

Municipality Of Huron East 2011 Operations Report Seaforth Wastewater Facilities Reporting Period Jan-Dec 2011

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. Sludge from Vanastra sewage works is also trucked to this location and stored in cell #1. 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 m³/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 OMI. The waste water collection System is both owned and operated by the municipality of Huron East.

2. Regulatory Issues

Operation Management International Canada Inc (OMI) 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
E-Coli	Jan, April	Clean and Replace UV Bulbs.
Suspendend Solids	April	Elevated samples had subsided by time of resample.
BOD, SS, Total P	Nov	Elevated samples had subsided by time of resample

3. Compliance with Quality/Quantity Criteria

Month	Average Volume/Day m ³ /d	Plant Utilization (based on Avg. Day)	Max Volume/Day m ³ /d
Jan	2468	129.3%	3187
Feb	1717	90.4%	2764
Mar	3108	163.6%	7835
April	3616	190.3%	5752
May	3609	189.9%	6060
June	2553	134.4%	4673
July	1875	98.7%	2522
Aug	1123	59.1%	1488
Sept	1088	57.3%	1439
Oct	1465	77.1%	2218
Nov	1429	75.2%	2373
Dec	3408	179.3%	4916

Plant Average Day Design Capacity is 1900 m³/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.
- Re-program Multi Ranger.
- New Hinges on Wet well door.
- Clean Floats.
- Selectra into repair float.
- Repair Spring on Check valve.

Seaforth WPCP

- Change out UV Bulbs.
- West & East Clarifier chain and sprocket repairs
- Replaced Multi Ranger 200 twice.
- Rebuilt # 2 Aerator.
- Replace bearings on east clarifier.
- Repairs to sludge pump # 2.
- New SCADA Pack.
- Wasted 11,187 M3 to # 1 Lagoon
- Harvey Dale hauled 112 M3 septic sludge to Seaforth 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 2011

7. Proposed Alterations, Extensions or Replacements

None during this period

8. Calibration Procedures

Flow meters were calibrated in 2011

9. Health & Safety Items

Lifting equipment, Fire extinguishers, Gas monitors Monthly/Yearly inspections. Weekly Safety meeting along with Quarterly walk through completed for 2011

10. Status of Capital Projects

None during this period

11. Other Items

None

2011

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

MONTH: Jan

YEAR 2011

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-Jan	3241	3047	130	62	10.0	1.2	313	2.0	4.0	0.09	238	2.30	71	7.09	6.33
2 10-Jan	3438	3538	290	130	24.0	2.3	332	2.0	4.0	0.07	277	1.30	28	7.18	6.70
3 17-Jan	3197	3222	140	95	27.0	3.1	360	2.0	3.0	0.08	278	1.40	6200	7.13	7.01
4 24-Jan	2620	2475	510	260	30.0	3.7	326	3.0	7.0	0.12	287	2.20	1300	7.07	6.01
5 27-Jan													480	7.04	5.80
6 31-Jan	3376	3424	380	110	21.0	3.3	251	4.0	6.0	0.12	283	1.60	170	7.12	6.13
Number of tests			5	5	5	5	5	5	5	5	5	5	6	6	6
Monthly Averages mg/l			268	137	22.8	2.6	333	2.6	4.8	0.10	270	1.76	378	7.10	6.37
Monthly Averages kg/d								6.4	11.8	0.25		4.34			
Monthly Objectives								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
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

2011

MONTH: Feb

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

YEAR 2011

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-Feb	3760	3337	370	190	27.0	4.4	316	4.0	9.0	0.16	291	1.80	200	7.17	4.77
2 14-Feb	4326	4336	190	170	34.0	5.0	350	4.0	6.0	0.11	314	5.40	5	7.28	7.38
3 22-Feb	3198	2866	520	170	22.0	2.5	307	2.0	6.0	0.06	306	1.00	24	7.33	9.6
4 28-Feb	3803	3622	280	140	15.0	2.7	299	3.0	6.0	0.07	294	1.70	22	7.55	8.53
5															
6															
Number of tests			4	4	4	4	4	4	4	4	4	4	4	4	4
Monthly Averages mg/l			340	168	24.5	3.7	318	3.3	6.8	0.10	301	2.48	27	7.33	7.56
Monthly Averages kg/d								5.7	11.7	0.17		4.25			
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 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

