

# Mississippi Mills Wastewater System

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## 2016 Annual Report

January 1, 2016 – December 31, 2016

Prepared By



**Ontario Clean Water Agency**  
**Agence Ontarienne Des Eaux**

This report has been prepared to meet the requirements set out in the facility Certificate of Approval #42425-8DXR5U issued February 16, 2011 and Certificate of Approval #1637-AC8NT7.

## Contents

<b>Compliance Report Card .....</b>	<b>1</b>
<b>System/Process Description.....</b>	<b>2</b>
Primary Treatment .....	2
Chemical Addition .....	2
Secondary Treatment.....	2
Tertiary Treatment .....	2
Solids Handling .....	2
Septage Receiving .....	2
Proposed Alterations, Extensions, or Replacement to Works .....	2
<b>Effluent Quality Assurance or Control Measures .....</b>	<b>2</b>
<b>Treatment Flows.....</b>	<b>4</b>
Raw Flow (m <sup>3</sup> /d) .....	4
Annual Comparison (m <sup>3</sup> ) .....	4
Septage Volumes.....	5
Monthly Received .....	5
Monthly Processed .....	5
<b>Raw Sewage Quality .....</b>	<b>5</b>
<b>Effluent Quality.....</b>	<b>6</b>
Effluent Exceedance Summary.....	6
Limit .....	6
Other Effluent Sampling Issues .....	6
Effluent Parameter Summary.....	7
CBOD <sub>5</sub> .....	7
Total Suspended Solids .....	8
Total Phosphorus .....	9
Total Ammonia Nitrogen.....	10
E-coli.....	11
pH.....	11
Acute Lethality .....	12
<b>Septage Quality .....</b>	<b>12</b>

<b>Biosolids .....</b>	<b>12</b>
Biosolids Disposal Summary.....	12
Annual Comparison.....	12
Quality .....	13
<b>Summary of Complaints.....</b>	<b>13</b>
<b>Summary of Bypass/Overflows .....</b>	<b>13</b>
<b>Summary of Spills/Abnormal Discharges.....</b>	<b>13</b>
<b>Maintenance.....</b>	<b>13</b>
Maintenance Highlights .....	14
<b>Calibration .....</b>	<b>15</b>

**Appendix**

<b>Facility Assessment Report .....</b>	<b>A</b>
<b>Septage Sample Data .....</b>	<b>B</b>
<b>Biosolids Application Summary.....</b>	<b>C</b>
<b>Calibration Records.....</b>	<b>D</b>

## Compliance Report Card

Compliance Event	# of Events	Details
Ministry of Environment Inspections	1	Inspection completed in February 2016 Report received October 2016 <ul style="list-style-type: none"><li>Seven(7) required actions identified</li></ul>
Ministry of Labour Inspections	0	
Effluent Parameter Exceedances	1	December 30, 2016 grab pH
Bypass/Overflows	1	Tertiary Filter By-Pass
Community Complaints	0	
Spills	0	

## System/Process Description

### Primary Treatment

Flow enters the treatment and passes through screen channels which contain fine screens that lead to a screw compactor. Grit is removed using circular vortex grit removal, air lift and grit classifier system units

### Chemical Addition

Chemicals are added to the process for phosphorus control.

### Secondary Treatment

The Mississippi Mills WPCP supports a Two (2) treatment train system using the extended aeration activated sludge process. Each train is equipped with aeration tanks, anoxic tanks and a secondary clarifier.

### Tertiary Treatment

Five (5) filter trains with three (3) filtration cells in each. Disinfection is provided using Ultraviolet (UV) lights. There is ability for chlorine disinfection in the event the UV units fail.

### Solids Handling

Solids from the biological process are transferred from the waste tank to a rotary disk thickener. From there the solids are processed through autothermic thermophilic aerobic digesters. The solids are then pressed to a cake form.

### Septage Receiving

The Mississippi Mills WWTP also consists of a septage receiving station consisting of a storage tank, two (one duty and one standby) dry-pit pumps, and a grinder on the inlet piping

### Proposed Alterations, Extensions, or Replacement to Works

There are no proposed alterations, extensions or replacements that would affect the Certificate of Approval.

### Effluent Quality Assurance or Control Measures

The Municipality of Mississippi Mills facilities are part of OCWA's operational Mississippi Cluster. The facilities are supported by regional and corporate resources. Operational Services are delivered by OCWA staff that live and work in the community.

OCWA operates facilities in compliance with applicable regulations. The facility has comprehensive manuals detailing operations, maintenance, instrumentation, and emergency procedures. All procedures are treated as active documents, with annual reviews.

OCWA has additional "Value Added" and operational support services that the Municipality of Mississippi Mills benefits from including:

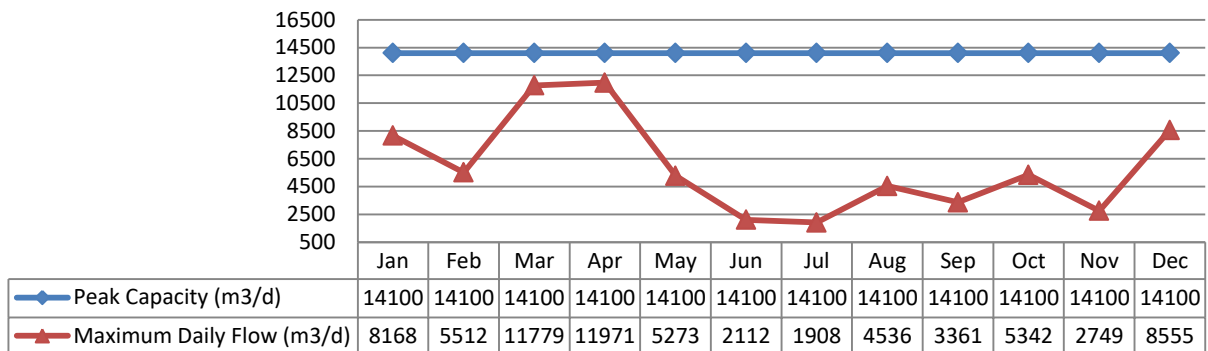
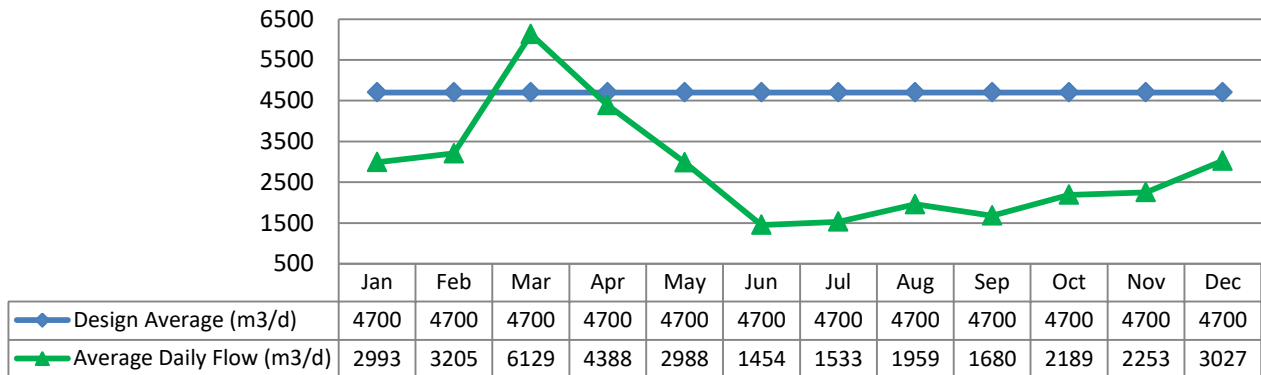
- Access to a network of operational compliance and support experts at the regional and corporate level, as well as affiliated programs that include the following:
  - Quality & Environmental Management System, Occupational Health & Safety System and an internal compliance audit system.
  - Process Data Management (PDM) facility operating information repository, which consolidates field data, online instrumentation, and electronic receipt of lab test results for reporting, tracking and analysis.
  - Work Management System (WMS) that tracks and reports maintenance activity, and creates predictive and preventative reports.
  - Outpost 5 wide-area SCADA system allows for process optimization and data logging, process trending, remote alarming and optimization of staff time.
- Client reporting which includes operational data, equipment inventory, financial statements, maintenance work orders, and capital status reports
- Site-Specific Contingency Plans and Standard Operating Procedures
- Use of accredited laboratories
- Additional support in response to unusual circumstances, and extra support in an emergency.
- Use of sampling schedules for external laboratory sampling

## Treatment Flows

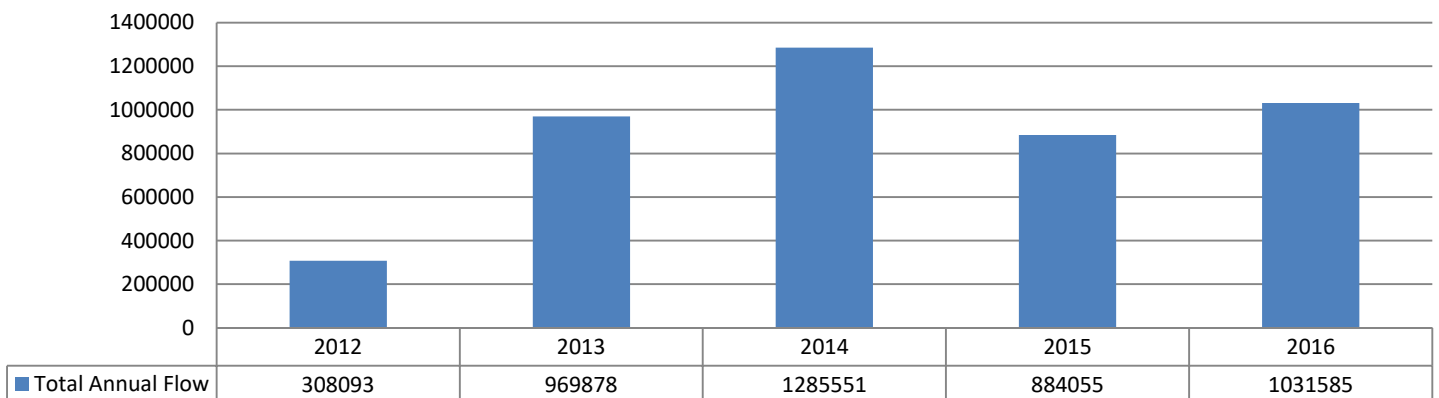
### Raw Flow (m3/d)

Annual average flow for 2016 = 2816.59 m3/d

Flow spikes are associated to wet weather events such as rain and seasonal changes such as the spring snow melt.



