		7.26	7.6	

Month	Raw	Parameters	Effluent Sample Sets					Monthly Average Concentration	Monthly Average Concentration Objective	Monthly Average Concentration Limits	MIN	MAX	Monthly Geometric Mean
			1	2	3	4	5						
October	84	CBOD5	4	4	4	4		4.0	15.0	20.0mg/l	4	4	
	69	T.S.S	7	4	6	4		5.3	15.0	20mg/l	4	7	
	1.95	Total Phosphorus	1.76	2.27	1.82	1.42		1.8	2.0	4mg/l	1.42	2.27	
	16.5	T.A.N-Freezing	0.3	1	0.2	0.1		0.4	3.0	Freezing Period-5mg/l	0.1	1	
		E-Coli	25	12	2	2		10.3	N/A	200 cfu/100mL	2	25	5.9
	21.2	TKN	1.4	1	0.9	1.9		1.3			0.9	1.9	
	7.63	pH	7.3	7.44	7.35	7.55		7.4	pH maintained between 6-9.5		7.3	7.55	
November	82	CBOD5	5	4	6	4	4	4.6	15.0	20.0mg/l	4	6	
	46	T.S.S	4	5	7	9	6	6.2	15.0	20mg/l	4	9	
	1.3	Total Phosphorus	1.56	1.97	1.36	1.61	1.02	1.5	2.0	4mg/l	1.02	1.97	
	12.6	T.A.N-Freezing	0.2	0.2	0.4	0.1	0.3	0.2	3.0	Freezing Period-5mg/l	0.1	0.4	
		E-Coli	12	2	10	2	2		N/A	200 cfu/100mL	2	12	3.9
	15	TKN	1.7	2.3	1.9	3.2	0.5	1.9			0.5	3.2	
	7.83	pH	8.08	7.34	7.44	7.36	7.46	7.5	pH maintained between 6-9.5		7.34	8.08	
December	74	CBOD5	4	2	5	2		3.3	15.0	20.0mg/l	2	5	
	42	T.S.S	2	2	5	8		4.3	15.0	20mg/l	2	8	
	1.4	Total Phosphorus	1.01	0.51	1.08	1.11		0.9	2.0	4mg/l	0.51	1.11	
	12.7	T.A.N-Freezing	0.2	0.2	0.2	0.2		0.2	3.0	Freezing Period-5mg/l	0.2	0.2	
		E-Coli	2	4	2	2			N/A	200 cfu/100mL	2	4	2.4
	15.1	TKN	1.5	0.6	0.6	1.2		1.0			0.6	1.5	
	7.74	pH	7.9	7.56	7.53	7.47		7.6	pH maintained between 6-9.5		7.47	7.9	

In-house tests were conducted by licensed operators for monitoring purposes using Standard Methods. The data generated from these tests is used to determine the treatment efficiency while maintaining process control. All in-house monitoring equipment is calibrated based on the manufacturer's recommendations.

### **Inspections**

There were no regulatory inspections during the 2020 review period.

### **Alarm Response**

The Environmental Services staff responded without interruption or loss to service to all plant and pumping station alarms.

### **Complaint Summary**

There were no complaints received during this reporting period with regard to the Meaford WPCP.

### **Operational Objectives**

The Meaford Water Pollution Control Plant continues to provide excellent wastewater treatment. Meaford and its operators will continue to strive through expertise and knowledge to meet all objectives and to continually improve and optimize the efficiency of the facility.

# APPENDIX A

# Krohne Verification Report

**Date of Verification:** July 21 2020                      Time In:                      Out:  
**Customer:** Meaford  
**Device Manufacturer:** KROHNE  
**Model #:** IFC 010D 8"  
**Serial Number:** A9617339                      Picture Taken: Y / N  
**Location of Device:** 35 Grant Ave  
**Tag Number:**  
**Process:** Return Sludge  
**Technician:** J. Cutajar

Test Equipment			
Description	Serial Number	Calibration Date	Due Date
Klein DMM	MM600	Nov. 23 2018	Nov. 23 2019
Krohne GS 8 B	U1927700079504	June. 24 2019	June. 24 2020

<b>Device Parameters</b>	GKL: 4.332	GK:
<b>Rate of Flow =</b> <u>          L/S          </u>	<b>Signal Type:</b> <u>mA</u>	0.123076923
<b>Minimum Flow Rate =</b> <u>          0          </u>	<b>Minimum:</b> <u>4 mA</u>	
<b>Maximum Flow Rate =</b> <u>          130          </u>	<b>Maximum:</b> <u>20 mA</u>	

Input (y pos)	Output mA	Calc.Flow	Observed Flowrate	Deviation
0	4	0	0.0800	0.08
A	5.27	10.37	10.2600	-1.06
B	6.55	20.74	20.7500	0.04
C	9.1	41.48	41.5200	0.09
D				

Technician Comments
Meter Verification Passed.

