

# Municipality Of Huron East 2012 Operations Report Seaforth Wastewater Facilities Reporting Period Jan-Dec 2012

## 1. Introduction

The treatment system consists of a mechanical extended aeration plant and three lagoon cells that operate as a 'Sutton System'. Wastewater flows from the Town of Seaforth wastewater collection system are directed by gravity flow to the Seaforth Pump Station located on Oak Street. Flows from this pump station are directed via force main to the treatment works. The Certificate of Approval was updated in October 2003 to permit the installation of a direct discharge line to the disinfection chamber, bypassing the lagoon system. This bypass line was to avoid instances of the production of hydrogen sulfide gas and elevated suspended solids in the lagoons during the winter months. The plant is normally operated in the 'the direct discharge mode' where flows from the mechanical plant are routed directly to the UV disinfection chamber and then to the outfall. During certain high flow conditions, excess flows from the treatment plant, are routed to lagoon cells #2 and #3. Lagoon cell #1 is used for the storage of waste activated sludge from the treatment plant. The final effluent is treated by UV disinfection before discharging to the Crozier Drain and then to the Bayfield River which is approximately 1.5 kms away.

Following is a list the facilities main treatment components.

- An inlet works consisting of a centrifuge grit removal system and a grit comminutor
- Two aeration tanks equipped with two surface aerators per tank.
- Two secondary clarifiers
- A return sludge pump station.
- Three facultative lagoon cells.
- An UV system rated for a total flow of 2,400 m<sup>3</sup>/day
- A weir and ultrasonic flow measurement device in the outlet channel.
- An alum storage tank and two metering pumps.

The sewage works, including the Oak Street pump station, are owned by the Corporation of the Municipality of Huron East and operated by CH2MHill . The waste water collection System is both owned and operated by the municipality of Huron East.

## 2. Regulatory Issues

CH2MHILL has made every effort during the reporting period to operate this wastewater system in accordance with applicable laws, certificates and regulations. To the best of our knowledge, the following report truthfully and accurately reflects any and all matters of non-compliance regarding the ownership and operation of the wastewater treatment plant during the reporting period.

During this period, the plant was operated in full compliance with applicable laws, regulations and the WWTP'S Certificate of Approval, save and except the following:

	None during this period
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Or

Requirement	Date of Failure	Measures to Correct the Failure
Ammonia	Jan	Elevated samples had subsided by time of resample
Ammonia	Dec	Elevated samples had subsided by time of resample

## 3. Compliance with Quality/Quantity Criteria

Month	Average Volume/Day m <sup>3</sup> /d	Plant Utilization (based on Avg. Day)	Max Volume/Day m <sup>3</sup> /d
Jan	3965	208.1%	4955
Feb	2088	109.9%	3116
Mar	2101	110.6%	2700
April	1663	87.5%	2034
May	995	52.4%	1513
June	1144	60.2%	1550
July	949	49.9%	1454
Aug	990	52.1%	1294
Sept	870	45.8%	1158
Oct	982	51.7%	1473
Nov	1322	69.6%	1897
Dec	1999	105.2%	2513

Plant Average Day Design Capacity is 1900 m<sup>3</sup>/d

## 4. Quality Assurance/Quality Control

- Maxxam Analytics Inc. conducts the required physical, chemical and biological testing of influent and effluent from each WWTP.

## 5. Maintenance Summary

### Seaforth Pump Station

- Clean out wet well.
- Replace U joint on drive shaft # 1 pump

### Seaforth WPCP

- Rebuild and reinstall Muffin monster
- Changed oil in all four Aerators
- Replaced Multi Ranger 200.
- Rebuilt motor North East Aerator.
- Rebuild and reinstall North East Aerator.
- New timer installed SE aerator.
- CT Environmental in to clean out clarifier channels.
- Wasted 12,167 M3 of sludge to # 1 Lagoon
- Harvey Dale hauled 37 M3 septic sludge to # 1 lagoon.

### General

- Maintained Aerators, return pumps and sewage pumps.
- Yearly inspections and test run all diesel generators monthly.
- Maintained all chemical pumps and injection systems.

## 6. Environmental/Operating Problems

- There were no unusual environmental/operating problems during 2012

## 7. Proposed Alterations, Extensions or Replacements

- None during this period

## 8. Calibration Procedures

- Flow meters were calibrated in 2012

## 9. Health & Safety Items

- Lifting equipment, Fire extinguishers, Gas monitors Monthly/Yearly inspections. Weekly Safety meeting along with Quarterly walk through completed for 2012

## 10. Status of Capital Projects

None during this period

## 11. Other Items

None

2012

Seaforth S.T.P.  
 Operating Number 110001177  
 Operating Authority: O.M.I. Canada Inc.  
 Municipality of Huron East

MONTH: Jan

YEAR 2012

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 3-Jan	2070	2167	120	75	10.0	1.3	335	4.0	6.0	0.11	236	2.20	42	8.13	13.12
2 9-Jan	2367	2378	240	130	22.0	5.8	356	6.0	6.0	0.13	262	2.80	16	8.00	12.42
3 16-Jan	2680	2710	340	160	16.0	2.6	250	8.0	7.0	0.18	282	2.30	32	7.85	10.59
4 23-Jan	2323	2425	460	210	19.0	3.7	293	10.0	7.0	0.24	305	2.40	3	7.57	9.63
5 30-Jan	2497	2669	380	97	17.0	3.8	279	8.0	6.0	0.13	298	1.70	1	7.60	9.89
6															
<b>Number of tests</b>			5	5	5	5	5	5	5	5	5	5	5	5	5
<b>Monthly Averages mg/l</b>			308	134	16.8	3.4	303	7.2	6.4	0.16	277	2.28	9	7.83	11.13
<b>Monthly Averages kg/d</b>								28.5	25.4	0.63		9			
<b>Monthly Objectives</b>								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
<b>Limits mg/l/kg/d</b>								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

**Comments:** See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times  
 Hydrogen Sulfide (if odour is present) weelky grab

2012

MONTH: Feb

Seaforth S.T.P.

