

# 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 |
|--|-------------------------|

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<br>m <sup>3</sup> /d | Plant Utilization<br>(based on Avg. Day) | Max Volume/Day<br>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

MONTH: Jan

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

YEAR 2012

ANALYST Maxxam

| Test #<br>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<br>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<br>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<br>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<br>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<br>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 #<br>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<br>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<br>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<br>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<br>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 #<br>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<br>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<br>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<br>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<br>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<br>/                          |                    |                    |              |            |          |              |                       |                |            |              |                       |                  |                  |      |      |
| <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

YEAR 2012

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

Municipality of Huron East

ANALYST Maxxam

| Test #<br>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<br>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<br>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<br>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<br>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<br>/                          |                    |                    |              |            |          |              |                       |                |            |              |                       |                  |                  |      |       |
| <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 #<br>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<br>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<br>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<br>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<br>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 #<br>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<br>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<br>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<br>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<br>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 #<br>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<br>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<br>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<br>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<br>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<br>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<br>/                          |                    |                    |              |            |          |              |                       |                |            |              |                       |                  |                  |      |      |
| <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  
 Operating Authority: O.M.I. Canada Inc.  
 Municipality of Huron East

YEAR 2012

ANALYST Maxxam

| Test #<br>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<br>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<br>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<br>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<br>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<br>/                          |                    |                    |              |            |          |              |                       |                |            |              |                       |                  |                  |      |      |
| <b>Number of tests</b>          |                    |                    | 4            | 4          | 4        | 4            | 4                     | 4              | 4          | 4            | 4                     | 4                | 4                | 4    | 4    |
| <b>Monthly Averages mg/l</b>    |                    |                    | 285          | 256        | 25.7     | 3.7          | 355                   | 3.0            | 9.5        | 0.27         | 255                   | 0.41             | 11               | 7.49 | 4.37 |
| <b>Monthly Averages kg/d</b>    |                    |                    |              |            |          |              |                       | 3.0            | 9.4        | 0.27         |                       | 0.41             |                  |      |      |
| <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: Sep

YEAR 2012

ANALYST Maxxam

| Test #<br>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<br>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<br>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<br>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<br>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                        |                    |                    |              |            |          |              |                       |                |            |              |                       |                  |                  |      |      |
| Number of tests          |                    |                    | 4            | 4          | 4        | 4            | 4                     | 4              | 4          | 4            | 4                     | 4                | 4                | 4    | 4    |
| Monthly Averages mg/l    |                    |                    | 338          | 315        | 36.8     | 5.5          | 360                   | 2.8            | 7.8        | 0.36         | 233                   | 0.18             | 23               | 7.70 | 6.33 |
| Monthly Averages kg/d    |                    |                    |              |            |          |              |                       | 2.4            | 6.8        | 0.31         |                       | 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

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 #<br>Date           | MLSS                     |                          | RAW INFLUENT |               |             |                 |                             | FINAL EFFLUENT |               |                 |                             |                        |                        |      |      |
|--------------------------|--------------------------|--------------------------|--------------|---------------|-------------|-----------------|-----------------------------|----------------|---------------|-----------------|-----------------------------|------------------------|------------------------|------|------|
|                          | East<br>Aeration<br>S.S. | West<br>Aeration<br>S.S. | BOD5<br>mg/L | S. S.<br>mg/L | TKN<br>mg/L | Total P<br>mg/L | Alkalinity<br>CaCO3<br>mg/L | BOD5<br>mg/L   | S. S.<br>mg/L | Total P<br>mg/L | Alkalinity<br>CaCO3<br>mg/L | Ammonia<br>NH3<br>mg/L | E-Coli<br>Per<br>100ml | pH   | D.O. |
| 1<br>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<br>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<br>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<br>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<br>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<br>/                   |                          |                          |              |               |             |                 |                             |                |               |                 |                             |                        |                        |      |      |
| Number of tests          |                          |                          | 5            | 5             | 5           | 5               | 5                           | 5              | 5             | 5               | 5                           | 5                      | 5                      | 5    | 5    |
| Monthly Averages mg/l    |                          |                          | 145          | 119           | 30.4        | 3.1             | 338                         | 2.2            | 7.0           | 0.17            | 244                         | 0.16                   | 14                     | 7.72 | 7.78 |
| Monthly Averages kg/d    |                          |                          |              |               |             |                 |                             | 2.2            | 6.9           | 0.17            |                             | 0.16                   |                        |      |      |
| 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