### Annual Comparison (m3)

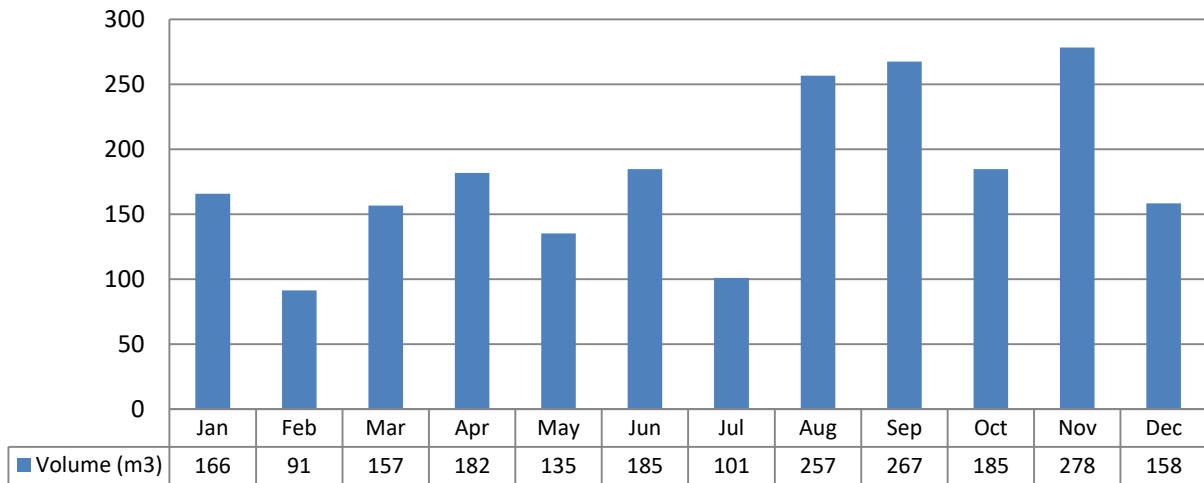


## Septage Volumes

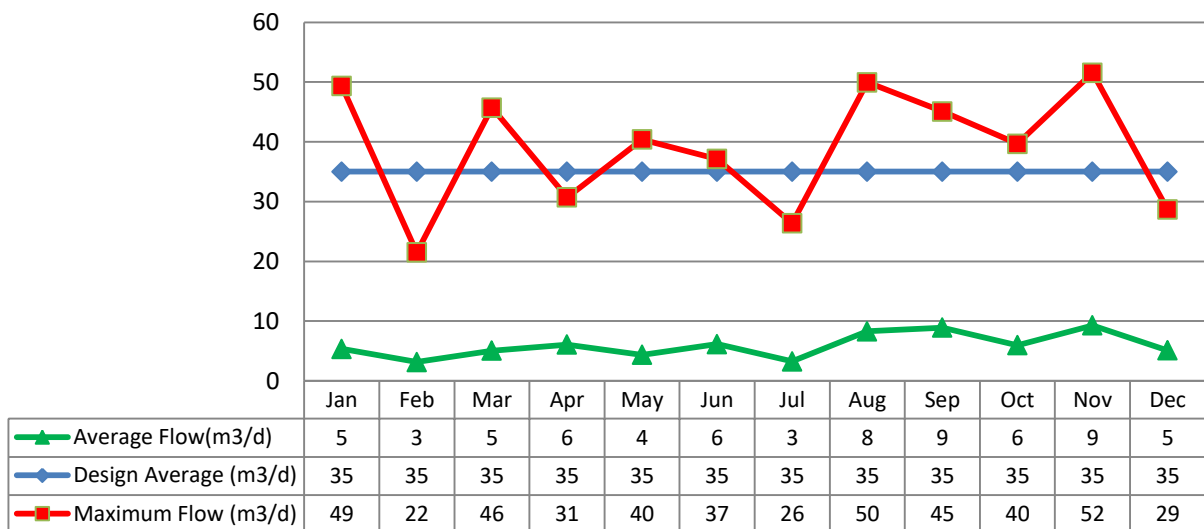
Average daily flow for 2016 = 5.905m<sup>3</sup>/d

Total Flow for 2016 = 2161 m<sup>3</sup>

### Total Monthly Volume Received



### Monthly Volumes Processed



Average Flow (m<sup>3</sup>/d) is the total sum of the volume of the loads received for the month which is then divided by the days in the month.

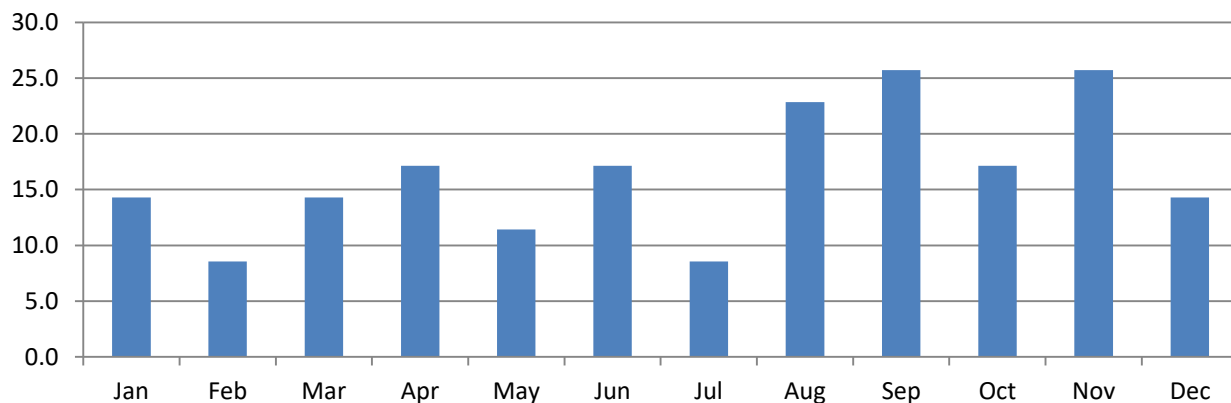
Design Average (m<sup>3</sup>/d) sets the capacity limit based on the total sum of the volume of the loads received for the month which is then divided by the days in the month.

Maximum Flow (m<sup>3</sup>/d) indicates largest single day volume received in the month.



### Septage Capacity Utilization

Septage Capacity (%) is based on Average Flow (m3/d) over Design Average (m3/d).



### Raw Sewage Quality

Results of raw sewage concentrations and loadings are available in the Facility Performance Assessment Report in Appendix A.

### Effluent Quality

The limits are based on current requirements in the facilities Environmental Compliance Approval. Laboratory samples are submitted to an accredited laboratory for regulatory analysis.

The Federal Government also regulates certain sewage effluent parameters under the Federal Fisheries Act. The results are submitted to Environment and Climate Change Canada’s Effluent Regulatory and Reporting Information System (ERRIS) on a quarterly basis.

### Effluent Exceedance Summary

#### Limit

Sample	Date	Parameter	Exceedance of	Limit	Value	Corrective Action
Final Effluent	December 30, 2016	pH	Certificate of Approval	6-9	5.7	Unknown reason for low level. All other residuals including the on-line show within compliance.

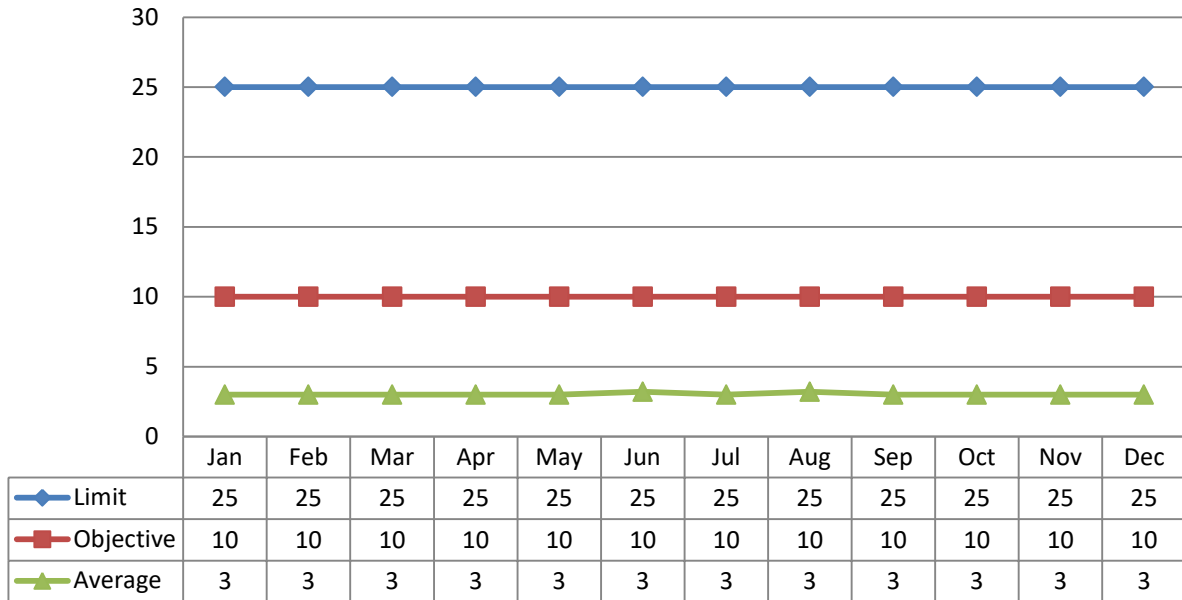
#### Other Effluent Sampling Issues

Sample	Legislation	Date	Details	Response
There were no other operational issues affecting effluent quality				