Operating Number 110001177

Operating Authority: O.M.I. Canada Inc.

Municipality of Huron East

YEAR 2012

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 6-Feb	2846	2892	130	94	21.0	2.4	357	8.0	<10	0.10	280	0.93	1	7.93	15.88
2 13-Feb	2853	2940	150	130	31.0	3.7	355	3.0	5.0	0.09	316	1.80	15	7.67	10.02
3 21-Feb	2931	2990	190	140	28.0	3.5	353	<2	5.0	0.12	319	3.10	4	7.49	4.0
4 27-Feb	2917	2990	280	120	22.0	2.9	298	3.0	7.0	0.11	311	2.60	35	7.48	8.28
5															
6															
<b>Number of tests</b>			4	4	4	4	4	4	4	4	4	4	4	4	4
<b>Monthly Averages mg/l</b>			188	121	25.5	3.1	341	4.7	5.7	0.11	307	2.11	7	7.64	9.54
<b>Monthly Averages kg/d</b>								9.8	11.9	0.22		4.4			
<b>Monthly Objectives</b>								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
<b>Monthly Limits mg/l/kg/d</b>								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

**Comments:** See C of A for sigal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times  
Hydrogen Sulfide (if odour is present) weelky grab

2012

MONTH: Mar

Seaforth S.T.P.

Operating Number 110001177

YEAR 2012

Operating Authority: O.M.I. Canada Inc.

Municipality of Huron East

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 5-Mar	2412	2393	160	71	12.0	1.4	290	5.0	8.0	0.15	304	2.00	250	7.50	9.10
2 12-Mar	2788	2900	240	140	20.0	2.2	300	3.0	7.0	0.13	310	<0.050	5	7.39	8.32
3 19-Mar	2397	2468	170	110	22.0	2.8	340	2.0	5.0	0.08	320	3.60	1	7.42	7.31
4 26-Mar	2845	2839	95	150	35.0	4.4	360	2.0	6.0	0.09	300	0.29	1	7.43	7.90
5															
6 /															
<b>Number of tests</b>			4	4	4	4	4	4	4	4	4	4	4	4	4
<b>Monthly Averages mg/l</b>			166	118	22.3	2.7	323	3.0	6.5	0.11	309	1.96	6	7.44	8.16
<b>Monthly Averages kg/d</b>								6.3	13.6	0.23		4.11			
<b>Monthly Objectives</b>								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
<b>Monthly Limits mg/l/kg/d</b>								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

**Comments:** See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times  
Hydrogen Sulfide (if odour is present) weelky grab

2012

MONTH: Apr

Seaforth S.T.P.

Operating Number 110001177

Operating Authority: O.M.I. Canada Inc.

Municipality of Huron East

YEAR 2012

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 2-Apr	2946	3067	390	180	36.0	4.1	340	6.0	6.0	0.09	190	0.05	1	7.70	10.5
10-Apr	3077	3165	340	160	32.0	2.5	290	3.0	7.0	0.08	280	1.50	220	7.28	7.79
3 18-Apr	3195	3026	390	200	30.0	0.5	280	12.0	1.0	0.05	140	0.10	1	7.51	9.1
4 23-Apr	3255	3364	370	240	51.0	8.0	390	2.0	6.0	0.06	130	0.07	1	8.08	8.88
5 30-Apr	3180	3451	220	190	31.0	1.8	350	2.0	2.0	0.02	30	0.76	1	8	11.68
6 /															
<b>Number of tests</b>			5	5	5	5	5	5	5	5	5	5	5	5	5
<b>Monthly Averages mg/l</b>			342	194	36.0	3.4	330	5.0	4.4	0.1	154	0.49	3	7.80	9.59
<b>Monthly Averages kg/d</b>								8.3	7.3	0.16		0.8			
<b>Monthly Objectives</b>								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
<b>Monthly Limits mg/l/kg/d</b>								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

Comments: See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times

Hydrogen Sulfide (if odour is present) weelky grab

2012

MONTH: May

Seaforth S.T.P.  
 Operating Number 110001177  
 Operating Authority: O.M.I. Canada Inc.  
 Municipality of Huron East

YEAR 2012

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 7-May	3109	3324	500	280	32.0	2.8	340	3.0	2.0	0.02	110	0.34	1	8.33	9.58
2 14-May	3430	3518	490	410	49.0	7.1	380	3.0	0.0	0.28	77	0.05	1	9.35	9.3
3 22-May	3210	3263	640	1200	68.0	13.0	400	5.0	1.0	0.04	70	0.05	1	9.17	4.8
4 28-May	3303	3417	590	370	39.0	4.5	230	4.0	2.0	0.06	67	0.05	1	8.58	5.2
5															
/															
<b>Number of tests</b>			4	4	4	4	4	4	4	4	4	4	4	4	4
<b>Monthly Averages mg/l</b>			555	565	47.0	6.9	338	3.8	1.3	0.10	81	0.12	1	8.86	7.22
<b>Monthly Averages kg/d</b>								3.8	1.3	0.1		0.11			
<b>Monthly Objectives</b>								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
<b>Monthly Limits mg/l/kg/d</b>								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