2011

MONTH: Mar

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

YEAR 2011

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-Mar	2393	2431	39	44	10.0	1.0	300	2.0	7.0	0.10	279	2.20	34	7.52	9.40
2 14-Mar	2574	2686	170	68	13.0	1.2	295	2.0	4.0	0.06	288	2.50	13	7.63	9.31
3 21-Mar	2603	2938	480	190	9.0	1.1	282	2.0	4.0	0.07	281	0.67	94	7.58	10.30
4 28-Mar	3464	3243	210	130	16.0	1.8	293	2.0	4.0	0.09	305	0.23	99	7.65	11.10
5															
6 /															
Number of tests			4	4	4	4	4	4	4	4	4	4	4	4	4
Monthly Averages mg/l			225	108	12.0	1.3	293	2.0	4.8	0.08	288	1.40	45	7.60	10.03
Monthly Averages kg/d								6.2	14.9	0.25		4.35			
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

2011

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

MONTH: Apr

YEAR 2011

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-Apr	2255	2100	78	68	8.0	0.9	261	10.0	28.0	0.40	277	2.00	3000	7.43	9.53
13-Apr	3380	3586	230	89	15.0	1.5	306	2.0	4.0	0.07	310	1.10	310	7.26	8.84
3 20-Apr	3522	3437	28	86	14.0	2.3	294	2.0	6.0	0.08	266	0.30	690	7.14	10.18
4 26-Apr	2960	3221	210	100	22.0	2.0	296	3.0	5.0	0.08	283	0.69	40	7.08	9.02
5 /															
6 /															
Number of tests			4	4	4	4	4	4	4	4	4	4	4	4	4
Monthly Averages mg/l			137	86	14.8	1.7	289	4.3	10.8	0.2	284	1.02	400	7.23	9.39
Monthly Averages kg/d								15.5	39.0	0.72		3.7			
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

2011

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

MONTH: May

YEAR 2011

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-May	3415	3515	280	120	17.0	2.2	278	3.0	3.0	0.08	195	0.76	1	7.53	11.5
2 9-May	4075	3949	400	160	24.0	2.7	224	2.0	1.0	0.06	184	0.54	1	7.15	9.6
3 16-May	3605	3419	120	150	20.0	2.9	331	2.0	4.0	0.03	168	0.10	1	7.16	9.5
4 24-May	3103	3247	78	56	11.0	1.5	312	2.0	1.0	0.04	116	0.05	13	7.78	9.91
5 30-May															
6 /															
Number of tests															
Monthly Averages mg/l			220	122	18.0	2.3	286	2.3	2.3	0.05	166	0.36	2	7.41	10.12
Monthly Averages kg/d								8.3	8.3	0.18		1.3			
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 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

2011

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

MONTH: Jun

YEAR 2011

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-Jun	3449	3525	190	140	25.0	3.1	336	2.0	1.0	0.04	143	0.24	2	7.71	8.2
2 13-Jun	3139	3450	75	76	23.0	2.9	349	2.0	1.0	0.05	144	0.25	1	7.38	4.5
3 20-Jun	3270	3240	140	180	31.0	4.0	360	2.0	1.0	0.06	120	0.05	1	8.32	8.74
4 27-Jun	2975	3251	130	120	21.0	2.5	374	2.0	2.0	0.06	105	0.05	3	8.75	9.71
5															
6 /															
Number of tests			4	4	4	4	4	4	4	4	4	4	4	4	4
Monthly Averages mg/l			134	129	25.0	3.1	355	2.0	1.3	0.05	128	0.15	2	8.04	7.79
Monthly Averages kg/d								5.1	3.3	0.12		0.38			
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

2011

MONTH: Jul

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

YEAR 2011

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-Jul	2550	2878	120	140	29.0	3.5	354	2.0	5.0	0.06	75	0.06	1	8.73	10.44
2 11-Jul	2847	3130	75	140	26.0	3.5	349	2.0	3.0	0.07	212	0.05	40	8.01	7.49
3 18-Jul	2544	2862	100	140	28.0	3.6	348	2.0	4.0	0.08	209	0.09	5	7.90	6.71
4 25-Jul	2785	2995	190	140	28.0	3.3	350	2.0	3.0	0.11	200	0.12	24	8.01	6.19
5															
6 /															
Number of tests															
Monthly Averages mg/l			121	140	27.8	3.5	350	2.0	3.8	0.08	174	0.08	8	8.16	7.71
Monthly Averages kg/d								3.8	3.9	0.15		0.15			
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