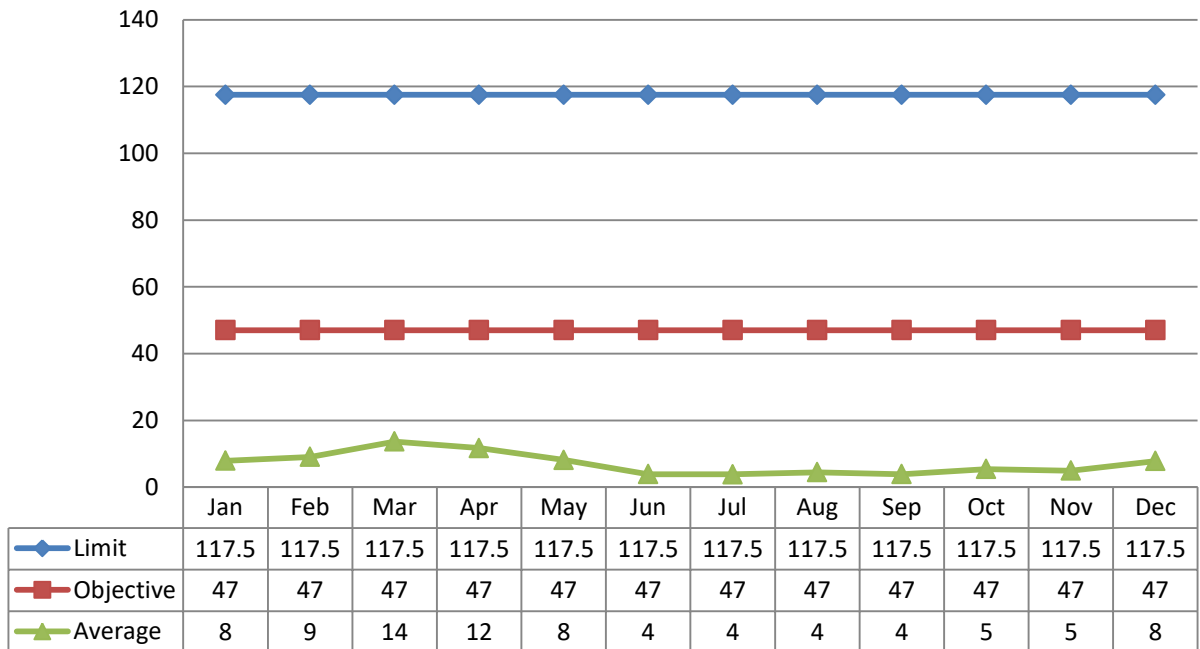
## Effluent Parameter Summary

### CBOD5

#### Concentration (mg/L)

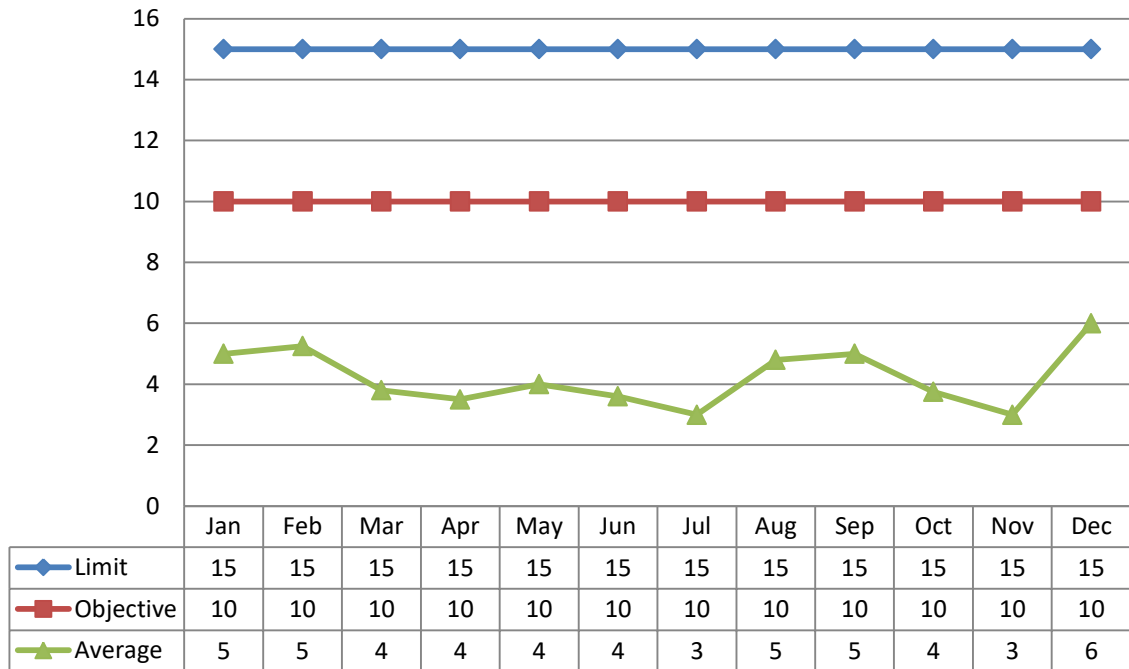


#### Loading (kg/d)

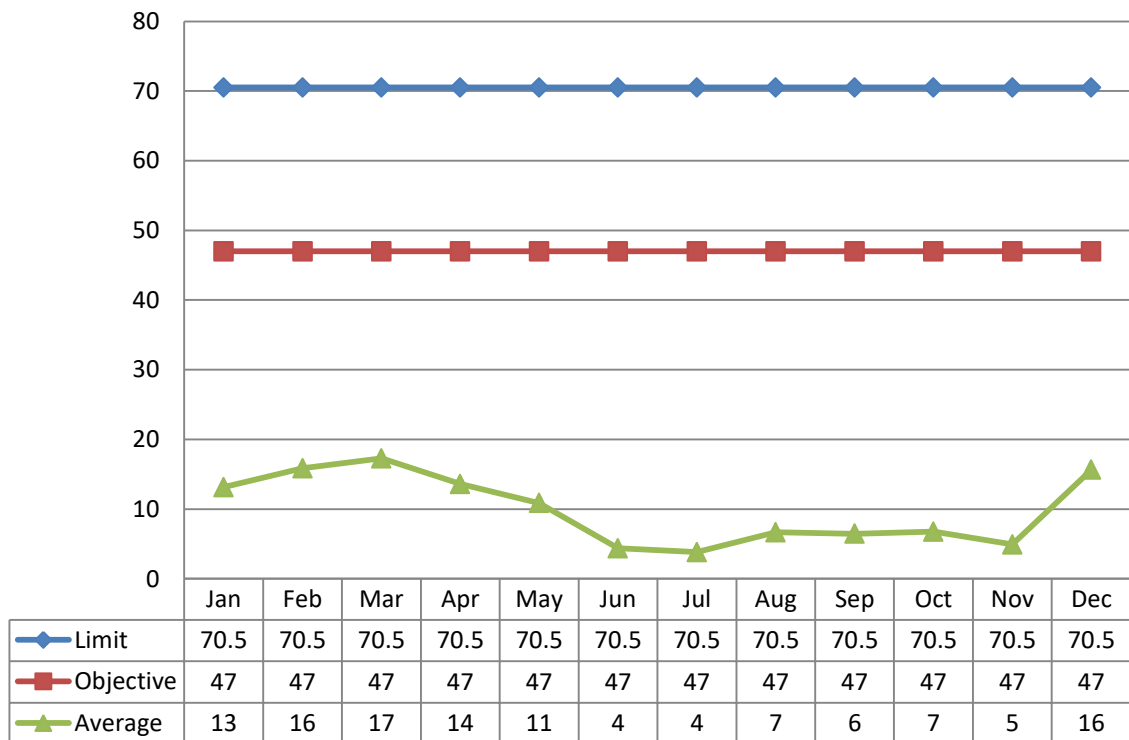


### Total Suspended Solids

#### Concentration (mg/L)

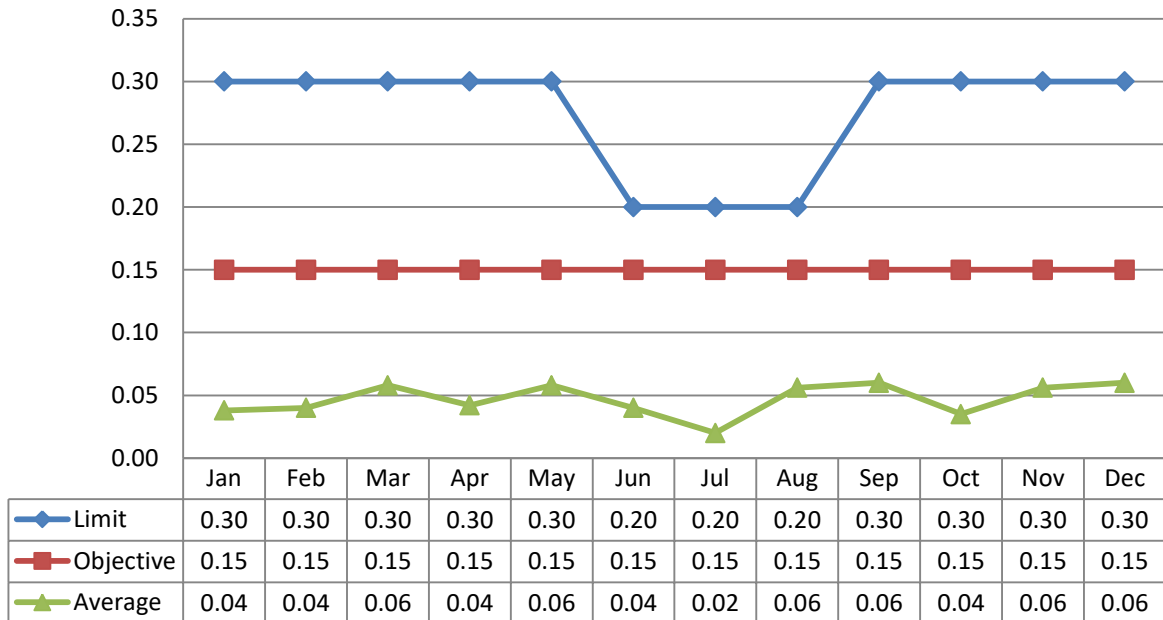


#### Loading (kg/d)

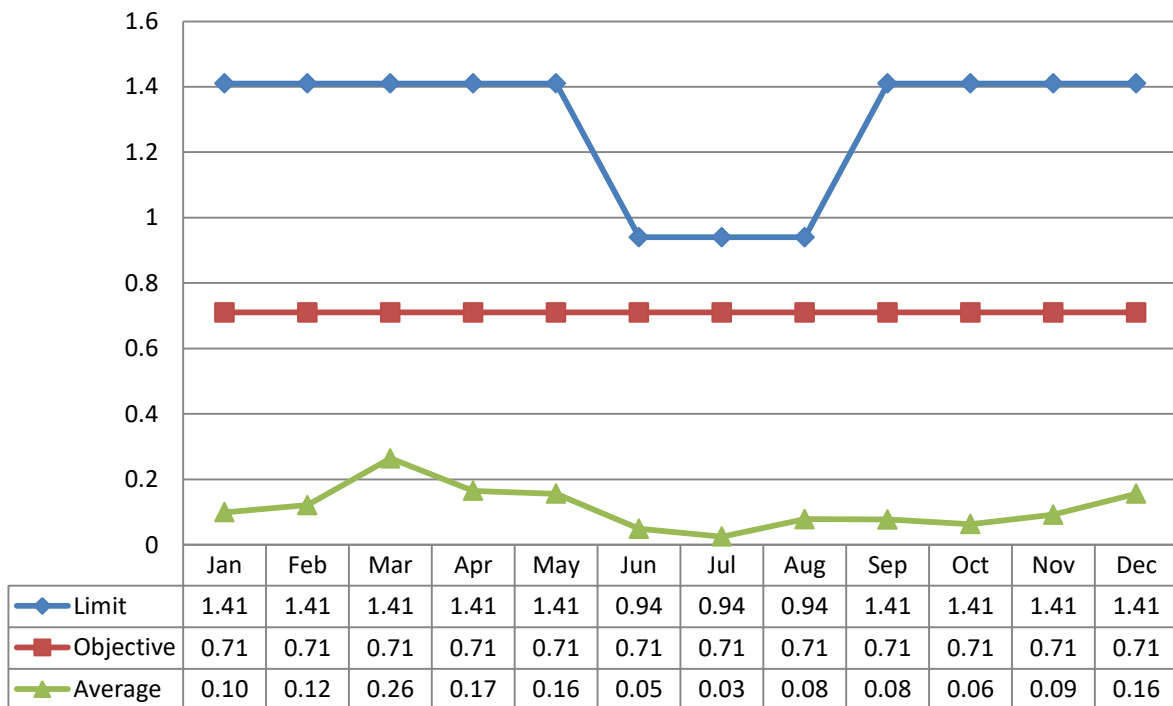


**Total Phosphorus**

*Concentration (mg/L)*



*Loading (kg/d)*

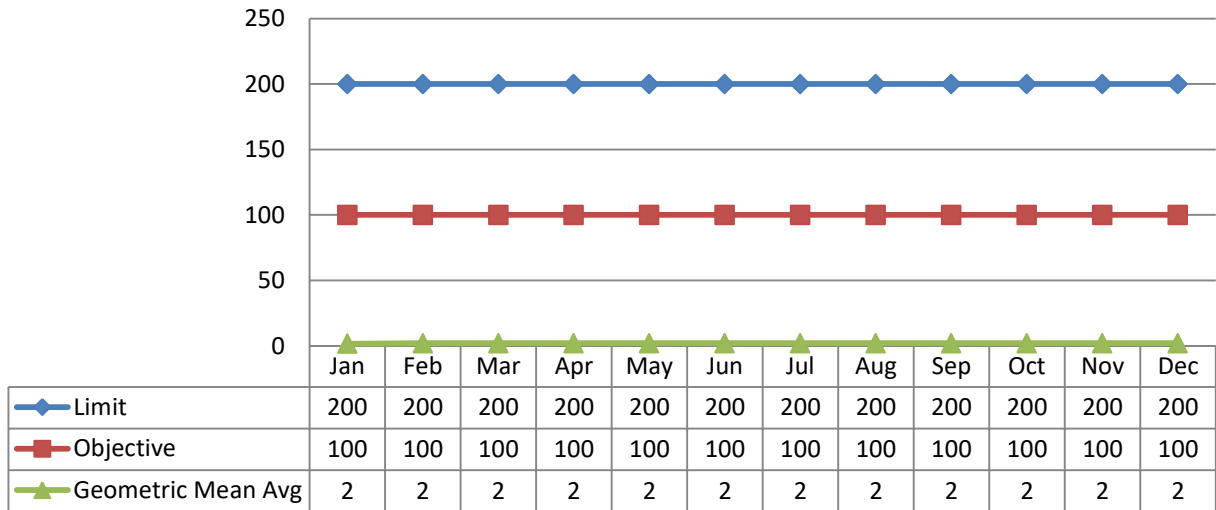




**E-coli**

*Geometric Mean Average*

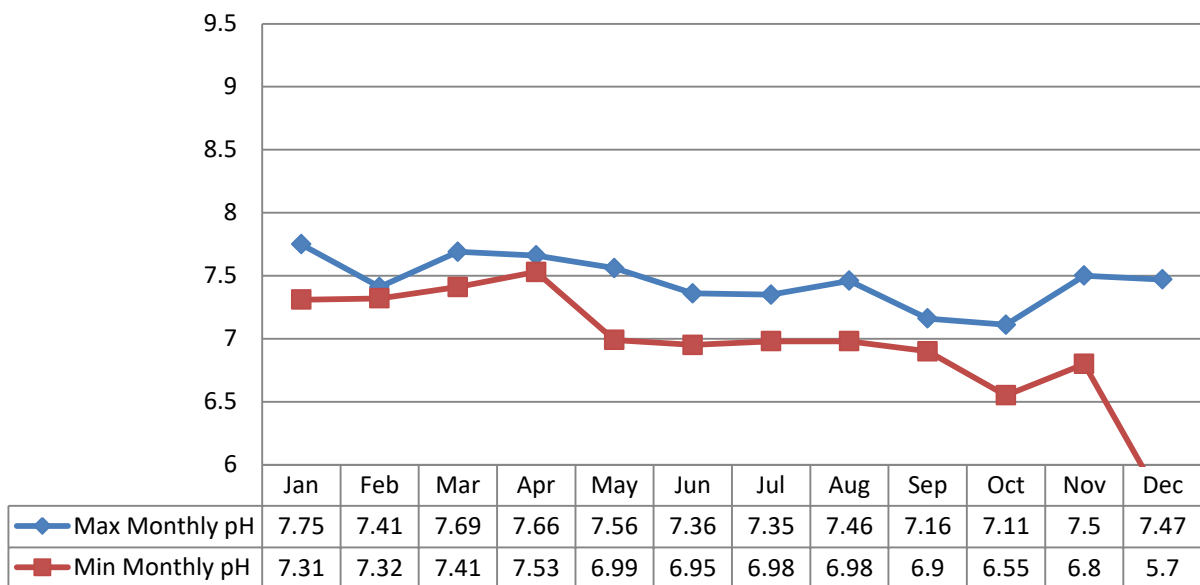
All individual sample results were lower than the reportable value of <2.



**pH**

This parameter is tested in-house.

The minimum monthly pH for December was outside of the limits of 6-9. Details can be seen in the Effluent Exceedance Summary section of this report.



### Acute Lethality

There were four (4) samples collected in 2016 and tested for acute lethality (Rainbow Trout and Daphnia Magna). Results are displayed as % mortality.

Quarter	Rainbow Trout	Daphnia Magna
1 <sup>st</sup> Quarter	0%	0%
2 <sup>nd</sup> Quarter	0%	0%
3 <sup>rd</sup> Quarter	0%	0%
4 <sup>th</sup> Quarter	0%	0%

### Septage Quality

Septage was tested when received. A summary of the results are attached in Appendix B. Grab samples are collected from each load.

### Biosolids

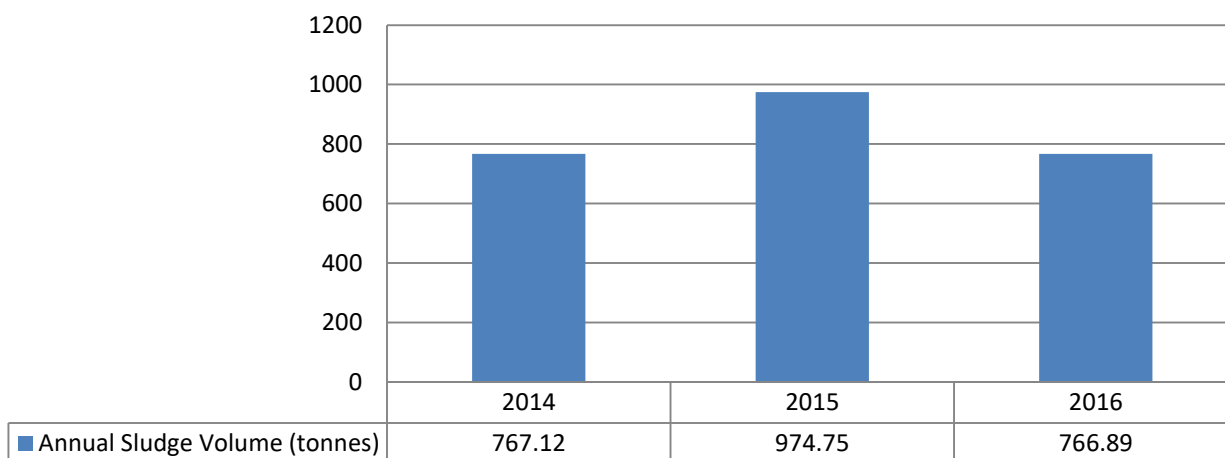
Sludge generated from the treatment plant was spread on agricultural land during the spreading season as per the Nutrient Management Act O.Reg 267/03. This facility dewateres and biosolids are handled as cake. During the winter cake is stored on-site until certified sites are ready for spreading.

During the spreading season the operating authority contracts cake haulage to Terratec Environmental. This company maintains a bank of available land for agricultural disposal of biosolids. This information is included in Appendix C.

### Biosolids Disposal Summary

The disposal summary is provided by Terratec (Waste Management #4400-4LBLXD) and is available in Appendix C.

### Annual Comparison



It is anticipated that sludge volumes will remain constant based on the average treated volumes and past years history since the upgrades.

## Quality

The biosolids sampling results are summarized in Appendix C. All results met the established guidelines.

## Summary of Complaints

The following community complaints were received related to the operations of the Mississippi Mills WWTP.

Date	Location	Details	Corrective Action Taken
There were no complaints received at the treatment plant			

## Summary of Bypass/Overflows

On the March 29, 2016 the facilities filtrate holding tank which receives waste process water was hydraulically overloaded. Both pumps were running at maximum capacity when the tank spilled over using designed overflow pipe into the UV disinfection channel. The tanks high level alarm occurred at 9:58 am and the overflow occurred at 10:30 am, lasting 47 minutes. Plant was under high flow conditions at the time but was below peak design flow.

Overflow was stopped when the operator noticed high level conditions during SCADA check. Processes that sent water to the tank were shut down and plant flow was attenuated to lessen load on pumps. Level began to drop and overflow stopped immediately. Flow to the tank was gradually reintroduced once level had returned to normal.