**Technician Signature:**                     J. Cutajar                    



## DEVICE ANALOG OUTPUT SIGNAL ACCURACY REPORT

**Date of Verification:** July 21 2020 Time In: \_\_\_\_\_ Out: \_\_\_\_\_  
**Customer:** Meaford  
**Device Manufacturer:** Endress and Hauser  
**Model:** 91 W  
**Serial Number:** LB09A716000 Picture Taken: Yes / No  
**Location of Device:** 98 Denmark  
**Asset Number:** Picture Taken: Yes / No  
**Verification Performed By:** J. Cutajar

Test Equipment			
Description	Serial Number	Calibration Date	Due Date
Klein DMM	MM600	Sept. 25 2019	Sept. 25 2020

**Device Parameters**

**Rate of Flow =** \_\_\_\_\_ L/S  
**Minimum Flow Rate :** \_\_\_\_\_ 0  
**Maximum Flow Rate** \_\_\_\_\_ 250

mA Measurement Conversion  
 Scale = \_\_\_\_\_ 0.064

Device Reading	Expected Reading	DVM Reading	Device Accuracy
41 L/S	6.62 mA	6.35 mA	95.9200
40 L/S	6.56 mA	6.29 mA	95.8800
40.5 L/S	6.59 mA	6.31 mA	95.7500
41.5 L/S	6.65 mA	6.38 mA	95.9300

**Technician Comments**

Meter Veificaton Passed  
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**Technician Signature:** J. Cutajar



# Krohne Verification Report

Date of Verification: July 21 2020                      Time In:                      Out:  
 Customer: Meaford  
 Device Manufacturer: KROHNE  
 Model #: IFC 010D 6"  
 Serial Number: A9614865                      Picture Taken: Y / N  
 Location of Device: 35 Grant Ave  
 Tag Number:  
 Process: Scum Flow Meter  
 Technician: J. Cutajar

Test Equipment			
Description	Serial Number	Calibration Date	Due Date
Klein DMM	MM600	Nov. 23 2018	Nov. 23 2019
Krohne GS 8 B	U1927700079504	June. 24 2019	June. 24 2020

<b>Device Parameters</b>	GKL: 5.755	GK:
Rate of Flow = <u>          L/S          </u>	<b>Signal Type: mA</b>	0.534045394
Minimum Flow Rate = <u>          0          </u>	<b>Minimum: 4 mA</b>	
Maximum Flow Rate = <u>          29.96          </u>	<b>Maximum: 20 mA</b>	

Input (y pos)	Output mA	Calc.Flow	Observed Flowrate	Deviation
0	4	0	0.1300	0.13
A	8.139	7.75	7.9150	2.14
B	12.277	15.5	15.6150	0.75
C				
D				

Technician Comments
Meter Verification Passed.

Technician Signature: J. Cutajar



# Krohne Verification Report

Date of Verification: July 21 2020                      Time In:                      Out:  
 Customer: Meaford  
 Device Manufacturer: KROHNE  
 Model #: IFC 010D 6"  
 Serial Number: A9618155                      Picture Taken: Y / N  
 Location of Device: 35 Grant Ave  
 Tag Number:  
 Process: Digestor Building  
 Technician: J. Cutajar

Test Equipment			
Description	Serial Number	Calibration Date	Due Date
Klein DMM	MM600	Nov. 23 2018	Nov. 23 2019
Krohne GS 8 B	U1927700079504	June. 24 2019	June. 24 2020

<b>Device Parameters</b>	GKL: 5.6470	GK:
Rate of Flow =                      L/S	<b>Signal Type: mA</b>	0.533333333
Minimum Flow Rate =                      0	<b>Minimum: 4 mA</b>	
Maximum Flow Rate =                      30	<b>Maximum: 20 mA</b>	

Input (y pos)	Output mA	Calc.Flow	Observed Flowrate	Deviation
0	4	0	0.0000	0
A	8.005	7.6	7.5800	-0.32
B	12.111	15.21	15.2500	0.28
C				
D				

Technician Comments
Meter Verification Passed.