2011

MONTH: Aug

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

YEAR 2011

ANALYST Maxxam

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	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-Aug	2614	2859	380	290	1.1	3.8	353	2.0	7.0	0.14	215	0.11	2	7.77	6.60
2 9-Aug	2765	2915	280	390	36.0	7.9	308	2.0	4.0	0.19	253	0.11	2	7.48	6.13
3 15-Aug	2770	3114	660	3	41.0	6.2	354	2.0	3.0	0.12	250	0.12	4	7.53	6.75
4 22-Aug	2925	3157	160	240	18.0	5.4	364	2.0	2.0	0.11	263	0.16	470	7.34	6.48
5 29-Aug	1379	1868	190	310	140	6.7	421	2.0	9.0	0.89	264	0.83	3	7.53	6.15
6 /															
Number of tests															
Monthly Averages mg/l			334	247	47.2	6.0	360	2.0	5.0	0.29	249	0.27	7	7.53	6.42
Monthly Averages kg/d								2.2	5.6	0.32		0.30			
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

2011

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

MONTH: Sep

YEAR 2011

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-Sep	3428	2997	560	400	34.0	4.0	299	2.0	10.0	0.17	281	0.17	1	7.56	6.39
2 12-Sep	3200	3210	260	410	54.0	8.4	421	2.0	8.0	0.21	242	0.25	1	7.37	6.2
3 19-Sep	3222	3570	130	190	38.0	5.1	387	2.0	7.0	0.25	261	0.31	4	7.51	8.2
4 26-Sep	2500	2610	310	160	22.0	3.6	379	2.0	5.0	0.12	291	0.05	1	7.49	6.61
5															
6 /															
Number of tests															4
Monthly Averages mg/l			315	290	37.0	5.3	372	2.0	7.5	0.19	269	0.20	1	7.48	6.85
Monthly Averages kg/d								2.2	8.1	0.21		0.22			
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

2011

MONTH: Oct

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

YEAR 2011

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-Oct	4010	3892	570	280	39.0	5.3	377	3.0	7.0	0.18	288	0.18	1	7.31	7.51
2 11-Oct	3644	3937	190	490	56.0	9.1	437	2.0	11.0	0.25	273	0.33	7	7.30	7.41
3 17-Oct	1482	1560	230	140	18.0	1.9	331	2.0	4.0	0.09	276	0.05	7	7.46	7.88
4 24-Oct	1605	1791	160	120	23.0	2.5	339	2.0	4.0	0.07	305	0.05	14	7.03	8.66
5 31-Oct	2105	1940	88	160	26.0	3.2	361	2.0	3.0	0.08	296	0.10	11	7	8.95
6 /															
Number of tests			5	5	5	5	5	5	5	5	5	5	5	5	5
Monthly Averages mg/l			248	238	32.4	4.4	369	2.2	5.8	0.13	288	0.14	6	7.30	8.08
Monthly Averages kg/d								3.2	8.5	0.19		0.20			
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

2011

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

MONTH: Nov

YEAR 2011

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-Nov	2160	2170	170	170	35.0	4.3	369	2.0	4.0	0.05	257	0.07	9	7.31	8.21
2 14-Nov	2935	2741	240	170	35.0	4.6	348	2.0	3.0	0.03	288	0.05	1	7.33	7.28
3 21-Nov	2531	2643	300	200	30.0	3.7	341	2.0	6.0	0.11	270	0.47	16	7.24	8.5
4 28-Nov	2250	2390	320	120	20.0	2.3	311	66.0	200.0	4.90	263	0.06	760	7.88	11
5															
6 /															
Number of tests		4	4	4	4	4	4	4	4	4	4	4	4	4	4
Monthly Averages mg/l			258	165	30.0	3.7	342	18.0	53.3	1.27	270	0.16	18	7.44	8.75
Monthly Averages kg/d								25.2	76.2	1.81		0.22			
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

2011

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

Dec MONTH: Dec

YEAR 2011

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-Dec	1611	1400	300	48	7.0	1.0	306	5.0	8.0	0.15	229	0.87	9	7.39	9.54
2 12-Dec	2241	2278	220	140	17.0	2.3	333	4.0	7.0	0.17	315	0.47	7	7.10	9.5
3 19-Dec	2403	2354	210	308	14.0	1.9	308	6.0	10.0	0.13	177	5.80	1	8.08	13.22
4 27-Dec	2408	2516	61	73	21.0	2.1	370	5.0	8.0	0.13	212	1.60	90	8.14	12.3
5 /															
6 /															
Number of tests															
Monthly Averages mg/l			198	142	14.8	1.8	329	5.0	8.3	0.15	233	2.19	9	7.68	11.14
Monthly Averages kg/d								17.0	28.3	0.51		7.5			
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