## Summary of Spills/Abnormal Discharges

There were no spills or abnormal discharges reported in 2016.

## Maintenance

OCWA uses a risk-based preventative maintenance framework that ensures assets are maintained to manufacturer's and/or industry standards. Maintenance is completed using various tools and operational supports. The Ottawa Valley Hub has specialized certified staff such as Millwrights, Electricians and Instrumentation Specialists to name a few.

OCWA uses a Workplace Maintenance System (WMS). WMS is a maintenance tracking system that can generate work orders as well as give summaries of completed and scheduled work. During the year, the operating authority at the facility generates scheduled work orders on a weekly, monthly and annual basis. The service work is recorded in the work order history. This ensures routine and preventive



maintenance is carried out. Emergency and capital repair maintenance is completed and added to the system.

Capital projects are listed and provided to the Municipality of Mississippi Mills in the form of a “Capital Forecast”. This list is developed by facility staff and provides recommendations for facility components requiring upgrading or improvement.

### Maintenance Highlights

WO #	Summary
105147	Capital Gemmill's Park heater to 600V 10 kW
171260	Capital UVT Sensor Service
171278	Capital Headworks Heater Failure
171490	Corrective Grit Vortex #1 and #2 Drive Motor Rebuild
171801	Capital Septage receiving modifications
190673	Capital Thermometer for glycol return
212845	Capital Septage receiving insulation
212852	Capital Seacan Air Conditioner Gemmills Bay SPS
105145	Capital E-stop cable for Fournier conveyor
105833	Capital Portable pH Probe
105973	Capital Transfer switch Condensation Gemmill's Bay SPS
106375	Capital A/C unit for Transfer Switch Gemmill's Bay SPS
125344	Capital loss of Comm's (3) Gemmill's Bay SPS
125366	Capital Headworks o2 sensor
146889	Capital Filtrate Tank Sand Removal/Cleanout
147638	Capital Filtrate Tank Clean Out
147898	Capital Pump Filtrate P751
28581	Capital require proper eyewash station for lab
29335	Capital backflow 6" filter area
29363	Capital Gemmill's Bay wetwell clean-out
35817	Capital Glass SPS lack of exterior lighting
35967	Capital SCADA loss of communication
36046	Capital Pumps 01&3 rebuild Gemmill's Bay SPS
36674	Capital MAU 1 failure
36787	Capital Fire system repairs
36997	Capital HVAC MAU 01 & boilers
48605	Capital Backflow Gemmill's Bay SPS
48686	Capital PLC loss of communication Gemmill's Bay SPS
48690	Capital UV system
49038	Capital - RMI Gas Detector, Purchase Calibration Supplies
49432	Capital atad solenoid failure

WO #	Summary
61027	Capital HVAC MAU 01 & boilers
61110	Capital sirens and alarms
61193	Capital tertiary filter material
61869	Capital back up alarm system cellular
73166	Capital Communication failure Gemmills Bay SPS
73452	Capital Seepex Pump Replacement Parts
73525	Capital Pump 03 Gemmill's Bay SPS
73816	Capital Handrail failure
87386	Capital Clarifier Maintenance
87839	Capital Seacan Air conditioner Repairs Gemmill's Bay SPS
88049	Capital Effluent Sensor Electrodes

## Calibration

The flow meters were calibrated on January 19, 2016. Records are attached in Appendix D. Analyzers are scheduled for monthly maintenance in the WMS program. Work is completed and logged in the logbook and in the WMS.