**Comments:** See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times  
 Hydrogen Sulfide (if odour is present) weelky grab



2012

Seaforth S.T.P.  
 Operating Number 110001177  
 Operating Authority: O.M.I. Canada Inc.  
 Municipality of Huron East

MONTH: Jun

YEAR 2012

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 4-Jun	2817	2794	200	260	34.0	3.4	370	2.0	5.0	0.06	230	0.05	11	7.27	7.6
2 11-Jun	2778	2948	490	270	49.0	5.7	400	2.0	6.0	0.15	230	0.05	6	7.42	6.7
3 18-Jun	2957	3073	98	140	32.0	2.9	350	2.0	5.0	0.05	240	0.05	17	7.66	6.76
4 25-Jun	2389	2701	280	270	31.0	3.7	390	2.0	5.0	0.65	240	0.05	33	7.56	6.48
5															
<b>Number of tests</b>			4	4	4	4	4	4	4	4	4	4	4	4	4
<b>Monthly Averages mg/l</b>			267	235	36.5	3.9	378	2.0	5.3	0.23	235	0.05	14	7.48	6.88
<b>Monthly Averages kg/d</b>								2.3	6.1	0.26		0.05			
<b>Monthly Objectives</b>								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
<b>Monthly Limits mg/l/kg/d</b>								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

**Comments:** See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times  
 Hydrogen Sulfide (if odour is present) weelky grab

2012

MONTH: Jul

Seaforth S.T.P.  
 Operating Number 110001177  
 Operating Authority: O.M.I. Canada Inc.  
 Municipality of Huron East

YEAR 2012

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 3-Jul	3096	2982	75	130	38.0	3.4	390	2.0	5.0	0.40	240	0.07	15	7.58	6.05
2 9-Jul	3634	3261	300	84	22.0	1.6	270	2.0	7.0	0.38	260	0.05	4	7.64	6.24
3 16-Jul	2872	2976	490	250	29.0	3.0	350	2.0	6.0	0.50	230	0.21	5	7.46	6.16
4 23-Jul	2288	2681	260	130	25.0	2.0	360	3.0	10.0	0.12	270	0.19	14	7.56	4.6
5 30-Jul	2598	2711	390	160	28.0	3.7	340	3.0	6.0	0.20	260	0.23	16	7	5.93
6 /															
<b>Number of tests</b>			5	5	5	5	5	5	5	5	5	5	5	5	5
<b>Monthly Averages mg/l</b>			303	151	28.4	2.7	342	2.4	6.8	0.32	252	0.15	9	7.52	5.80
<b>Monthly Averages kg/d</b>								2.3	6.5	0.3		0.142			
<b>Monthly Objectives</b>								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
<b>Monthly Limits mg/l/kg/d</b>								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

**Comments:** See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times

Hydrogen Sulfide (if odour is present) weelky grab

2012

MONTH: Aug

Seaforth S.T.P.

Operating Number 110001177

YEAR 2012

Operating Authority: O.M.I. Canada Inc.

Municipality of Huron East

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 7-Aug	2318	2375	200	140	36.0	3.2	390	3.0	9.0	0.55	230	0.13	1	7.48	1.42
2 13-Aug	2557	2600	460	370	40.0	3.8	380	5.0	10.0	0.17	280	0.15	24	7.45	4.78
3 20-Aug	2828	2857	230	95	21.0	2.3	320	2.0	12.0	0.19	260	0.14	45	7.55	5.91
4 27-Aug	2763	2988	250	420	5.6	5.6	330	2.0	7.0	0.16	250	1.20	14	7.49	5.37
5															
6 /															
Number of tests			4	4	4	4	4	4	4	4	4	4	4	4	4
Monthly Averages mg/l			285	256	25.7	3.7	355	3.0	9.5	0.27	255	0.41	11	7.49	4.37
Monthly Averages kg/d								3.0	9.4	0.27		0.41			
Monthly Objectives								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
Monthly Limits mg/l/kg/d								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

Comments: See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times  
Hydrogen Sulfide (if odour is present) weelky grab

2012

Seaforth S.T.P.  
 Operating Number 110001177  
 Operating Authority: O.M.I. Canada Inc.  
 Municipality of Huron East

MONTH: Sep

YEAR 2012

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 4-Sep	3273	3023	100	110	27.0	3.1	350	5.0	13.0	0.98	180	0.29	760	7.66	5.19
2 10-Sep	2769	2779	550	400	33.0	3.8	380	2.0	3.0	0.20	240	0.13	20	7.75	6.3
3 17-Sep	2685	2760	460	430	49.0	8.4	340	2.0	9.0	0.12	270	0.11	20	7.58	6.6
4 24-Sep	2834	3040	240	320	38.0	6.5	370	2.0	6.0	0.15	240	0.17	1	7.8	7.2
5															
6															
<b>Number of tests</b>			4	4	4	4	4	4	4	4	4	4	4	4	4
<b>Monthly Averages mg/l</b>			338	315	36.8	5.5	360	2.8	7.8	0.36	233	0.18	23	7.70	6.33
<b>Monthly Averages kg/d</b>								2.4	6.8	0.31		0.15			
<b>Monthly Objectives</b>								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
<b>Monthly Limits mg/l/kg/d</b>								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