2011

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

BYPASS STP Bypass Events

YEAR 2011 YEAR 2011

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
1 19-Feb	1:50	2:50	1.00	115	X		X		4.0	21.0	0.09	245	32.00	12000	7.84
2 11-Mar	11:20	15:30	4.17	425	X		X		2.0	10.0	0.09	248	0.17	7000	7.96
3 10-Apr	10:30	10:45	0.25	37	X		X		2.0	10.0	0.05	295	0.56	180000	7.97
4 7-Jun	5:00	21:00	16	1600	X		X		3.0	1.0	0.05	130	0.13	910	7.95
5 8-Jul	9:30	11:40	2.2	71	X		X		2.0	10.0	0.06	225	0.05	940	8.20
6 1-Sep	9:30	11:00	1.5	75	X		X		9.0	30.0	1.00	287	0.82	150000	7.89
7 11-Nov	10:45	12:00	1.25	65	X		X		2.0	10.0	0.09	292	0.08	8000	0.09
8															

Comments: 7 Events in 2011

2011

BYPASS SPS Bypass Events

Seaforth Sewage Pump Station
 Operating Number 110001177
 Operating Authority: O.M.I. Canada Inc.
 Municipality of Huron East

YEAR 2 YEAR 2011

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
1 1-Jan	8:30	18:25	10.00	576	x		x		18.0	43.0	0.57	225	0.92	200000	7.67
2 11-Mar	11:20	15:30	4.10	425	x		x		2.0	10.0	0.09	248	0.17	7000	7.96
3 18-Mar	3:30	8:50	5.30	382	x		x		2.0	37.0	0.46	290	0.14	390	8.01
4 10-Apr	10:30	10:45	0.15	37	x		x		2.0	10.0	0.05	295	0.56	180000	7.97
5 7-Jun	5:00	21:00	16.0	1600	x		x		3.0	1.0	0.05	130	0.13	910	7.96
6 29-Nov	18:00	22:00	1.25	90	x		x		130.0	190.0	2.80	277	1.30	200000	7.48
7															
8															

Comments: 6 Events in 2011

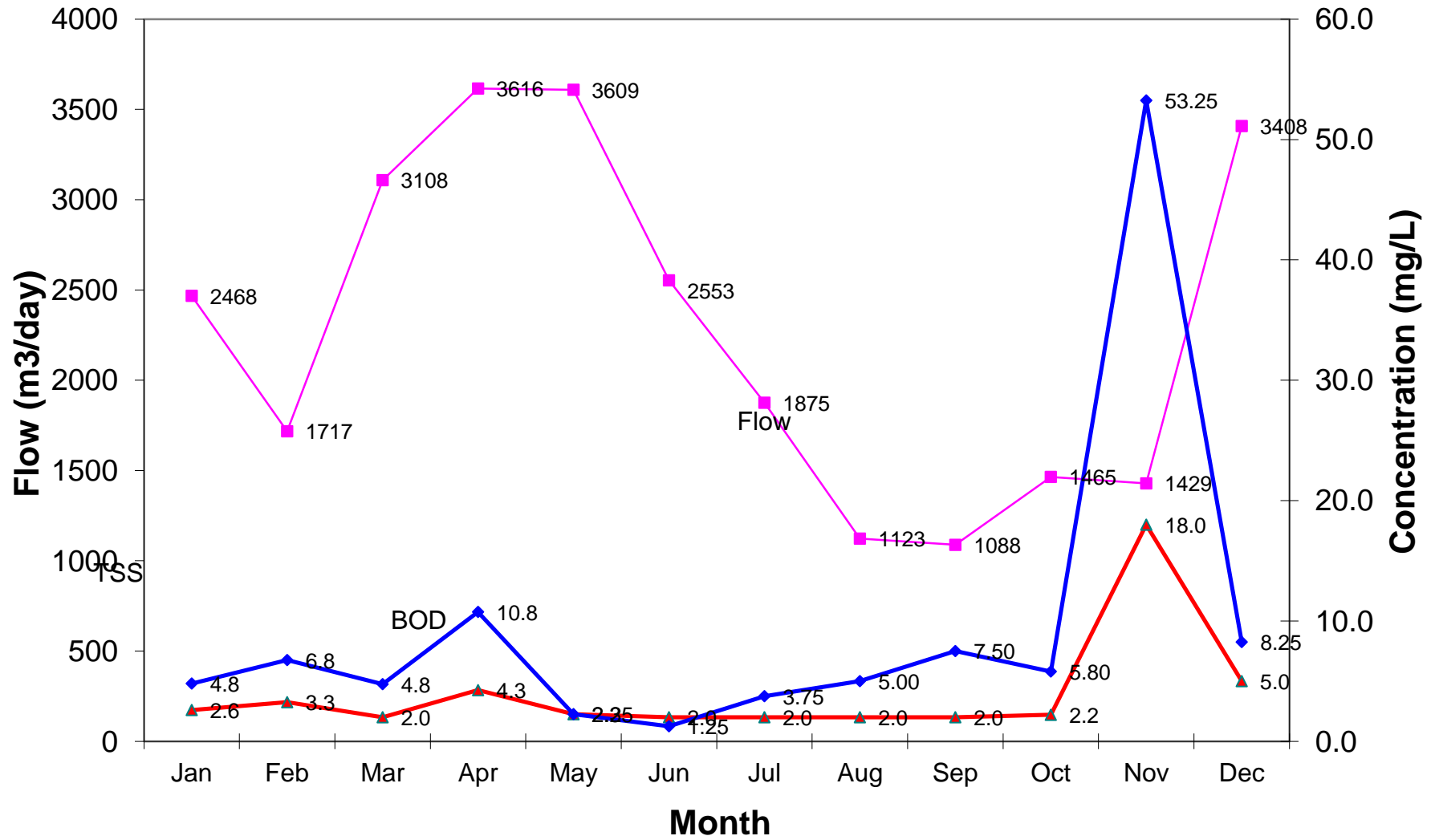
O.M.I. Canada Flow Reports Seaforth STP 2011