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 #<br>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<br>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<br>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<br>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<br>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<br>/                          |                    |                    |              |            |          |              |                       |                |            |              |                       |                  |                  |      |      |
| <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 #<br>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<br>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<br>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<br>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<br>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<br>/                   |                    |                    |              |            |          |              |                       |                |            |              |                       |                  |                  |      |      |
| 6<br>/                   |                    |                    |              |            |          |              |                       |                |            |              |                       |                  |                  |      |      |
| 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><br>15-Mar | 5:55                 | 6:25  | 0.50   | 50           | X            |     | X       |     | <2                 | 5.0       | 0.09       |              |                       |                  | 3600             | 7.84 |
| <b>2</b><br>16-Apr | 12:15                | 13:30 | 1.25   | 30           | X            |     | X       |     | 4.0                | 7.0       | 0.08       |              |                       |                  | 0                | 8.19 |
| <b>3</b><br>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><br>26-Jul | 1:25                 | 2:15  | 1      | 45           | X            |     | X       |     | 2.0                | 6.0       | 0.14       |              |                       |                  | 20000            | 7.67 |
| <b>5</b><br>30-Sep | 12:00                | 2:24  | 1.3    | 60           | X            |     | X       |     | 2.0                | 11.0      | 0.19       |              |                       |                  | 14000            | 7.66 |
| <b>6</b><br>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<br>Month | Start | Finish               | Duration<br>Hrs | Volume<br>M3 | Yes          | No | Yes     | No | BOD5<br>mg/L       | S. S.<br>mg/L | Total P<br>mg/L | Alkalinity<br>CaCO3<br>mg/L | Ammonia<br>NH3<br>mg/L | E-Coli<br>Per<br>100ml | pH |
| 1            |       |                      |                 |              |              |    |         |    |                    |               |                 |                             |                        |                        |    |
| 2            |       |                      |                 |              |              |    |         |    |                    |               |                 |                             |                        |                        |    |
| 3            |       |                      |                 |              |              |    |         |    |                    |               |                 |                             |                        |                        |    |
| 4            |       |                      |                 |              |              |    |         |    |                    |               |                 |                             |                        |                        |    |
| 5            |       |                      |                 |              |              |    |         |    |                    |               |                 |                             |                        |                        |    |
| 6            |       |                      |                 |              |              |    |         |    |                    |               |                 |                             |                        |                        |    |
| 7            |       |                      |                 |              |              |    |         |    |                    |               |                 |                             |                        |                        |    |
| 8            |       |                      |                 |              |              |    |         |    |                    |               |                 |                             |                        |                        |    |
|              |       |                      |                 |              |              |    |         |    |                    |               |                 |                             |                        |                        |    |

Comments: No events in 2012

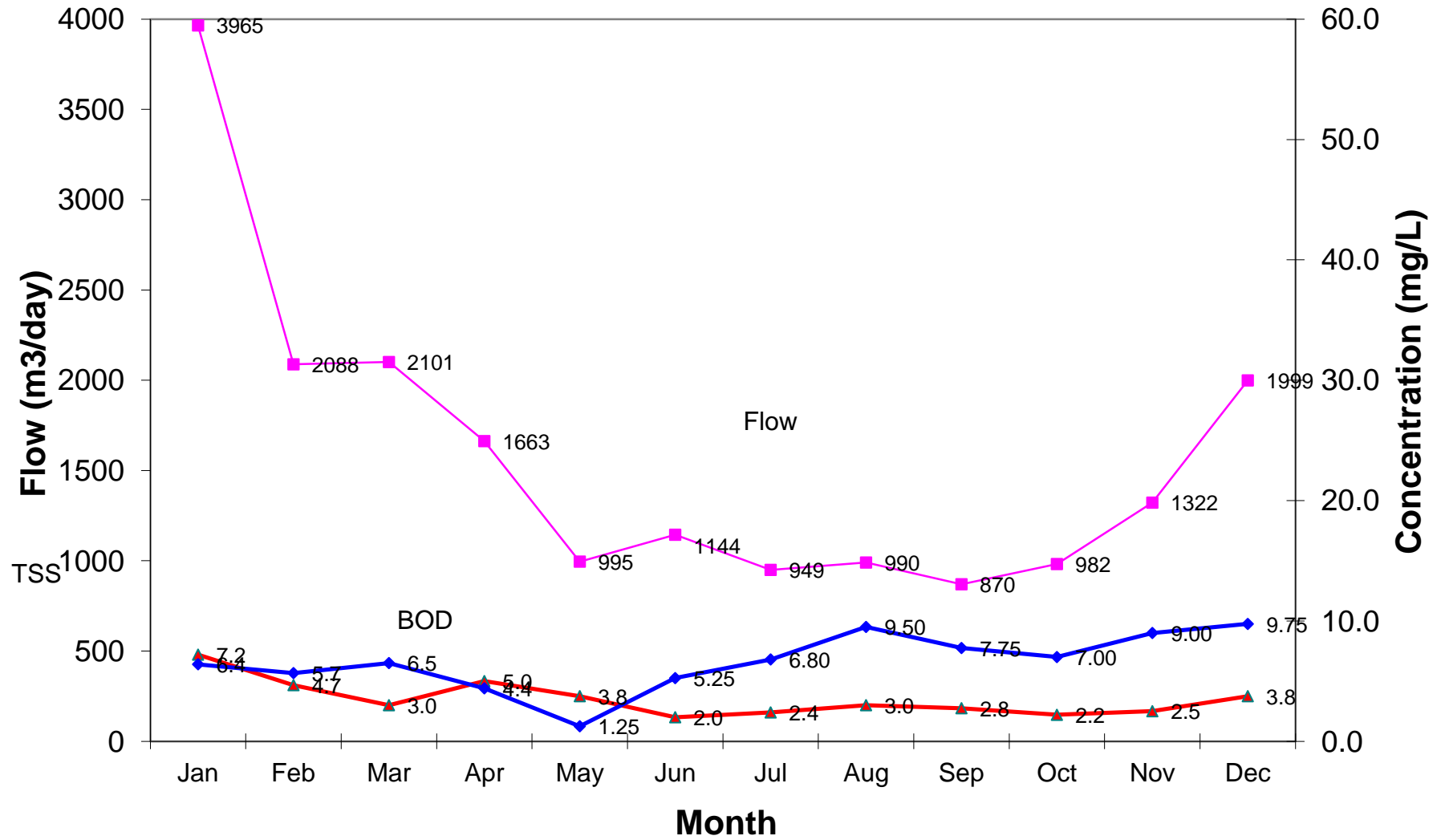
### ### O.M.I. Canada Flow Reports Seaforth STP 2012