**Comments:** See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times  
 Hydrogen Sulfide (if odour is present) weelky grab

2012

MONTH: Oct

Seaforth S.T.P.  
 Operating Number 110001177  
 Operating Authority: O.M.I. Canada Inc.  
 Municipality of Huron East

YEAR 2012

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 1-Oct	2867	2884	210	51	14.0	1.7	310	2.0	5.0	0.21	230	0.16	12	7.73	6.77
2 9-Oct	3162	3214	92	86	42.0	2.8	350	2.0	6.0	0.25	210	0.15	3	7.69	7.98
3 15-Oct	3270	3540	130	180	32.0	3.9	340	3.0	7.0	0.10	240	0.13	7	7.69	6.09
4 22-Oct	3341	3498	210	150	36.0	4.0	360	2.0	7.0	0.13	280	0.09	46	7.72	7.18
5 29-Oct	2803	2999	81	130	28.0	3.3	330	2.0	10.0	0.15	260	0.28	43	7.75	10.9
6 /															
<b>Number of tests</b>			5	5	5	5	5	5	5	5	5	5	5	5	5
<b>Monthly Averages mg/l</b>			145	119	30.4	3.1	338	2.2	7.0	0.17	244	0.16	14	7.72	7.78
<b>Monthly Averages kg/d</b>								2.2	6.9	0.17		0.16			
<b>Monthly Objectives</b>								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
<b>Monthly Limits mg/l/kg/d</b>								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

**Comments:** See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times  
 Hydrogen Sulfide (if odour is present) weelky grab

2012

MONTH: Nov

Seaforth S.T.P.  
 Operating Number 110001177  
 Operating Authority: O.M.I. Canada Inc.  
 Municipality of Huron East

YEAR 2012

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 5-Nov	2917	2881	110	120	34.0	3.5	370	2.0	13.0	0.16	280	0.05	430	7.50	8.5
2 13-Nov	2788	2884	130	110	25.0	2.9	380	2.0	3.0	0.11	240	0.18	30	7.77	7.58
3 19-Nov	3037	3274	400	250	47.0	6.2	370	3.0	9.0	0.08	270	0.08	6	7.66	8.22
4 26-Nov	3385	3047	490	280	31.0	4.6	380	3.0	11.0	0.11	270	0.11	380	7.63	8.91
5															
6 /															
<b>Number of tests</b>			4	4	4	4	4	4	4	4	4	4	4	4	4
<b>Monthly Averages mg/l</b>			283	190	34.3	4.3	375	2.5	9.0	0.12	265	0.10	74	7.64	8.30
<b>Monthly Averages kg/d</b>								3.3	11.8	0.15		0.13			
<b>Monthly Objectives</b>								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
<b>Monthly Limits mg/l/kg/d</b>								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

Comments: See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times  
 Hydrogen Sulfide (if odour is present) weekly grab

2012

Seaforth S.T.P.  
 Operating Number 110001177  
 Operating Authority: O.M.I. Canada Inc.  
 Municipality of Huron East

Dec MONTH: Dec

YEAR 2012

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 3-Dec	2906	2971	94	79	17.0	2.0	340	3.0	9.0	0.12	280	0.09	37	7.68	4.91
2 10-Dec	3226	3207	160	100	19.0	2.2	330	3.0	6.0	0.07	300	0.10	23	7.76	8.0
3 17-Dec	2756	2736	75	86	18.0	2.4	360	4.0	8.0	0.09	280	0.46	10	7.74	7.8
4 27-Dec	2410	2562	42	63	15.0	1.6	350	5.0	16.0	0.12	250	6.10	19	7.68	9.72
5 /															
6 /															
Number of tests															
Monthly Averages mg/l			93	82	17.3	2.1	345	3.8	9.8	0.10	278	1.69	20	7.72	7.61
Monthly Averages kg/d								7.6	19.5	0.19		3.9			
Monthly Objectives								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
Monthly Limits mg/l/kg/d								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

Comments: See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times

Hydrogen Sulfide (if odour is present) weelky grab

2012

BYPASS STP Bypass Events

Seaforth Seaforth Treatment Plant  
 Operating Number 110001177  
 Operating Authority: O.M.I. Canada Inc.  
 Municipality of Huron East

YEAR 2012

ANALYST Maxxam

Date	Time/Volume of Event				Notification		Sampled		Results of Analyst							
	Day Month	Start	Finish	Duration Hrs	Volume M3	Yes	No	Yes	No	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH
<b>1</b> 15-Mar	5:55	6:25	0.50	50	X		X		<2	5.0	0.09				3600	7.84
<b>2</b> 16-Apr	12:15	13:30	1.25	30	X		X		4.0	7.0	0.08				0	8.19
<b>3</b> 16-May	4:30	6:00	1.50	45	X		X		4.0	1.0	0.37	74	0.05		0	8.93
<b>4</b> 26-Jul	1:25	2:15	1	45	X		X		2.0	6.0	0.14				20000	7.67
<b>5</b> 30-Sep	12:00	2:24	1.3	60	X		X		2.0	11.0	0.19				14000	7.66
<b>6</b> 18-Oct	13:40	15:40	2.0	100	X		X		4.0	10.0	0.18	260	0.10		180000	7.77
<b>7</b>																
<b>8</b>																

Comments: 6 Events in 2011



2012

BYPASS SPS

Bypass Events

Seaforth Sewage Pump Station

Operating Number 110001177

Operating Authority: O.M.I. Canada Inc.