# Appendix A

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## Facility Assessment Report

Ontario Clean Water Agency  
Performance Assessment Report Wastewater/Lagoon

From: 01/01/2016 to 31/12/2016

Report extracted 03/03/2017 07:44

Facility: [5678] MISSISSIPPI MILLS WASTEWATER TREATMENT FACILITY

Works: [5678] MISSISSIPPI MILLS WASTEWATER TREATMENT FACILITY

	01/2016	02/2016	03/2016	04/2016	05/2016	06/2016	07/2016	08/2016	09/2016	10/2016	11/2016	12/2016	<--Total-->	<--Avg-->	<--Max-->	<--Criteria-->	
<b>Flows:</b>																	
Raw Flow: Total - Raw Sewage (m³)	92775.69	92947.64	189999.34	131644.51	92637.27	43627.96	47519.87	60720.55	50385.35	67872.96	67603.43	93850.69	1031585.26				
Raw Flow: Avg - Raw Sewage (m³/d)	2992.76	3205.09	6129.01	4388.15	2988.3	1454.27	1532.9	1958.73	1679.51	2189.45	2253.45	3027.44		2816.59			
Raw Flow: Max - Raw Sewage (m³/d)	8168.48	5511.59	11778.64	11970.67	5272.79	2112.24	1908.28	4535.59	3360.91	5342.37	2749.31	8554.77			11970.67		
Eff. Flow: Total - Final Effluent (m³)	81464.04	87565.23	140897.9	116688.49	84185.39	36440.68	39506.43	43013.56	38714.61	55824.46	49342.46	80847.3	854490.55				
Eff. Flow: Avg - Final Effluent (m³/d)	2627.87	3019.49	4545.09	3889.62	2715.66	1214.69	1274.4	1387.53	1290.49	1800.79	1644.75	2607.98		2334.86			
Eff. Flow: Max - Final Effluent (m³/d)	4199.55	4915.75	7830.78	6633.93	4832.17	1957.31	1626.85	3117.98	2271.74	4481.74	2528.87	6593.69			7830.78		
<b>Carbonaceous Biochemical Oxygen Demand: CBOD:</b>																	
Raw: # of samples of cBOD5 - Raw Sewage (mg/L)	4	4	5	4	4	5	4	5	4	4	5	4	52				
Eff: Avg cBOD5 - Final Effluent (mg/L)	< 3	< 3	< 3	< 3	< 3	< 3.2	< 3	< 3.2	< 3	< 3	< 3	< 3		< 3.033	< 3.2	25.0	
Eff: # of samples of cBOD5 - Final Effluent (mg/L)	4	4	5	4	4	5	3	5	4	4	5	4	51				
Loading: cBOD5 - Final Effluent (kg/d)	< 7.884	< 9.058	< 13.635	< 11.669	< 8.147	< 3.887	< 3.823	< 4.44	< 3.871	< 5.402	< 4.934	< 7.824		< 7.048	< 13.635	117.5	
Percent Removal: cBOD5 - Raw Sewage (mg/L)	97.19	96.273	94.915	96.439	98.02	98.709	98.587	98.157	98.475	98.737	98.223	97.414			98.737		
<b>Biochemical Oxygen Demand: BOD5:</b>																	
Raw: # of samples of BOD5 - Raw Sewage (mg/L)	4	4	5	4	4	5	4	5	4	4	5	4	52				
Eff: Avg BOD5 - Final Effluent (mg/L)	< 4	< 3	< 3	< 4.25	< 3.75	< 3.4	< 3	< 3.6	< 3	< 3	< 3	< 3.5		< 3.375	< 4.25	25.0	
Loading: BOD5 - Final Effluent (kg/d)	< 10.511	< 9.058	< 13.635	< 16.531	< 10.184	< 4.13	< 3.823	< 4.995	< 3.871	< 5.402	< 4.934	< 9.128		< 8.017	< 16.531		
Percent Removal: BOD5 - Raw Sewage (mg/L)	96.537	97.235	97.263	96.647	98.113	98.756	99.063	98.258	98.646	98.894	98.684	98			99.063		
<b>Total Suspended Solids: TSS:</b>																	
Raw: Avg TSS - Raw Sewage (mg/L)	115.5	129	141.6	98	209.75	195.2	496	153.6	206.5	301	226.8	127		199.996	496		
Raw: # of samples of TSS - Raw Sewage (mg/L)	4	4	5	4	4	5	4	5	4	4	5	4	52				
Eff: Avg TSS - Final Effluent (mg/L)	< 5	< 5.25	< 3.8	< 3.5	< 4	< 3.6	< 3	< 4.8	< 5	< 3.75	< 3	< 6		< 4.225	6	15.0	
Eff: # of samples of TSS - Final Effluent (mg/L)	4	4	5	4	4	5	3	5	4	4	5	4	51				
Loading: TSS - Final Effluent (kg/d)	< 13.139	< 15.852	< 17.271	< 13.614	< 10.863	< 4.373	< 3.823	< 6.66	< 6.452	< 6.753	< 4.934	< 15.648		< 9.949	17.271	70.5	
Percent Removal: TSS - Raw Sewage (mg/L)	95.671	95.93	97.316	96.429	98.093	98.156	99.395	96.875	97.579	98.754	98.677	95.276			99.395		
<b>Total Phosphorus: TP:</b>																	
Raw: Avg TP - Raw Sewage (mg/L)	2.742	2.7	3.636	2.135	3.93	5.406	12.3	4.784	5.738	6.08	5.386	4.605		4.953	12.3		
Raw: # of samples of TP - Raw Sewage (mg/L)	4	4	5	4	4	5	4	5	4	4	5	4	52				
Eff: Avg TP - Final Effluent (mg/L)	0.038	0.04	0.058	0.042	0.058	< 0.04	0.02	0.056	0.06	0.035	0.056	0.06		< 0.047	0.06	0.2 - 0.3	
Eff: # of samples of TP - Final Effluent (mg/L)	4	4	5	4	4	5	3	5	4	4	5	4	51				
Loading: TP - Final Effluent (kg/d)	0.099	0.121	0.264	0.165	0.156	< 0.049	0.025	0.078	0.077	0.063	0.092	0.156		< 0.112	0.264		
Percent Removal: TP - Raw Sewage (mg/L)	98.633	98.519	98.405	98.009	98.537	99.26	99.837	98.829	98.954	99.424	98.96	98.697			99.837		
<b>Nitrogen Series:</b>																	
Raw: Avg TKN - Raw Sewage (mg/L)	24.048	23.475	17.268	17.575	26	45.96	52.55	39.52	45.575	47.948	44.38	38.45		35.229	52.55		
Raw: # of samples of TKN - Raw Sewage (mg/L)	4	4	5	4	4	5	4	5	4	4	5	4	52				
Eff: Avg TAN - Final Effluent (mg/L)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.024	< 0.02		< 0.012	< 0.024	5.0 - 15.0
Eff: # of samples of TAN - Final Effluent (mg/L)	4	4	5	4	4	5	3	5	4	4	5	4	51				
Loading: TAN - Final Effluent (kg/d)	< 0.026	< 0.03	< 0.045	< 0.039	< 0.027	< 0.012	< 0.013	< 0.014	< 0.013	< 0.018	< 0.039	< 0.052		< 0.027	< 0.052	4.0	
<b>Disinfection:</b>																	
Eff: GMD E. Coli - Final Effluent (cfu/100mL)	1.682	2	2	2	2	2	2	2	2	2	2	2		1.973	2	200.0	
Eff: # of samples of E. Coli - Final Effluent (cfu/100mL)	4	4	5	4	4	5	3	5	4	4	5	4	51				

## Appendix B

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### Septage Sample Data

**Ontario Clean Water Agency  
Time Series Info Report**

From: 01/01/2016 to 31/12/2016

Report extracted 03/06/2017 11:11

**Facility Org Number:** 5678  
**Facility Works Number:** 110000873  
**Facility Name:** MISSISSIPPI MILLS WASTEWATER TREATMENT FACILITY  
**Facility Owner:** Municipality of Mississippi Mills  
**Facility Classification:** Class 3 Wastewater Treatment  
**Receiver:** Mississippi River  
**Service Population:**  
**Total Design Capacity:** 14100.0 m3/day

	01/2016	02/2016	03/2016	04/2016	05/2016	06/2016	07/2016	08/2016	09/2016	10/2016	11/2016	12/2016	Total	Avg	Max	Min
<b>Septage / Biochemical Oxygen Demand: BOD5 - mg/L</b>																
Count Lab	4	6	6	4	2	10	2	8	12	17	20	15	106			
Max Lab	862	50700	3210	939	5270	3050	690	9930	1770	4900	10700	5310			50700	
Mean Lab	344	9808.333	937.667	537	5185	915.6	390.5	2775.625	957	1617.941	2731.6	1632.2		2171.596		
Min Lab	66	296	135	123	5100	142	91	78	33	44	69	73				33
<b>Septage / Septage Processed - m³</b>																
Count IH	31	29	31	30	31	30	31	31	30	31	30	31	366			
Total IH	163.96	105.71	153.79	177.81	135.27	191.436	106.24	263.38	273.07	153.05	250.04	156.65	2130.406			
Max IH	48.01	29.99	46.84	30.7	40.4	36.53	31.88	54.28	48.68	33.65	45.74	28.59			54.28	
Mean IH	5.289	3.645	4.961	5.927	4.364	6.381	3.427	8.496	9.102	4.937	8.335	5.053		5.821		
Min IH	0	0	0	0	0	0	0	0	0	0	0	0				0
<b>Septage / Septage Received - m³</b>																
Count IH	31	29	31	30	31	30	31	31	30	31	30	31	366			
Total IH	165.62	91.24	156.6	181.74	135.27	184.66	100.96	256.5	267.37	184.64	278.22	158.25	2161.07			
Max IH	49.34	21.5	45.72	30.7	40.4	37.13	26.36	49.94	45.08	39.67	51.56	28.68			51.56	
Mean IH	5.343	3.146	5.052	6.058	4.364	6.155	3.257	8.274	8.912	5.956	9.274	5.105		5.905		
Min IH	0	0	0	0	0	0	0	0	0	0	0	0				0
<b>Septage / Total Kjeldahl Nitrogen: TKN - mg/L</b>																
Count Lab	4	6	6	4	2	10	2	8	12	17	20	15	106			
Max Lab	179	894	402	240	1530	467	900	1820	1330	2290	2580	1350			2580	
Mean Lab	85.475	338.533	120.2	148.125	802.75	215.06	849.5	550.013	524.65	559.912	790.49	573.367		493.614		
Min Lab	17	75.6	27.4	59	75.5	59.7	799	49.1	34.2	43	63.6	74.5				17
<b>Septage / Total Phosphorus: TP - mg/L</b>																
Count Lab	4	6	6	4	2	10	2	8	12	17	20	15	106			
Max Lab	21.7	245	55.5	30.1	85.3	74.3	77	148	98.2	193	287	160			287	
Mean Lab	11.515	75.617	17.015	18.575	47.44	26.236	64	73.605	45.434	56.109	81.205	59.105		54.171		
Min Lab	3.23	11	3.07	6.4	9.58	7.51	51	5.84	4.65	4.2	7	8.47				3.07
<b>Septage / Total Solids: TS - mg/L</b>																
Count Lab	4	6	6	4	2	10	2	8	12	17	20	15	106			
Max Lab	2390	224000	6020	1600	4550	9100	2700	65400	13700	20200	41500	12400			224000	
Mean Lab	1292.5	43785	2730	1032.5	2605	3206	1620	11605	5055.833	5287.059	9754	4022.667		8346.968		
Min Lab	350	1020	670	630	660	450	540	380	340	310	440	850				310
<b>Septage / Total Suspended Solids: TSS - mg/L</b>																
Count Lab	4	6	6	4	2	10	2	8	12	17	20	15	106			
Max Lab	980	193000	5360	700	1020	7430	660	65000	8500	13200	24800	3700			193000	
Mean Lab	519.5	36676.67	1436.333	377.5	576	1720.2	408	10010.63	1913.333	3026.706	5918.9	928.267		5646.964		
Min Lab	108	350	200	80	132	72	156	64	56	76	96	116				56
<b>Septage / pH - ---</b>																
Count Lab	5	6	6	4	2	10	2	8	12	17	20	15	107			
Max Lab	7.54	7.48	7.51	7.32	8.76	7.83	8.34	8.14	9.14	8.7	9.16	9.22			9.22	
Mean Lab	7.246	6.903	6.973	7.03	7.85	7.307	7.645	7.143	7.851	7.572	7.938	7.822		7.527		
Min Lab	6.95	6.19	6.45	6.82	6.94	6.91	6.95	5.88	6.91	6.56	6.63	6.63				5.88