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2820	2264	1860	2759	4406	3436	2314	1164	1047	1297	1558	1640
2	2910	2677	1879	3568	4265	3678	2233	1488	1365	1148	1692	1919
3	2673	2184	1998	2466	3689	4673	2249	1456	1158	1085	1608	2013
4	3287	1970	1828	4471	3887	3024	2201	1427	1158	1244	1381	2065
5	3061	2143	2146	5535	3770	4121	2186	1389	1158	1165	1295	4529
6	2268	2549	2646	4385	4105	3602	1982	1269	1153	1190	1331	1851
7	2837	2189	2767	3934	3329	2400	2007	1243	767	1153	1345	1547
8	1729	2180	2091	3440	4164	2400	1712	1429	1177	767	1281	2226
9	2303	2049	2218	1823	3168	2400	1583	1317	1009	1177	1307	2195
10	2651	1213	2324	1111	3327	2400	1980	1227	1158	1009	1195	1992
11	2169	1164	2565	3575	4481	2400	2522	1270	1037	997	1324	2017
12	2508	1098	1947	2495	3009	2400	1798	1071	1009	1042	1501	1964
13	2411	1180	2593	2804	4363	2400	1971	999	1042	1169	1492	2006
14	2717	1358	2677	2652	3403	2400	2058	1000	939	1280	1600	4527
15	2461	182	2471	3471	3524	2314	2051	949	858	1803	1522	4625
16	2430	49	2109	4644	3743	2648	1783	1055	898	1727	1378	4363
17	2415	1070	2603	3773	3917	3187	1851	1008	839	165	1322	4249
18	2204	1079	7835	3305	3517	2534	2039	1103	911	1586	1260	4262
19	2437	2764	6721	3295	3232	2064	1752	1117	881	1565	1305	4248
20	2288	2144	5360	4253	3389	2435	1510	1100	1158	1640	1256	4273
21	2546	1135	5318	5752	2873	2083	1590	965	1096	2218	1256	4378
22	2244	2315	4236	3942	2765	2311	1888	997	1095	2202	1264	4421
23	2183	1729	4538	3962	3117	1325	1863	1098	669	2015	1406	4144
24	2601	2020	4022	3846	3165	1382	1939	1050	1342	1916	1266	4269
25	2251	1625	2474	3318	2861	1260	1831	1131	1275	1928	1653	4188
26	2454	1828	2710	3444	3391	2118	1819	1140	1225	1832	1466	4034
27	2366	1727	3099	2731	6060	2491	1642	1105	1284	2158	2361	4118
28	2518	2198	3455	5476	2748	2221	1658	1096	1439	1852	2373	4916
29	2044		2196	5056	3400	2129	1693	1035	1262	1759	1557	4593
30	2620		2460	3191	3376	2363	1345	680	1236	1687	303	4138
31	2087		3211		3434		1089	427		1628		3938
Total	76493	48083	96357	108477	111878	76599	58139	34805	32645	45404	42858	105648
Min.	1729	49	1828	1111	2748	1260	1089	427	669	165	303	1547
Max	3287	2764	7835	5752	6060	4673	2522	1488	1439	2218	2373	4916
Avg.	2468	1717	3108	3616	3609	2553	1875	1123	1088	1465	1429	3408