| 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  |

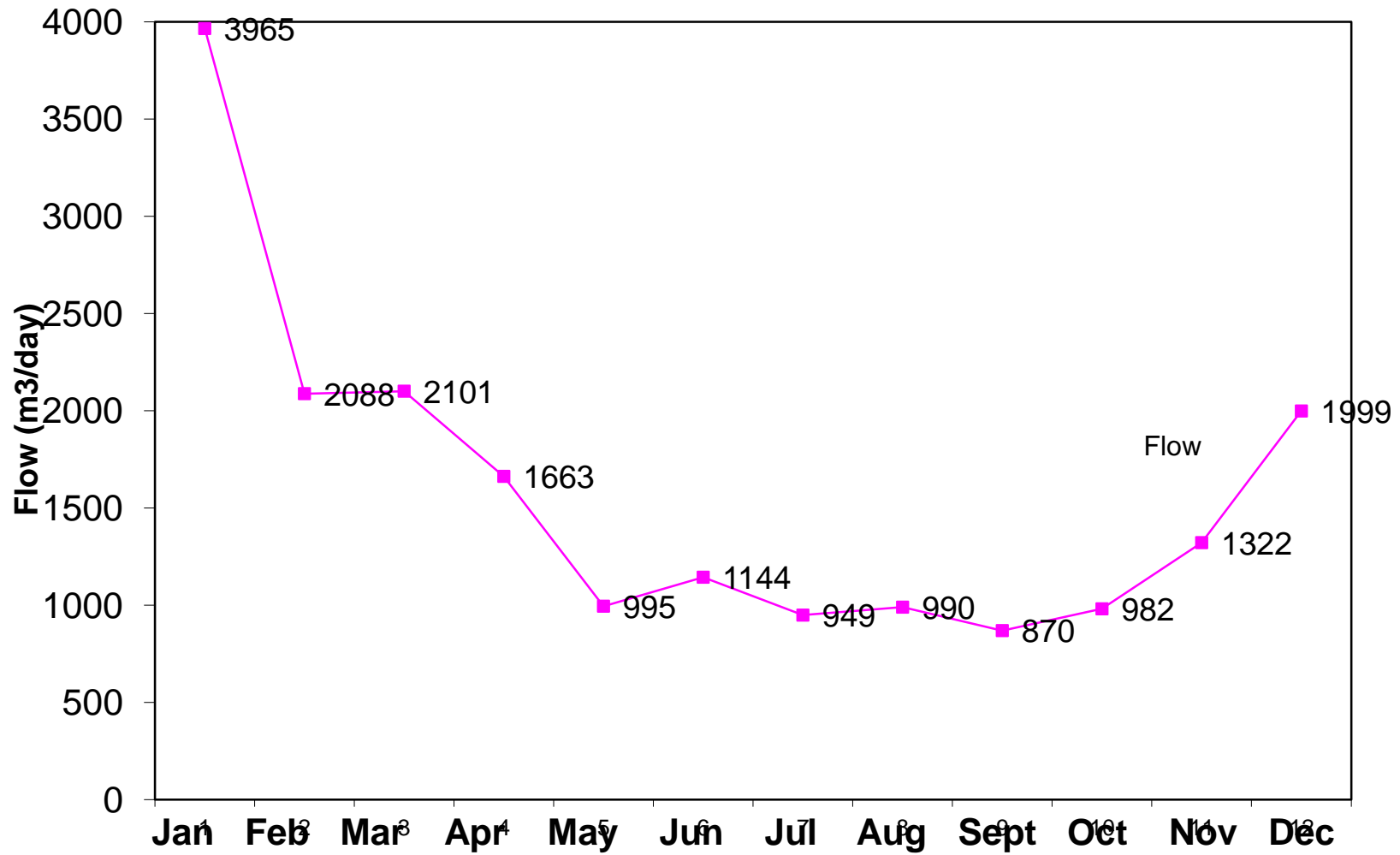
### ### O.M.I. Canada Flow Reports Seaforth SPS 2012