Municipality of Huron East

YEAR 2012

ANALYST Maxxam

Date		Time/Volume of Event			Notification		Sampled		Results of Analyst						
Day Month	Start	Finish	Duration Hrs	Volume M3	Yes	No	Yes	No	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH
1															
2															
3															
4															
5															
6															
7															
8															

Comments: No events in 2012

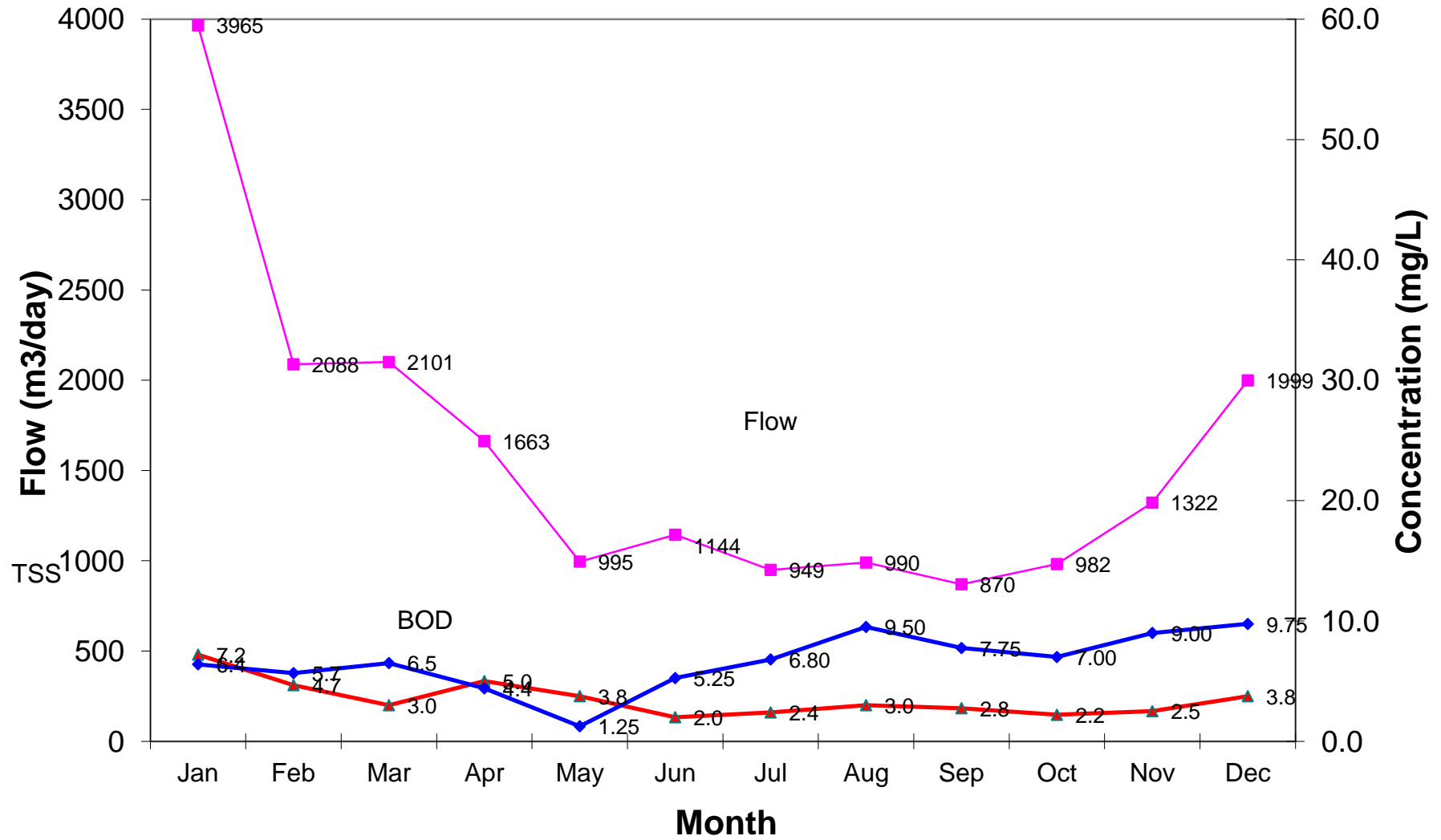
### ### O.M.I. Canada Flow Reports Seaforth STP 2012