Technician Signature: J. Cutajar





# Krohne Verification Report

Date of Verification: July 21 2020                      Time In:                      Out:  
 Customer: Meaford  
 Device Manufacturer: KROHNE  
 Model #: IFC 020D 3"  
 Serial Number: A0455610                      Picture Taken: Y / N  
 Location of Device: 35 Grant Ave  
 Tag Number:  
 Process: Septic Discharge Flow  
 Technician: J. Cutajar

Test Equipment			
Description	Serial Number	Calibration Date	Due Date
Klein DMM	MM600	Nov. 23 2018	Nov. 23 2019
Krohne GS 8 B	U1927700079504	June. 24 2019	June. 24 2020

<b>Device Parameters</b>	GKL: 4.901	GK: 2.432
Rate of Flow =                      L/S	<b>Signal Type: mA</b>	0.64
Minimum Flow Rate =                      0	<b>Minimum: 4 mA</b>	
Maximum Flow Rate =                      25	<b>Maximum: 20 mA</b>	

Input (y pos)	Output mA	Calc.Flow	Observed Flowrate	Deviation
0	4	0	0.0000	0
A	5.192	1.86	1.8600	-0.16
B	6.385	3.73	3.7150	-0.3
C	8.769	7.45	7.4140	-0.51
D	15.923	18.63	18.5280	-0.55

Technician Comments
Meter Verification Passed.

Technician Signature: J. Cutajar



## DEVICE ANALOG OUTPUT SIGNAL ACCURACY REPORT

**Date of Verification:** July 21 2020 Time In: \_\_\_\_\_ Out: \_\_\_\_\_  
**Customer:** Meaford  
**Device Manufacturer:** Fisher and Porter  
**Model:** 50XM1000  
**Serial Number:** 4162320201 Picture Taken: Yes / No  
**Location of Device:** 323 Sykes Street  
**Asset Number:** Station 3 Picture Taken: Yes / No  
**Verification Performed By:** J. Cutajar

Test Equipment			
Description	Serial Number	Calibration Date	Due Date
Klein DMM	MM600	Sept. 25 2019	Sept. 25 2020

**Device Parameters**

**Rate of Flow =** \_\_\_\_\_ L/S

mA Measurement Conversion  
Scale =

**Minimum Flow Rate :** \_\_\_\_\_ 0

**Maximum Flow Rate =** \_\_\_\_\_

Device Reading	Expected Reading	DVM Reading
Coil	5 - 100 Ohms	7 Ohms
Elec 1	4 - 40 kOhms	23 kOhms
Elec 2	4 - 40 kOhms	14 kOhms

**Technician Comments**

Meter Veificaton Passed

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**Technician Signature:** J. Cutajar



## DEVICE ANALOG OUTPUT SIGNAL ACCURACY REPORT

**Date of Verification:** July 21 2020 Time In: \_\_\_\_\_ Out: \_\_\_\_\_  
**Customer:** Meaford  
**Device Manufacturer:** Endress and Hauser  
**Model:** 91 W  
**Serial Number:** AC024316000 Picture Taken: Yes / No  
**Location of Device:** 35 Grant Ave  
**Asset Number:** Station 2 Picture Taken: Yes / No  
**Verification Performed By:** J. Cutajar

Test Equipment			
Description	Serial Number	Calibration Date	Due Date
Klein DMM	MM600	Sept. 25 2019	Sept. 25 2020

<b>Device Parameters</b>
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**Rate of Flow =** \_\_\_\_\_ L/S  
**Minimum Flow Rate :** \_\_\_\_\_ 0  
**Maximum Flow Rate** \_\_\_\_\_ 35

mA Measurement Conversion  
 Scale = \_\_\_\_\_ 0.45714

Device Reading	Expected Reading	DVM Reading	Device Accuracy
3.75 L/S	5.71 mA	5.72 mA	100.1700
3.4 L/S	5.55 mA	5.52 mA	99.4500
3.5 L/S	5.6 mA	5.55 mA	99.1000
3.9 L/S	5.78 mA	5.74 mA	99.3000

<b>Technician Comments</b>
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Meter Veificaton Passed  
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**Technician Signature:** J. Cutajar