# Appendix C

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## **Biosolids Application Summary**



Mississippi Mills - Sites Applied with Biosolids 2016

Date 2016	Farmer/ Landowner	NASM#	Lot	Con	Township	Field #	Application Method	Total Dry Tonnes (t)	Area Spread (ha)
May 25-26	Cochran - Giles Farm	20811	5	7	Pakenham	1	Incorporated 6hrs	361.68	11.65
Oct 26	Sunol Farms - James	22416	6	11	Ramsay	2E	Incorporated 6hrs	280.53	8.82
						2W		124.68	3.79
<b>TOTAL</b>								<b>766.89</b>	<b>24.26</b>



### Town of Mississippi Mills Landbank

Farmer	Site #	Farm Name	Lot	Con	Township	Area (ha)	Expiry Date
Don, Cathy & Adam Cochrane	20811	Clayton Rd.	21	7	Ramsay	37.2	Dec 31 2016
		Gavin Giles	5	7	Pakenham	22	
		Home Farm	23	7	Ramsay	38.16	
		John Steele - Bennie Rd	25	7	Ramsay	15.2	
		John Steele - Home	22	7	Ramsay	30.4	
		Lyle Reid North	4	7	Pakenham	16	
		Lyle Reid South	4	7	Pakenham	11.2	
		Peter Cochran Conc 7	23	6	Ramsay	26.8	
		Peter Cochran Home	20	6	Ramsay	27.44	
Sharon Reid	3	7	Pakenham	15.2			
Sunol Farms	22416	James	6	11	Ramsay	47.57	Dec 31 2020
TOTAL						287.17	

Town of Carleton Place - Sites in Progress 2016

Farmer/Landowner Farm Name	Lot	Conc	Municipality	Ward	Area (ha)
Cochran - Lyle Reid North	4	7	Mississippi Mills	Pakenham	16
Sunol Farms - James North	6-7	11	Mississippi Mills	Ramsay	53
				<b>TOTAL</b>	<b>69.0</b>

170.5 ac

**Twelve Month Average: January 2016 - December 2016**  
**Mississippi Mills**

Metals	Maximum Acceptable Concentration (mg/kg)	2016 Average
As	170	<2.0
Cd	34	<0.60
Co	340	1.59
Cr	2800	22.05
Cu	1700	465.59
Hg	11	0.36
Mo	94	2.45
Ni	420	11.55
Pb	1100	26.14
Se	34	<2.27
Zn	4200	357.68
E. Coli	Maximum Acceptable Concentration (CFU/g)	
	2,000,000	<352
Total P (%)		2.69
Ammonia+Ammonium (ppm)		265
Nitrate+Nitrites (ppm)		602
TKN (%)		3.04
Potassium (%)		0.093
Solids (%)		17.1

## Mississippi Mills - Monthly Haulage 2016

Month	dry tonnes (t)	% of Total Haulage
January	0	0.0
February	0	0.0
March	0	0.0
April	0	0.0
May	361.68	47.2
June	0	0.0
July	0	0.0
August	0	0.0
September	0	0.0
October	405.21	52.8
November	0	0.0
December	0	0.0
<b>Total:</b>	<b>766.89</b>	<b>100</b>

# Appendix D

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## Calibration Records

# Flowmeter Verification Certificate Transmitter

Customer  
 Order code  
 PROMAG 10 P DN150  
 Device type  
 E6085316000  
 Serial number  
 V1.03.00  
 Software Version Transmitter  
 19.01.2016  
 Verification date

Plant  
 FIT-611  
 Tag Name  
 1.0042 - 1.0042  
 K-Factor  
 0  
 Zero point  
 Software Version I/O-Module  
 10:02  
 Verification time

## Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	Basis: 0.65 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Not tested	0 P
Test Sensor	Passed	

### FieldCheck Details

103601  
 Production number  
 1.07.04  
 Software Version  
 03/2015  
 Last Calibration Date

### Simubox Details

8723898  
 Production number  
 1.00.01  
 Software Version  
 03/2015  
 Last Calibration Date

Date

Operator's Sign



Inspector's Sign

### Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. <sup>1)</sup>

The calibration of the Fieldcheck test system is fully traceable to national standards.

<sup>1)</sup> Prerequisite is an additional proof of electrode integrity with a high voltage test.

## FieldCheck - Result Tab Transmitter

Customer		Plant	
Order code		Tag Name	FIT-611
Device type	PROMAG 10 P DN150	K-Factor	1.0042 - 1.0042
Serial number	E6085316000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	19.01.2016	Verification time	10:02

Verification Flow end value ( 100 % ): 6107.256 m3/d  
Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	<b>Test Transmitter</b>			
✓	Amplifier	305.364 m3/d (5%)	1.60 %	-1.07 %
✓		610.727 m3/d (10.0%)	1.10 %	-0.06 %
✓		3114.702 m3/d (51.0%)	0.70 %	-0.17 %
✓		6107.257 m3/d (100%)	0.65 %	-0.06 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	0.001 mA
✓		4.800 mA (5%)	0.05 mA	0.002 mA
✓		5.600 mA (10.0%)	0.05 mA	0.002 mA
✓		12.160 mA (51.0%)	0.05 mA	0.010 mA
✓		20.000 mA (100%)	0.05 mA	0.014 mA
—	Pulse Output 1	---	---	---
		<b>Start value</b>	<b>Limits range</b>	<b>Measured value</b>
	<b>Test Sensor</b>			
✓	Coil Curr. Rise	83.300 ms	20.000..83.300 ms	66.581 ms
✓	Coil Curr. Stability		---	---

### Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

## FieldCheck: Parameters Transmitter

Customer		Plant	
Order code		Tag Name	FIT-611
Device type	PROMAG 10 P DN150	K-Factor	1.0042 - 1.0042
Serial number	E6085316000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	19.01.2016	Verification time	10:02

<b>Curent Output</b>	<b>Assign</b>	<b>Current Range</b>	<b>Value 0_4mA</b>	<b>Value 20 mA</b>		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 m3/d	3456.01 m3/d		
<b>Pulse Output</b>	<b>Assign</b>	<b>Pulse Value</b>	<b>Output signal</b>	<b>Pulse width</b>		
Terminal 24/25	VOLUME FLOW	0.025 m3/P	Passive/Positive	100.01 ms		

Actual System Ident.

129.0



# Flowmeter Verification Certificate Transmitter

Customer

Order code

PROMAG 10 P DN80

Device type

E6086D16000

Serial number

V1.03.00

Software Version Transmitter

19.01.2016

Verification date

Plant

FIT-612

Tag Name

1.0337 - 1.0337

K-Factor

0

Zero point

Software Version I/O-Module

10:11

Verification time

## Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	Basis: 0.65 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Not tested	0 P
Test Sensor	Passed	

### FieldCheck Details

103601

Production number

1.07.04

Software Version

03/2015

Last Calibration Date

### Simubox Details

8723898

Production number

1.00.01

Software Version

03/2015

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

### Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. <sup>1)</sup>

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

## FieldCheck - Result Tab Transmitter

Customer		Plant	
Order code		Tag Name	FIT-612
Device type	PROMAG 10 P DN80	K-Factor	1.0337 - 1.0337
Serial number	E6086D16000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	19.01.2016	Verification time	10:11

Verification Flow end value ( 100 % ): 1737.175 m3/d  
Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	<b>Test Transmitter</b>			
✓	Amplifier	86.859 m3/d (5%)	1.60 %	-1.25 %
✓		173.718 m3/d (10.0%)	1.10 %	-0.10 %
✓		885.960 m3/d (51.0%)	0.70 %	-0.16 %
✓		1737.176 m3/d (100%)	0.65 %	0.00 %
	<b>Current Output 1</b>			
✓		4.000 mA (0%)	0.05 mA	-0.002 mA
✓		4.800 mA (5%)	0.05 mA	-0.002 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.001 mA
✓		12.160 mA (51.0%)	0.05 mA	-0.000 mA
✓		20.000 mA (100%)	0.05 mA	-0.004 mA
—	Pulse Output 1	---	---	---
		<b>Start value</b>	<b>Limits range</b>	<b>Measured value</b>
	<b>Test Sensor</b>			
✓	Coil Curr. Rise	50.000 ms	13.340..50.000 ms	43.255 ms
✓	Coil Curr. Stability		---	---

### Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

## FieldCheck: Parameters Transmitter

Customer		Plant	
Order code		Tag Name	FIT-612
Device type	PROMAG 10 P DN80	K-Factor	1.0337 - 1.0337
Serial number	E6086D16000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	19.01.2016	Verification time	10:11

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 m3/d	864.01 m3/d		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	0.005 m3/P	Passive/Positive	100.01 ms		

Actual System Ident.

129.0

# Flowmeter Verification Certificate Transmitter

Customer

Plant

Order code

FIT-621

PROMAG 10 P DN150

Tag Name

1.0176 - 1.0176

Device type

K-Factor

E6087E16000

0

Serial number

Zero point

V1.03.00

Software Version I/O-Module

Software Version Transmitter

10:33

19.01.2016

Verification time

Verification date

## Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	Basis: 0.65 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Not tested	0 P
Test Sensor	Passed	

### FieldCheck Details

103601

Production number

1.07.04

Software Version

03/2015

Last Calibration Date

### Simubox Details

8723898

Production number

1.00.01

Software Version

03/2015

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

### Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. <sup>1)</sup>

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

## FieldCheck - Result Tab Transmitter

Customer		Plant	
Order code		Tag Name	FIT-621
Device type	PROMAG 10 P DN150	K-Factor	1.0176 - 1.0176
Serial number	E6087E16000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	19.01.2016	Verification time	10:33

Verification Flow end value ( 100 % ): 6107.256 m3/d  
 Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	<b>Test Transmitter</b>			
✓	Amplifier	305.364 m3/d (5%)	1.60 %	-1.32 %
✓		610.727 m3/d (10.0%)	1.10 %	0.05 %
✓		3114.702 m3/d (51.0%)	0.70 %	-0.12 %
✓		6107.257 m3/d (100%)	0.65 %	-0.06 %
	<b>Current Output 1</b>			
✓		4.000 mA (0%)	0.05 mA	0.044 mA
✓		4.800 mA (5%)	0.05 mA	-0.002 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.003 mA
✓		12.160 mA (51.0%)	0.05 mA	-0.006 mA
✓		20.000 mA (100%)	0.05 mA	-0.009 mA
—	<b>Pulse Output 1</b>	---	---	---
		<b>Start value</b>	<b>Limits range</b>	<b>Measured value</b>
	<b>Test Sensor</b>			
✓	Coil Curr. Rise	83.300 ms	20.000..83.300 ms	66.555 ms
✓	Coil Curr. Stability		---	---

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

**FieldCheck: Parameters Transmitter**

Customer		Plant	
Order code		Tag Name	FIT-621
Device type	PROMAG 10 P DN150	K-Factor	1.0176 - 1.0176
Serial number	E6087E16000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	19.01.2016	Verification time	10:33

<b>Curent Output</b>	<b>Assign</b>	<b>Current Range</b>	<b>Value 0_4mA</b>	<b>Value 20 mA</b>		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 m3/d	3456.01 m3/d		
<b>Pulse Output</b>	<b>Assign</b>	<b>Pulse Value</b>	<b>Output signal</b>	<b>Pulse width</b>		
Terminal 24/25	VOLUME FLOW	0.025 m3/P	Passive/Positive	100.01 ms		

Actual System Ident.