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	3783	3037	2270	1854	1462	1085	727	975	594	817	1572	1200
2	3835	3116	2640	1576	1460	1305	719	960	541	1049	1897	2080
3	4059	3011	2700	1602	1468	1137	831	980	563	879	1524	2277
4	4955	2975	2366	1903	1513	1191	705	950	681	1099	1300	2413
5	4941	2957	2335	2018	1489	1100	1349	1000	729	810	1450	2249
6	4897	2439	2287	1933	1433	1139	1389	975	985	638	1097	1983
7	4653	2199	2431	1725	1366	989	1098	950	758	694	1244	1940
8	4423	2237	2316	1539	1198	885	1074	1050	1158	661	1186	1978
9	4890	2300	2178	1725	1323	1127	1124	1025	715	772	1071	1860
10	4733	2100	2223	2034	1124	1078	957	1063	804	882	1080	2057
11	4575	1799	2041	1673	1075	1132	855	1051	884	869	1038	2513
12	4711	1594	2407	1765	1089	1435	942	1272	749	1135	1165	2269
13	4917	1565	2379	1823	1078	1195	1013	997	984	734	1579	1964
14	4383	1722	2278	1628	1027	1202	767	1073	916	819	1239	1853
15	4830	1640	2195	1707	620	1285	647	1088	1097	1243	1144	1732
16	3738	1796	2152	1634	603	1153	968	1116	952	1172	1126	1698
17	3497	1683	2007	336	597	1270	1116	1294	793	1075	1250	1796
18	3831	1716	1948	1926	792	1473	1023	845	864	1251	1068	1776
19	4049	1640	1909	1938	648	1550	901	690	897	1161	1118	2133
20	3713	1754	1794	1864	652	1059	1048	1068	1040	1116	1016	2088
21	3533	1928	1853	1760	670	1048	791	1050	1008	978	1003	2349
22	3517	1774	1943	1710	637	1124	696	1025	905	1194	1618	2292
23	3438	1790	1992	1655	632	1082	831	1000	881	1400	1812	2356
24	3136	1949	1857	1614	666	974	777	975	1006	1473	1573	2163
25	3048	1790	1679	1577	675	1114	235	987	1024	1318	1588	2093
26	3074	1886	1571	1552	642	1111	1097	719	1014	1197	1377	1979
27	3128	1948	1637	1521	663	959	1309	1002	1024	1060	1227	1915
28	3284	1957	1856	1451	773	1176	1454	1095	974	937	1319	1812
29	3088	2251	2013	1427	1135	1096	991	779	823	1178	1491	1792
30	3150		1975	1412	1090	852	1000	814	732	493	1487	1724
31	3117		1891		1253		1000	830		331		1632
Total	122926	60553	65123	49882	30853	34326	29434	30698	26095	30435	39659	61966
Min.	3048	1565	1571	336	597	852	235	690	541	331	1003	1200
Max	4955	3116	2700	2034	1513	1550	1454	1294	1158	1473	1897	2513
Avg.	3965	2088	2101	1663	995	1144	949	990	870	982	1322	1999

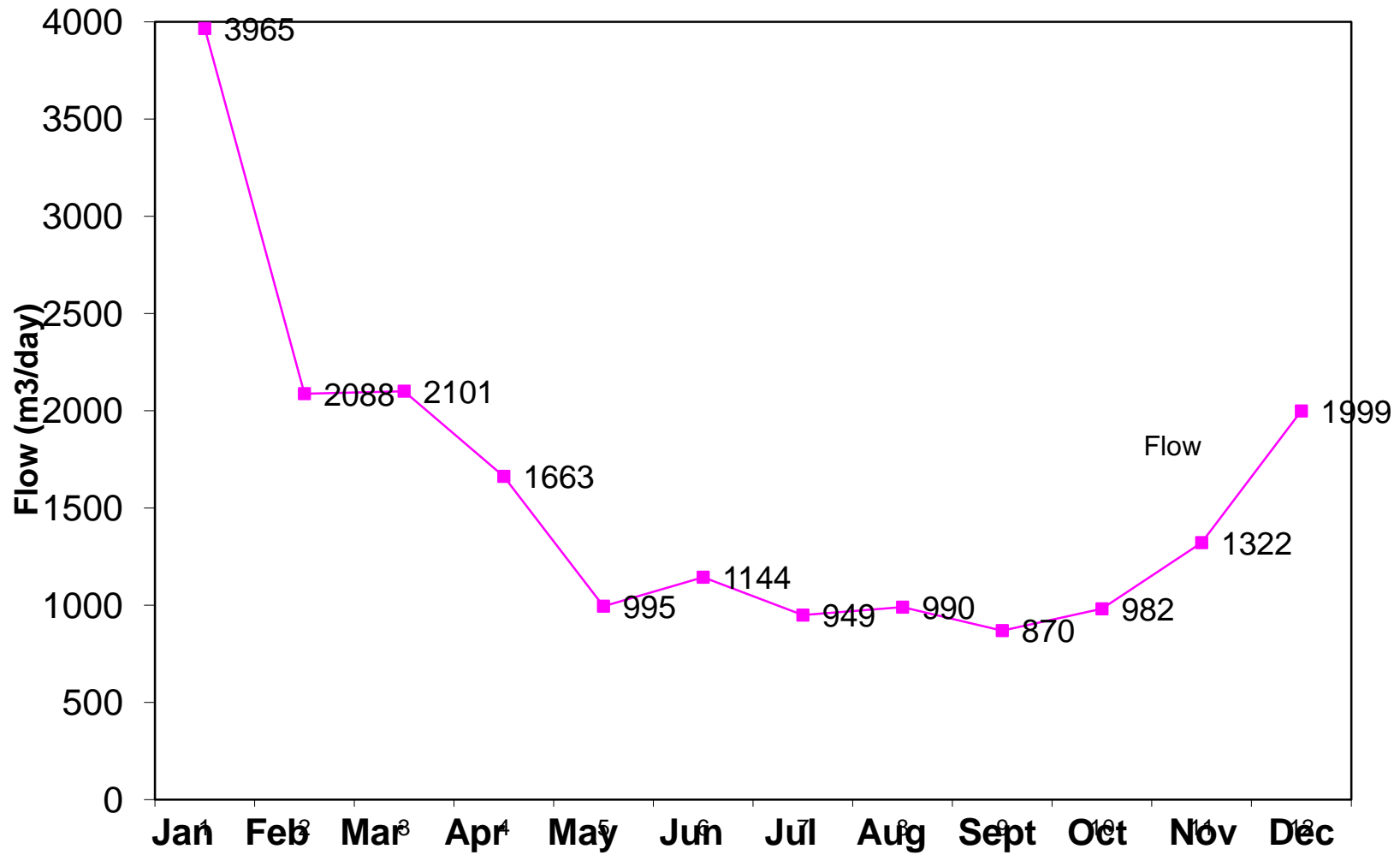
### ### O.M.I. Canada Flow Reports Seaforth SPS 2012