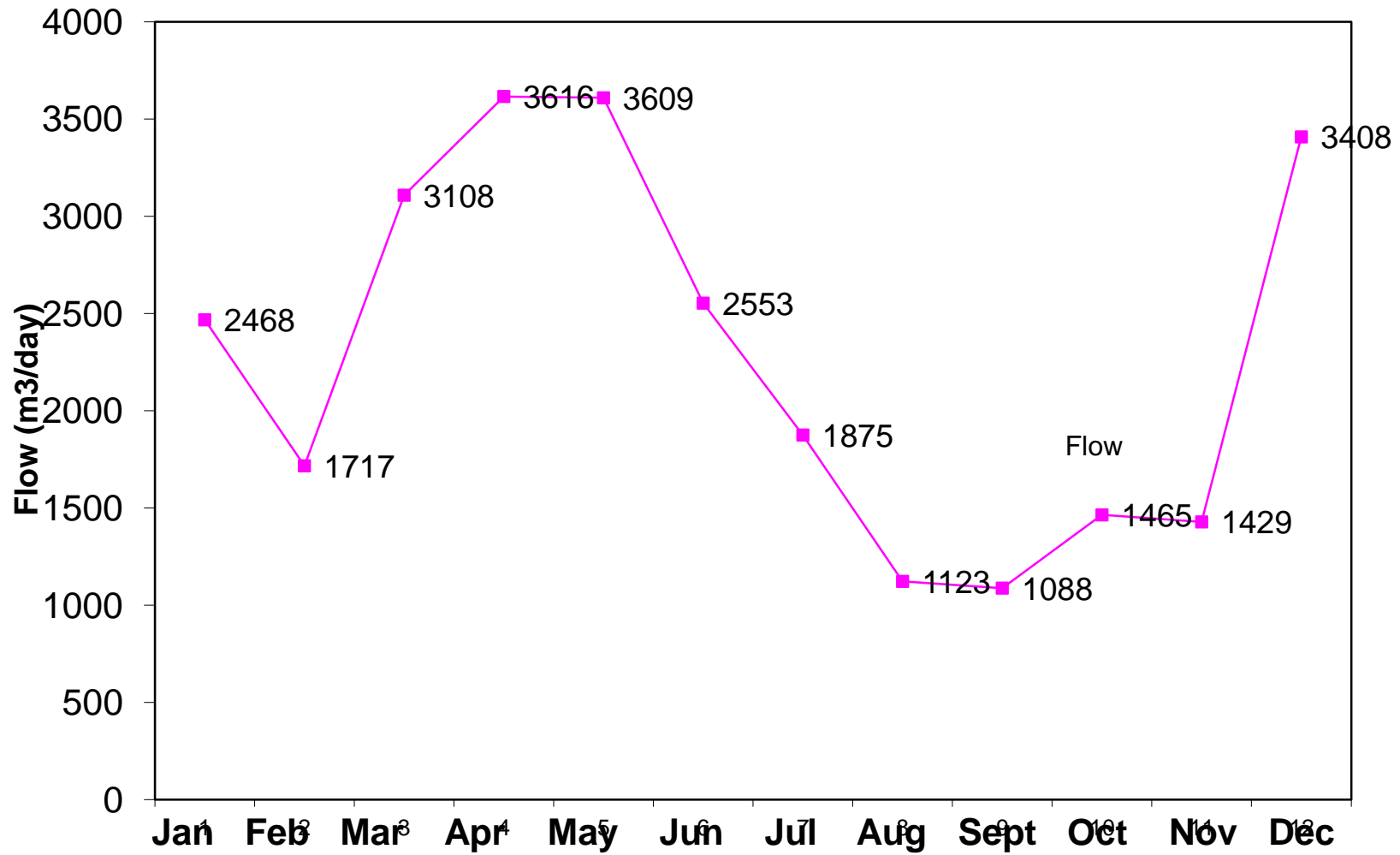
O.M.I. Canada Flow Reports Seaforth SPS 2011