127.0

# Flowmeter Verification Certificate Transmitter

Customer	Plant
Order code	FIT-622
PROMAG 10 P DN80	Tag Name
Device type	1.0288 - 1.0288
E608FC16000	K-Factor
Serial number	0
V1.03.00	Zero point
Software Version Transmitter	Software Version I/O-Module
19.01.2016	10:50
Verification date	Verification time

## Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	Basis: 0.65 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Not tested	0 P
Test Sensor	Passed	

### FieldCheck Details


103601
Production number
1.07.04
Software Version
03/2015
Last Calibration Date

### Simubox Details

8723898
Production number
1.00.01
Software Version
03/2015
Last Calibration Date

Date

Operator's Sign


 Inspector's Sign

### Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. <sup>1)</sup>

The calibration of the Fieldcheck test system is fully traceable to national standards.

<sup>1)</sup> Prerequisite is an additional proof of electrode integrity with a high voltage test.

## FieldCheck - Result Tab Transmitter

Customer		Plant	
Order code		Tag Name	FIT-622
Device type	PROMAG 10 P DN80	K-Factor	1.0288 - 1.0288
Serial number	E608FC16000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	19.01.2016	Verification time	10:50

Verification Flow end value ( 100 % ): 1737.175 m3/d  
Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	<b>Test Transmitter</b>			
✓	Amplifier	86.859 m3/d (5%)	1.60 %	-1.30 %
✓		173.718 m3/d (10.0%)	1.10 %	-0.27 %
✓		885.960 m3/d (51.0%)	0.70 %	-0.08 %
✓		1737.176 m3/d (100%)	0.65 %	-0.01 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	0.032 mA
✓		4.800 mA (5%)	0.05 mA	0.002 mA
✓		5.600 mA (10.0%)	0.05 mA	0.002 mA
✓		12.160 mA (51.0%)	0.05 mA	0.003 mA
✓		20.000 mA (100%)	0.05 mA	0.007 mA
—	Pulse Output 1	---	---	---
		<b>Start value</b>	<b>Limits range</b>	<b>Measured value</b>
	<b>Test Sensor</b>			
✓	Coil Curr. Rise	50.000 ms	13.340..50.000 ms	43.151 ms
✓	Coil Curr. Stability		---	---

### Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention



## FieldCheck: Parameters Transmitter

Customer		Plant	
Order code		Tag Name	FIT-622
Device type	PROMAG 10 P DN80	K-Factor	1.0288 - 1.0288
Serial number	E608FC16000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	19.01.2016	Verification time	10:50

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 m3/d	864.01 m3/d		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	0.005 m3/P	Passive/Positive	100.01 ms		

Actual System Ident.

125.0

# Flowmeter Verification Certificate Transmitter

Customer

Order code

PROMAG 10 P DN150

Device type

E608FE16000

Serial number

V1.03.00

Software Version Transmitter

19.01.2016

Verification date

Plant

FIT-631

Tag Name

1.016 - 1.016

K-Factor

0

Zero point

Software Version I/O-Module

10:20

Verification time

## Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	Basis: 0.65 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Not tested	0 P
Test Sensor	Passed	

### FieldCheck Details

103601

Production number

1.07.04

Software Version

03/2015

Last Calibration Date

### Simubox Details

8723898

Production number

1.00.01

Software Version

03/2015

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

### Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. <sup>1)</sup>

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

## FieldCheck - Result Tab Transmitter

Customer		Plant	
Order code		Tag Name	FIT-631
Device type	PROMAG 10 P DN150	K-Factor	1.016 - 1.016
Serial number	E608FE16000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	19.01.2016	Verification time	10:20

Verification Flow end value ( 100 % ): 6107.256 m3/d  
Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	<b>Test Transmitter</b>			
✓	Amplifier	305.364 m3/d (5%)	1.60 %	-1.38 %
✓		610.727 m3/d (10.0%)	1.10 %	-0.19 %
✓		3114.702 m3/d (51.0%)	0.70 %	-0.23 %
✓		6107.257 m3/d (100%)	0.65 %	-0.12 %
✓	<b>Current Output 1</b>	4.000 mA (0%)	0.05 mA	0.044 mA
✓		4.800 mA (5%)	0.05 mA	-0.002 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.001 mA
✓		12.160 mA (51.0%)	0.05 mA	-0.004 mA
✓		20.000 mA (100%)	0.05 mA	-0.007 mA
—	<b>Pulse Output 1</b>	---	---	---
		<b>Start value</b>	<b>Limits range</b>	<b>Measured value</b>
	<b>Test Sensor</b>			
✓	Coil Curr. Rise	83.300 ms	20.000..83.300 ms	66.868 ms
✓	Coil Curr. Stability		---	---

### Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

## FieldCheck: Parameters Transmitter

Customer		Plant	
Order code		Tag Name	FIT-631
Device type	PROMAG 10 P DN150	K-Factor	1.016 - 1.016
Serial number	E608FE16000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	19.01.2016	Verification time	10:20

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 m3/d	3456.01 m3/d		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	0.025 m3/P	Passive/Positive	100.01 ms		

Actual System Ident.

127.0

# Flowmeter Verification Certificate Transmitter

Customer

Order code

PROMAG 10 P DN80

Device type

E6088416000

Serial number

V1.03.00

Software Version Transmitter

19.01.2016

Verification date

Plant

FIT-632

Tag Name

1.055 - 1.055

K-Factor

0

Zero point

Software Version I/O-Module

10:58

Verification time

## Verification result Transmitter: Failed

Test item	Result	Applied Limits
Amplifier	Failed	Basis: 0.65 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Not tested	0 P
Test Sensor	Passed	

### FieldCheck Details

103601

Production number

1.07.04

Software Version

03/2015

Last Calibration Date

### Simubox Details

8723898

Production number

1.00.01

Software Version

03/2015

Last Calibration Date

Date

Operator's Sign


  
Inspector's Sign

## FieldCheck - Result Tab Transmitter

Customer		Plant	
Order code		Tag Name	FIT-632
Device type	PROMAG 10 P DN80	K-Factor	1.055 - 1.055
Serial number	E6088416000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	19.01.2016	Verification time	10:58

Verification Flow end value ( 100 % ): 1737.175 m3/d  
 Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	<b>Test Transmitter</b>			
✓	Amplifier	86.859 m3/d (5%)	1.60 %	-1.34 %
X		173.718 m3/d (10.0%)	1.10 %	-1.19 %
✓		885.960 m3/d (51.0%)	0.70 %	-0.14 %
✓		1737.176 m3/d (100%)	0.65 %	-0.06 %
✓	<b>Current Output 1</b>	4.000 mA (0%)	0.05 mA	0.000 mA
✓		4.800 mA (5%)	0.05 mA	-0.001 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.000 mA
✓		12.160 mA (51.0%)	0.05 mA	0.001 mA
✓		20.000 mA (100%)	0.05 mA	0.005 mA
—	<b>Pulse Output 1</b>	---	---	---
		<b>Start value</b>	<b>Limits range</b>	<b>Measured value</b>
	<b>Test Sensor</b>			
✓	Coil Curr. Rise	50.000 ms	13.340..50.000 ms	43.333 ms
✓	Coil Curr. Stability		---	---

Legend of symbols

✓	X	—	?	!
Passed	Failed	not tested	not testable	Attention

## FieldCheck: Parameters Transmitter

Customer		Plant	
Order code		Tag Name	FIT-632
Device type	PROMAG 10 P DN80	K-Factor	1.055 - 1.055
Serial number	E6088416000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	19.01.2016	Verification time	10:58

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 m3/d	864.01 m3/d		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	0.005 m3/P	Passive/Positive	100.01 ms		

Actual System Ident.

125.0

# Flowmeter Verification Certificate Transmitter

Customer

Order code

PROMAG 10 P DN80

Device type

E6086E16000

Serial number

V1.03.00

Software Version Transmitter

19.01.2016

Verification date

Plant

FIT-750

Tag Name

1.1234 - 1.1234

K-Factor

0

Zero point

Software Version I/O-Module

11:21

Verification time

## Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	Basis: 0.65 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Not tested	0 P
Test Sensor	Passed	

### FieldCheck Details

103601

Production number

1.07.04

Software Version

03/2015

Last Calibration Date

### Simubox Details

8723898

Production number

1.00.01

Software Version

03/2015

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

### Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. <sup>1)</sup>

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.



## FieldCheck - Result Tab Transmitter

Customer		Plant	
Order code		Tag Name	FIT-750
Device type	PROMAG 10 P DN80	K-Factor	1.1234 - 1.1234
Serial number	E6086E16000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	19.01.2016	Verification time	11:21

Verification Flow end value ( 100 % ): 1737.175 m3/d  
 Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	<b>Test Transmitter</b>			
✓	Amplifier	86.859 m3/d (5%)	1.60 %	-1.06 %
✓		173.718 m3/d (10.0%)	1.10 %	-0.99 %
✓		885.960 m3/d (51.0%)	0.70 %	-0.11 %
✓		1737.176 m3/d (100%)	0.65 %	-0.00 %
	<b>Current Output 1</b>			
✓		4.000 mA (0%)	0.05 mA	0.008 mA
✓		4.800 mA (5%)	0.05 mA	0.001 mA
✓		5.600 mA (10.0%)	0.05 mA	0.000 mA
✓		12.160 mA (51.0%)	0.05 mA	0.001 mA
✓		20.000 mA (100%)	0.05 mA	0.005 mA
—	Pulse Output 1	---	---	---
		<b>Start value</b>	<b>Limits range</b>	<b>Measured value</b>
	<b>Test Sensor</b>			
✓	Coil Curr. Rise	50.000 ms	13.340..50.000 ms	43.802 ms
✓	Coil Curr. Stability		---	---

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

## FieldCheck: Parameters Transmitter

Customer		Plant	
Order code		Tag Name	FIT-750
Device type	PROMAG 10 P DN80	K-Factor	1.1234 - 1.1234
Serial number	E6086E16000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	19.01.2016	Verification time	11:21

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 m3/d	4320.01 m3/d		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	0.005 m3/P	Passive/Positive	100.01 ms		

Actual System Ident.