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		3112	2553		1784	1474		1558		3508	1923	
2		3543	3315	6701	1650			1533		1409	2455	
3	11201	3750		1810	1918		4613	1292		1216		7752
4	3488			1734	1807	4952	1925		3673	1552		2937
5	2525		8468			1597	1308		1008	1293	6007	3974
6	2931	8099	3208	2175		1575	1637		1413		1717	2811
7		2685	2976	4259	5066	1472		4302	1126		1715	2888
8		2636	3234		1606	1309		1288			1680	
9	8747	2491	3480		1552		4366	1032		3989	1692	
10	2855	2460		5221	1434		1347	1525	3750	1194		7596
11	2533			1901	1541	4437	1303		1269	1342		2728
12	2498		8935	1982		1857	1372		1155	1284		2539
13	2842	7189	3395			1776	1717	4128	1340		6492	2290
14		2092	4222		4757	1605		1250	1324		1793	2239
15		2226	3189	1928	1482	1718		1467		4025	1680	
16	8704	2209	2980	5343	1606		3701	1452		1704	1611	
17	2714	2349		1651	2088		1678	1641	4104	1473		6089
18	4336			1961	1697	5098	1581		1185	1544	3193	1965
19	4153		8656	2075		1993	1297		1239	1662	1666	2008
20	3114		2543	2143		1514	1878	3587	1353		1570	1895
21		8848	2450			1418		1171	1469		1354	2093
22		2277	2534		5701	1542		1091		4617	1480	
23	8897	2358	2669	5272	1612		3651	1213		1761	1745	
24	3382	2296		1627	1647		1243	1395	3982	2040		6417
25	3536	2641		2302	1491	4370	1207		1357	1883		
26	3214		7368	1630		1596	1379		1367	1703	5487	
27	3498	4971	2213	1849		1335	1307	3747	1480		1669	6061
28		2529	2013		5031	1487		1627	1560		1818	1916
29		2651	2241		1497	1625		1216		4653	1855	
30	9214		2404	5115	1423		4386	1223		2116	2099	
31	2883				1807		1431	1270		1848		5280
Total	97265	73412	85046	58679	50197	45750	44327	40008	35154	47816	52701	71478
Min.	2498	2092	2013	1627	1423	1309	1207	1032	1008	1194	1354	1895
Max	11201	8848	8935	6701	5701	5098	4613	4302	4104	4653	6492	7752
Avg.	4632	3496	3866	2934	2282	2179	2111	1819	1850	2173	2396	3762