| 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  |

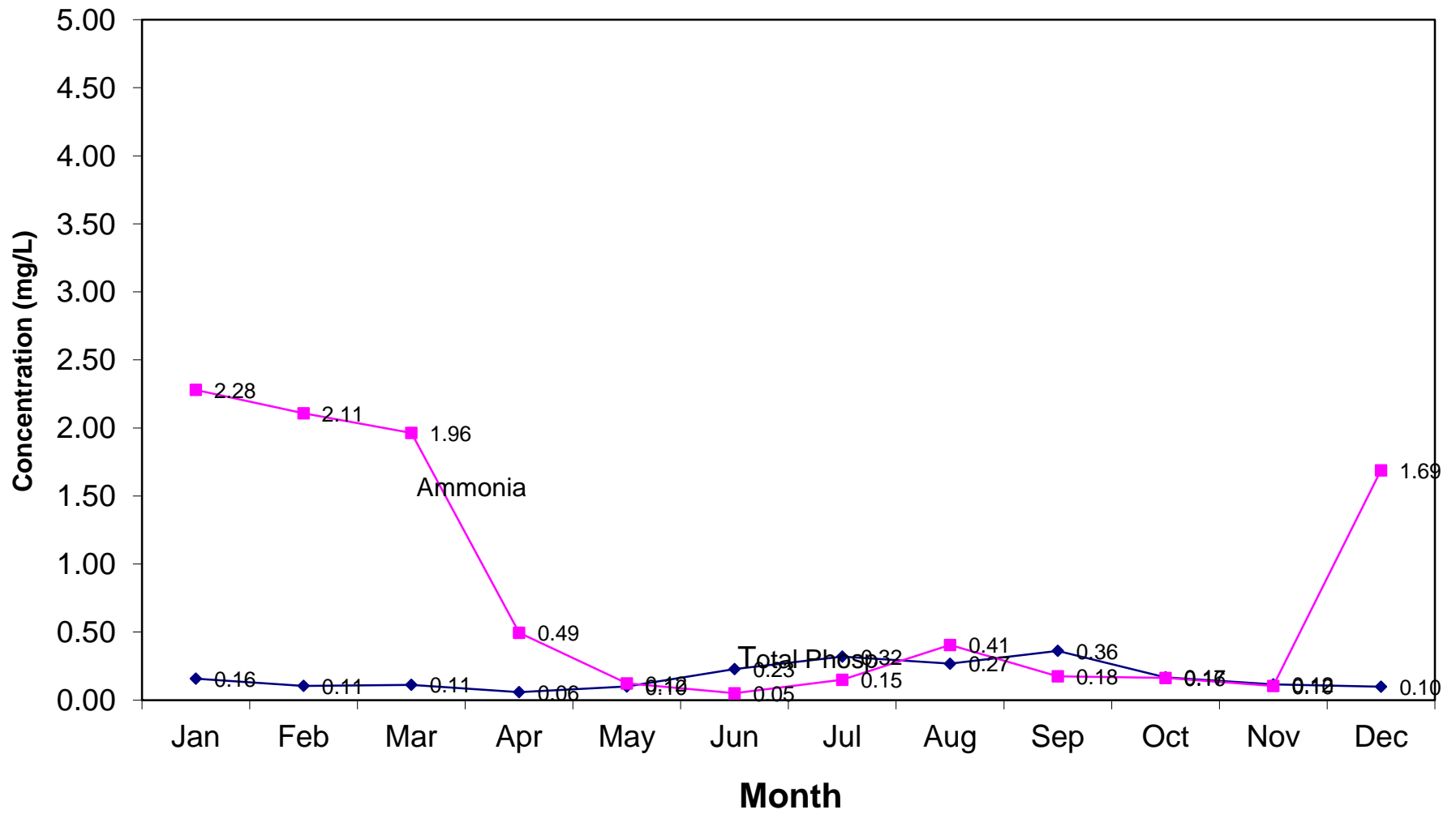
# SEAFORTH STP BOD and TSS vs Flow



## 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 NH3 kg/d | Avg Monthly Flow |
| 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