121.0

# Flowmeter Verification Certificate Transmitter

Customer

Plant

Order code

FIT-1091

PROMAG 10 P DN150

Tag Name

1.0062 - 1.0062

Device type

K-Factor

E608FD16000

0

Serial number

Zero point

V1.03.00

Software Version I/O-Module

Software Version Transmitter

11:34

19.01.2016

Verification time

Verification date

## Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	Basis: 0.65 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Not tested	0 P
Test Sensor	Passed	

### FieldCheck Details

103601

Production number

1.07.04

Software Version

03/2015

Last Calibration Date

### Simubox Details

8723898

Production number

1.00.01

Software Version

03/2015

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

### Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. <sup>1)</sup>

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

## FieldCheck - Result Tab Transmitter

Customer		Plant	
Order code		Tag Name	FIT-1091
Device type	PROMAG 10 P DN150	K-Factor	1.0062 - 1.0062
Serial number	E608FD16000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	19.01.2016	Verification time	11:34

Verification Flow end value ( 100 % ): 70.686 l/s  
Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	<b>Test Transmitter</b>			
✓	Amplifier	3.534 l/s (5%)	1.60 %	-1.50 %
✓		7.069 l/s (10.0%)	1.10 %	-0.09 %
✓		36.050 l/s (51.0%)	0.70 %	-0.00 %
✓		70.686 l/s (100%)	0.65 %	0.00 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	0.001 mA
✓		4.800 mA (5%)	0.05 mA	0.000 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.001 mA
✓		12.160 mA (51.0%)	0.05 mA	-0.000 mA
✓		20.000 mA (100%)	0.05 mA	0.001 mA
—	Pulse Output 1	---	---	---
		<b>Start value</b>	<b>Limits range</b>	<b>Measured value</b>
	<b>Test Sensor</b>			
✓	Coil Curr. Rise	83.300 ms	20.000..83.300 ms	66.581 ms
✓	Coil Curr. Stability		---	---

### Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

## FieldCheck: Parameters Transmitter

Customer		Plant	
Order code		Tag Name	FIT-1091
Device type	PROMAG 10 P DN150	K-Factor	1.0062 - 1.0062
Serial number	E608FD16000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	19.01.2016	Verification time	11:34

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 l/s	50.00 l/s		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	0.025 m3/P	Passive/Positive	100.01 ms		

Actual System Ident.

121.0

# Flowmeter Verification Certificate Transmitter

Customer

Plant

Order code

FIT350

PROMAG 53 P DN100

Tag Name

1.2918 - 1.2918

Device type

K-Factor

E60E6616000

2

Serial number

Zero point

V2.03.00

V1.05.03

Software Version Transmitter

Software Version I/O-Module

30.06.2016

10:19

Verification date

Verification time

## Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	Basis: 0.55 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Not tested	0 P
Test Sensor	Passed	

### FieldCheck Details

103601

Production number

1.07.07

Software Version

04/2016

Last Calibration Date

### Simubox Details

8723898

Production number

1.00.01

Software Version

04/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

### Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. <sup>1)</sup>

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

## FieldCheck - Result Tab Transmitter

Customer		Plant	
Order code		Tag Name	FIT350
Device type	PROMAG 53 P DN100	K-Factor	1.2918 - 1.2918
Serial number	E60E6616000	Zero point	2
Software Version Transmitter	V2.03.00	Software Version I/O-Module	V1.05.03
Verification date	30.06.2016	Verification time	10:19

Verification Flow end value ( 100 % ): 2714.336 m3/d  
Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	<b>Test Transmitter</b>			
✓	Amplifier	135.718 m3/d (5%)	1.50 %	0.07 %
✓		271.435 m3/d (10.0%)	1.00 %	0.10 %
✓		1628.603 m3/d (60.0%)	0.58 %	0.04 %
✓		2714.337 m3/d (100%)	0.55 %	0.02 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	-0.000 mA
✓		4.800 mA (5%)	0.05 mA	-0.000 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.010 mA
✓		13.600 mA (60.0%)	0.05 mA	0.000 mA
✓		20.000 mA (100%)	0.05 mA	0.000 mA
—	Pulse Output 1	---	---	---
		<b>Start value</b>	<b>Limits range</b>	<b>Measured value</b>
	<b>Test Sensor</b>			
✓	Coil Curr. Rise	5.000 ms	0.000..14.250 ms	6.264 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..300.001 mV	6.544 mV

### Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

## FieldCheck: Parameters Transmitter

Customer		Plant	
Order code		Tag Name	FIT350
Device type	PROMAG 53 P DN100	K-Factor	1.2918 - 1.2918
Serial number	E60E6616000	Zero point	2
Software Version Transmitter	V2.03.00	Software Version I/O-Module	V1.05.03
Verification date	30.06.2016	Verification time	10:19

<b>Curent Output</b>	<b>Assign</b>	<b>Current Range</b>	<b>Value 0_4mA</b>	<b>Value 20 mA</b>		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 m3/d	4320.01 m3/d		
<b>Pulse Output</b>	<b>Assign</b>	<b>Pulse Value</b>	<b>Output signal</b>	<b>Pulse width</b>		
Terminal 24/25	VOLUME FLOW	0.008 m3/P	Passive/Positive	100.01 ms		

Actual System Ident.

121.0



# Flowmeter Verification Certificate Transmitter

Customer

Order code

PROMAG 53 P DN200

Device type

E6088316000

Serial number

V2.03.00

Software Version Transmitter

30.06.2016

Verification date

Plant

FIT-405

Tag Name

1.0223 - 1.0223

K-Factor

11

Zero point

V1.05.03

Software Version I/O-Module

10:04

Verification time

## Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	Basis: 0.55 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Not tested	0 P
Test Sensor	Passed	

### FieldCheck Details

103601

Production number

1.07.07

Software Version

04/2016

Last Calibration Date

### Simubox Details

8723898

Production number

1.00.01

Software Version

04/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

### Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. <sup>1)</sup>

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

## FieldCheck - Result Tab Transmitter

Customer		Plant	
Order code		Tag Name	FIT-405
Device type	PROMAG 53 P DN200	K-Factor	1.0223 - 1.0223
Serial number	E6088316000	Zero point	11
Software Version Transmitter	V2.03.00	Software Version I/O-Module	V1.05.03
Verification date	30.06.2016	Verification time	10:04

Verification Flow end value ( 100 % ): 125.664 l/s  
Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	<b>Test Transmitter</b>			
✓	Amplifier	6.283 l/s (5%)	1.50 %	0.09 %
✓		12.566 l/s (10.0%)	1.00 %	0.05 %
✓		75.398 l/s (60.0%)	0.58 %	0.01 %
✓		125.665 l/s (100%)	0.55 %	0.00 %
	<b>Current Output 1</b>			
✓		4.000 mA (0%)	0.05 mA	-0.000 mA
✓		4.800 mA (5%)	0.05 mA	-0.000 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.014 mA
✓		13.600 mA (60.0%)	0.05 mA	-0.001 mA
✓		20.000 mA (100%)	0.05 mA	-0.004 mA
—	Pulse Output 1	---	---	---
		<b>Start value</b>	<b>Limits range</b>	<b>Measured value</b>
	<b>Test Sensor</b>			
✓	Coil Curr. Rise	13.300 ms	0.000..27.625 ms	18.364 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..300.001 mV	9.807 mV

### Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

**FieldCheck: Parameters Transmitter**

Customer		Plant	
Order code		Tag Name	FIT-405
Device type	PROMAG 53 P DN200	K-Factor	1.0223 - 1.0223
Serial number	E6088316000	Zero point	11
Software Version Transmitter	V2.03.00	Software Version I/O-Module	V1.05.03
Verification date	30.06.2016	Verification time	10:04

<b>Curent Output</b>	<b>Assign</b>	<b>Current Range</b>	<b>Value 0_4mA</b>	<b>Value 20 mA</b>		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 I/s	150.01 I/s		
<b>Pulse Output</b>	<b>Assign</b>	<b>Pulse Value</b>	<b>Output signal</b>	<b>Pulse width</b>		
Terminal 24/25	VOLUME FLOW	37.854 I/P	Passive/Positive	100.01 ms		

Actual System Ident.

119.0

# Flowmeter Verification Certificate Transmitter

Customer

Plant

Order code

PROMAG 53 W DN100

Tag Name

1.2931 - 1.2931

Device type

E309B116000

K-Factor

6

Serial number

V2.03.00

Zero point

V1.05.03

Software Version Transmitter

30.06.2016

Software Version I/O-Module

10:32

Verification date

Verification time

## Verification result Transmitter: Failed

Test item	Result	Applied Limits
Amplifier	Failed	Basis: 0.53 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Not tested	0 P
Test Sensor	Passed	

### FieldCheck Details

103601

Production number

1.07.07

Software Version

04/2016

Last Calibration Date

### Simubox Details

8723898

Production number

1.00.01

Software Version

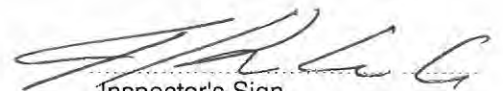
04/2016

Last Calibration Date

Date

Operator's Sign

Inspector's Sign



## FieldCheck - Result Tab Transmitter

Customer		Plant	
Order code		Tag Name	-----
Device type	PROMAG 53 W DN100	K-Factor	1.2931 - 1.2931
Serial number	E309B116000	Zero point	6
Software Version Transmitter	V2.03.00	Software Version I/O-Module	V1.05.03
Verification date	30.06.2016	Verification time	10:32

Verification Flow end value ( 100 % ): 4633.344 m3/d  
Flow speed 6.83 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	<b>Test Transmitter</b>			
X	Amplifier	231.668 m3/d (5%)	1.09 %	-100.00 %
X		463.335 m3/d (10.0%)	0.79 %	-100.00 %
X		2780.008 m3/d (60.0%)	0.55 %	-100.00 %
X		4633.345 m3/d (100%)	0.53 %	-100.00 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	-0.000 mA
✓		4.800 mA (5%)	0.05 mA	-0.000 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.013 mA
✓		13.600 mA (60.0%)	0.05 mA	-0.003 mA
✓		20.000 mA (100%)	0.05 mA	-0.004 mA
—	Pulse Output 1	---	---	---
		<b>Start value</b>	<b>Limits range</b>	<b>Measured value</b>
	<b>Test Sensor</b>			
✓	Coil Curr. Rise	5.000 ms	0.000..14.250 ms	7.905 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..300.001 mV	3.284 mV

### Legend of symbols

✓	X	—	?	!
Passed	Failed	not tested	not testable	Attention

## FieldCheck: Parameters Transmitter

Customer		Plant	
Order code		Tag Name	*****
Device type	PROMAG 53 W DN100	K-Factor	1.2931 - 1.2931
Serial number	E309B116000	Zero point	6
Software Version Transmitter	V2.03.00	Software Version I/O-Module	V1.05.03
Verification date	30.06.2016	Verification time	10:32

<b>Curent Output</b>	<b>Assign</b>	<b>Current Range</b>	<b>Value 0_4mA</b>	<b>Value 20 mA</b>		
Terminal 26/27	VOLUME FLOW	4-20 mA activ	0.0 m3/d	3270.61 m3/d		
<b>Pulse Output</b>	<b>Assign</b>	<b>Pulse Value</b>	<b>Output signal</b>	<b>Pulse width</b>		
Terminal 24/25	VOLUME FLOW	0.004 m3/P	Passive/Negative	20.00 ms		

Actual System Ident.

123.0