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	6167	2075	3263	3229	4433	3499	2348	1509	1557	1876	2190	5901
2	10449	2202	3060	4102	3678	3050	1921	1374	1439	1876	2161	4294
3	4993	4083	2997	3885	3403	3218	1984	1715	1514	2862	2353	
4	4581	1991	2865	4413	3182	2269	2107	1546	1514	1589	2219	
5	3877	1980	3688	6640	3311	2324	2057	1594	1514	1720		13724
6	3475	2042	9903	5187	2806	2509	2096	1596	1451	1699		5629
7	3597	1918	6046	4463	3104	2937	2076	1616	1403	1619	5719	4494
8	2460	1911	4579	3543	3101	3886	1958	1863	1489		1874	3924
9	2781	1999	3994	3789	2123	2974	2027	1640	1451		1760	3517
10	2651	1958	5174	3559	2573	3557	1958	1805	1367		1749	
11	2450	1927	8523	3661	2511	2884	1795	1674	1367	6092	2091	
12	2465	1827	6145	3496	2347	2526	1741	1578	1367	1502		8903
13	2423	1783	5447	3250	2842	2630	1900	1691	1408	1625		2759
14	2302	1854	4493	3010	2212	2331	1871	1314	1356	2046	5463	2744
15	2591	3830	4693	2840	2436	2278	1913	1391	1289		2133	4185
16	2198	1862	3712	3221	2718	2288	1725	1474	1322		1911	4425
17	1972	1769	5297	3038	2509	2244	1753	1483	1251	8846	1868	
18	2246	5804	9146	2562	2592	2339	1702	1500	1251	2374	1798	
19	2321	6454	7914	2734	2818	2202	1771	1562	1251	2252		10657
20	2266	5231	6320	2998	3205	1849	1637	1543	1621	3322		3245
21	2186	3251	5426	4559	3032	2056	1599	1317	1429	4493	5289	3270
22	2205	3394	5272	3600	2330	2004	1533	1447	1430		11787	3336
23	1984	2911	5047	3749	2487	3182	1817	1503	1578	6123	1826	
24	2162	3167	4860	3818	6624	3382	1705	1461	1743	2409	1822	6197
25	2078	2426	3550	3337	4016	3012	1667	1564	1743	2946	1933	
26	2079	2674	3748	3404	4067	2830	1604	1461	1743	2811		
27	1995	2450	3636	3029	4482	2922	1609	1413	1741	2852		8120
28	2248	2733	3300	5280	5066	2624	1542	1413	1718	2442	6364	2567
29	1906		3152	6676	4332	2484	1904	1413	1787		3147	2310
30	2306		2895	4999	3725	2356	1729	1492	1659		8782	2296
31	1776		3500		3778		1522	1519		7182		
Total	91190	77506	151645	116071	101843	80646	56571	47471	44753	70682	76239	106497
Min.	1776	1769	2865	2562	2123	1849	1522	1314	1251	1502	1749	2296
Max	10449	6454	9903	6676	6624	3886	2348	1863	1787	8846	11787	13724
Avg.	2942	2768	4892	3869	3285	2688	1825	1531	1492	3213	3465	5071