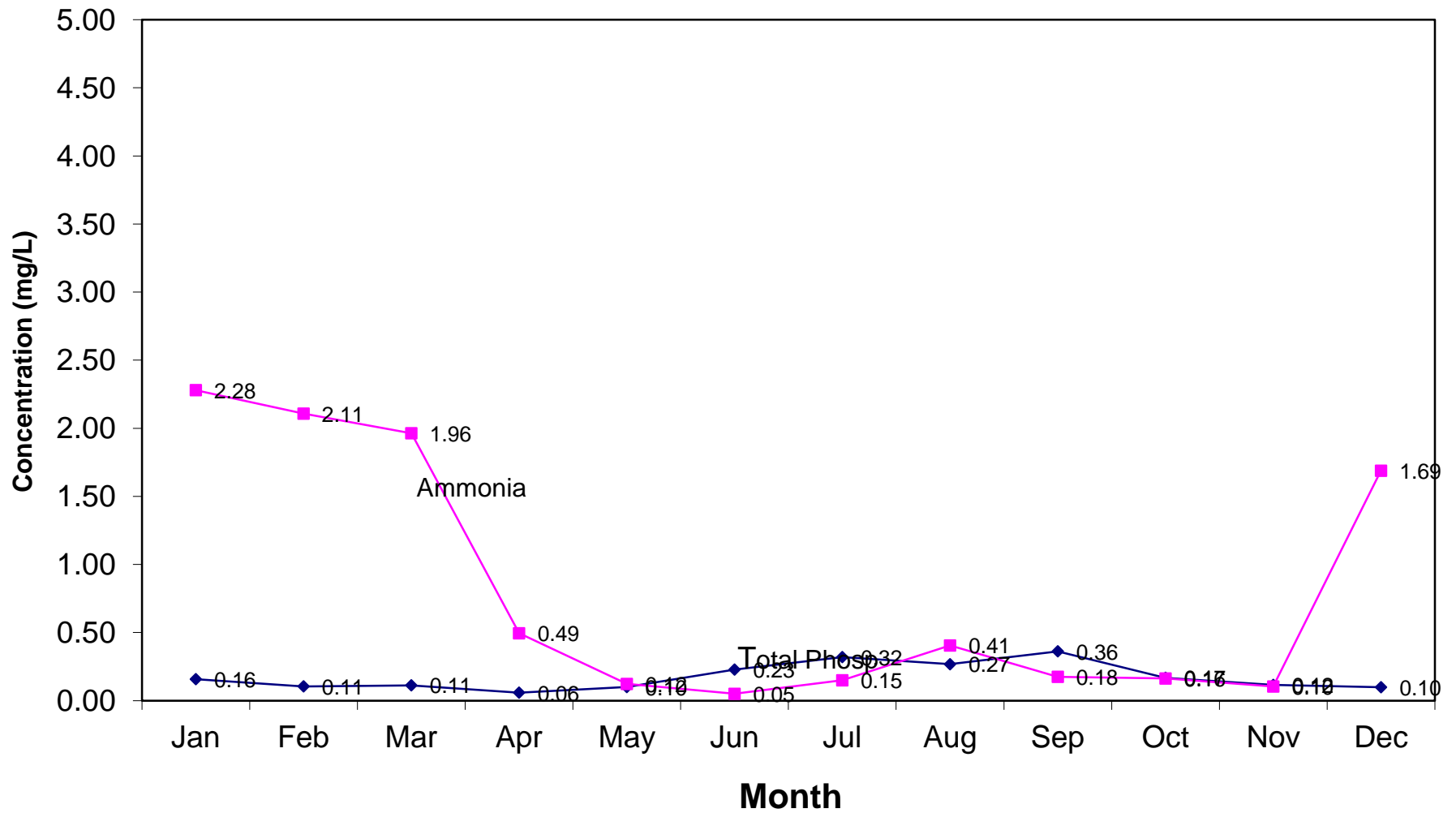
# SEAFORTH STP BOD and TSS vs Flow



## Seaforth STP. Average Monthly Flows



# Seaforth STP Monthly Total Phosphorus and Ammonia



## 2012 Municipality of Huron East Seaforth STP Monthly Average Lab Results

RAW SEWAGE						Effluent Concentration mg/l								Effluent Loading kg/d					
Test Date	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	CaCO3 mg/L	NH3 mg/L	Per 100ml	pH	D.O	BOD5 kg/d	S.S. kg/d	Total P kg/d	Ammonia		Avg Monthly Flow
																	NH3 kg/d	Avg	
Monthly																			
Jan	308	134	16.8	3.4	303	7.2	6.4	0.16	277	2.28	9	7.8	11.1	28.5	25.4	0.6	9.0	3965	
Feb	188	121	25.5	3.1	341	4.7	5.7	0.11	307	2.11	7	7.6	9.5	9.8	11.9	0.2	4.4	2088	
Mar	166	118	22.3	2.7	323	3.0	6.5	0.11	309	1.96	6	7.4	8.2	6.3	13.6	0.2	4.1	2101	
Apr	342	194	36	3.4	330	5.0	4.4	0.06	154	0.49	3	7.8	9.6	8.3	7.3	0.2	0.8	1663	
May	555	565	47	6.9	338	3.8	1.25	0.10	81	0.12	1	8.9	7.2	3.8	1.3	0.1	0.1	995	
Jun	267	235	37	3.9	378	2.0	5.25	0.23	235	0.05	14	7.5	6.9	2.3	6.1	0.3	0.1	1144	
Jul	303	151	28	2.7	342	2.4	6.80	0.32	252	0.15	9	7.5	5.8	2.3	6.5	0.3	0.1	949	
Aug	285	256	26	3.7	355	3.0	9.50	0.27	255	0.41	11	7.5	4.4	3.0	9.4	0.3	0.4	990	
Sep	338	315	37	5.5	360	2.8	7.75	0.36	233	0.18	23	7.7	6.3	2.4	6.8	0.3	0.2	870	
Oct	145	119	30	3.1	338	2.2	7.00	0.17	244	0.16	14	7.7	7.8	2.2	6.9	0.2	0.2	982	
Nov	283	190	34	4.3	375	2.5	9.00	0.12	265	0.10	74	7.6	8.3	3.3	11.8	0.2	0.1	1322	
Dec	93	82	17	2.1	345	3.8	9.75	0.10	278	1.69	20	7.7	7.6	7.6	19.5	0.2	3.9	1999	
<b>Monthly Objectives</b>						10.0	10.0	0.80		2.00	0			19.0	19.0	1.5	3.8		
<b>Monthly Limits</b>						15.0	15.0	1.00		4.00	150			28.5	28.5	1.9	7.6		
<b>Yearly Averages/Min/Max</b>																			
Average	273	207	29.7	3.7	344	3.5	6.6	0.17	240.6	0.81	10	7.74	7.73	6.6	10.5	0.2	1.9	1589	
Minimum	93	82	16.8	2.1	303	2.0	1.3	0.06	81.0	0.05	1	7.44	4.37	2.2	1.3	0.1	0.1	870	
Maximum	555	565	47.0	6.9	378	7.2	9.8	0.36	308.5	2.28	74	8.86	11.13	28.5	25.4	0.6	9.0	3965	

**Comments:** See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times  
Hydrogen Sulfide (if odour is present) weelky grab