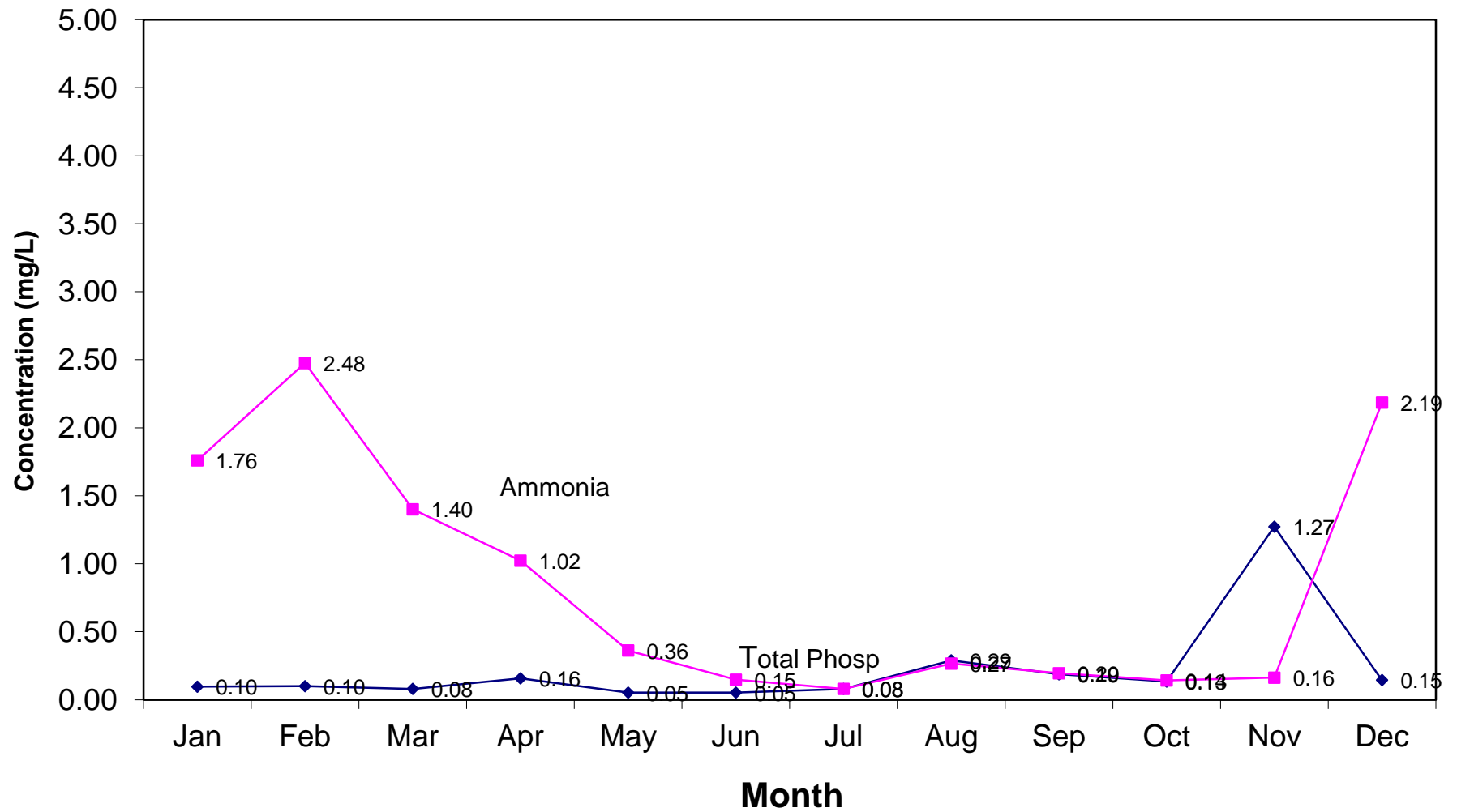
SEAFORTH STP BOD and TSS vs Flow



Seaforth STP. Average Monthly Flows



Seaforth STP Monthly Total Phosphorus and Ammonia



2011 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	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
					CaCO3 mg/L												NH3 kg/d	Monthly Flow
Monthly																		
Jan	268	137	22.8	2.6	333	2.6	4.8	0.10	270	1.76	378	7.1	6.4	6.4	11.8	0.2	4.3	2468
Feb	340	168	24.5	3.7	318	3.3	6.8	0.10	301	2.48	27	7.3	7.6	5.7	11.7	0.2	4.3	1717
Mar	225	108	12.0	1.3	293	2.0	4.8	0.08	288	1.40	45	7.6	10.0	6.2	14.9	0.2	4.4	3108
Apr	137	86	15	1.7	289	4.3	10.8	0.16	284	1.02	400	7.2	9.4	15.5	39.0	0.7	3.7	3616
May	220	122	18	2.3	286	2.3	2.25	0.05	166	0.36	2	7.4	10.1	8.3	8.3	0.2	1.3	3609
Jun	134	129	25	3.1	355	2.0	1.25	0.05	128	0.15	2	8.0	7.8	5.1	3.3	0.1	0.4	2553
Jul	121	140	28	3.5	350	2.0	3.75	0.08	174	0.08	8	8.2	7.7	3.8	3.9	0.2	0.2	1875
Aug	334	247	47	6.0	360	2.0	5.00	0.29	249	0.27	7	7.5	6.4	2.2	5.6	0.3	0.3	1123
Sep	315	290	37	5.3	372	2.0	7.50	0.19	269	0.20	1	7.5	6.9	2.2	8.1	0.2	0.2	1088
Oct	248	238	32	4.4	369	2.2	5.80	0.13	288	0.14	6	7.3	8.1	3.2	8.5	0.2	0.2	1465
Nov	258	165	30	3.7	342	18.0	53.25	1.27	270	0.16	18	7.4	8.7	25.2	76.2	1.8	0.2	1429
Dec	198	142	15	1.8	329	5.0	8.25	0.15	233	2.19	9	7.7	11.1	17.0	28.3	0.5	7.5	3408
Monthly Objectives						10.0	10.0	0.80		2.00	0			19.0	19.0	1.5	3.8	
Monthly Limits						15.0	15.0	1.00		4.00	150			28.5	28.5	1.9	7.6	
Yearly Averages/Min/Max																		
Average	233	164	25.5	3.3	333	4.0	9.5	0.22	243.3	0.85	14	7.52	8.35	8.4	18.3	0.4	2.2	2288
Minimum	121	86	12.0	1.3	286	2.0	1.3	0.05	128.0	0.08	1	7.10	6.37	2.2	3.3	0.1	0.2	1088
Maximum	340	290	47.2	6.0	372	18.0	53.3	1.27	301.3	2.48	400	8.16	11.14	25.2	76.2	1.8	7.5	3616

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