

**Municipality Of Huron East
2012 Operations Report
Brussels Wastewater Facilities
Reporting Period Jan-Dec 2012**

1. Introduction

Raw sewage from the town of Brussels collects at the Stratton Street pumping before being pumped to the WWTP. The treatment process consists of an extended aeration sewage treatment facility with tertiary filtration, Hypochlorite disinfection with a treatment effluent to the Maitland River.

Following is a list the facilities main treatment components.

- An inlet works consisting of (2) grit removal channels.
- An emergency bypass bar screen and overflow to chlorine contact chamber.
- Two aeration tanks equipped with two surface aerators per tank.
- One final clarifier
- An aerated sludge holding tank c/w sludge return/wasting facilities.
- Chlorine contact chamber.
- Effluent filtration via two compartment effluent filter.
- Aerated sludge storage tank (930 cubic meters).
- An insulated chemical storage tank with metering pumps.

The sewage works including the Stratton Street pump station, are owned by the corporation of 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:

x	None during this period
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Or

Requirement	Duration of Failure	Measures to Correct the Failure

3. Compliance with Quality/Quantity Criteria

Brussels WWTP

Month	Average Volume/Day m ³ /d	Plant Utilization (based on Avg. Day)	Max Volume/Day m ³ /d
Jan	595	67.6	843
Feb	501	56.9	715
Mar	615	69.8	1105
April	417	47.4	485
May	375	42.6	592
June	410	46.5	519
July	357	40.5	442
Aug	413	46.9	788
Sept	426	48.4	505
Oct	464	52.7	620
Nov	470	53.4	624
Dec	549	62.8	751

Plant Average Day Design Capacity is 880 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

Brussels Pump Station

- Install new pump control milltronics and transducer.
- CT Environmental in to clean out wet well

Brussels WPCP

- Rebuilt Radiator on generator.
- Replace starters in return pumps #1 and #2.
- Rebuild return pump #1/Install new impeller in #2 pump.
- Drain/clean and inspect clarifier and contact chamber.
- Remove/repair/replace skimmer
- New starter installed on return pump
- Hauled 536.5 M3 sludge from storage tank in 2012 (Land Applied)

General

- Maintained aeration blowers, return pumps and sewage pumps
- Inspected and ran 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

- Switch from Gas to Liquid Chlorine in 2011
- Amended Environmental Compliance Approval completed

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

Brussels S.T.P.

Operating Number 110002354

YEAR 2012

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

Municipality of Huron East

ANALYS Maxxam

Test # Date	MLSS	RAW INFLUENT			FINAL EFFLUENT						
	East Aeration S.S.	BOD5 mg/L	S. S. mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 3-Jan	3273	67	74	2.6	2.0	5.0	0.33	0.05	19	7.07	8.1
2 9-Jan	2944						0.23		180	7.01	10.6
3 16-Jan	2763								180	7.09	11.1
4 23-Jan	2381								1	7.16	10.9
5 30-Jan	3649								49	7.20	10.80
6											
Number of tests		1	1	1	1	1	2	1	5	5	5
Monthly Avg mg/l		67	74	2.6	2.0	5.0	0.28	0.05	31	7.11	10.30
Monthly Averages kg/d					1.2	3.0	0.16	0.029			
Monthly Objectives					10.0	10.0	see CofA	see CofA	0		
Monthly Limits mg/l/kg/d					15.0	15.0	see CofA	see CofA	200		

Comments: Total Phosphorus-May 1-Oct 31 Limit 0.3mg/L 0.3 kg/d
 Total Phosphorus-November 1-April 30= Limit 1.0mg/L 0.9 kg/d
 Ammonia Changes Monthly See C of A
 pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times

2012

MONTH Feb

Brussels S.T.P.
 Operating Number 110002354
 Operating Authority: O.M.I. Canada Inc.
 Municipality of Huron East

YEAR 2012

ANALYS Maxxam

Test # Date	MLSS	RAW INFLUENT			FINAL EFFLUENT						
	East Aeration S.S.	BOD5 mg/L	S. S. mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 6-Feb	2766	100	98	3.1	3.0	10.0	0.21	0.05	150	7.26	10.6
2 13-Feb	3340						0.15			7.19	11.4
3 21-Feb	3174									7.24	11.1
4 27-Feb	3936									7.12	11
5											
6											
Number of tests		1	1	1	1	1	2	1	1	4	4
Monthly Avg mg/l		100	98	3.1	3.0	10.0	0.18	0.05	150	7.20	11.03
Monthly Averages kg/d					1.5	5.0	0.09	0.025			
Monthly Objectives					10.0	10.0	see CofA	see CofA	0		
Monthly Limits mg/l/kg/d					15.0	15.0	see CofA	see CofA	200		

Comments: Total Phosphorus-May 1-Oct 31 Limit 0.3mg/L 0.3 kg/d
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2012

MONTH Mar

Brussels S.T.P.
 Operating Number 110002354
 Operating Authority: O.M.I. Canada Inc.
 Municipality of Huron East

YEAR 2012

ANALYS Maxxam

Test # Date	MLSS	RAW INFLUENT			FINAL EFFLUENT						
	East Aeration S.S.	BOD5 mg/L	S. S. mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 5-Mar	4080	100	120	4.0	4.0	17.0	0.45	0.32	130	7.07	11.4
2 12-Mar	3124						0.22			7.24	10.9
3 19-Mar	3530					6.0				7.08	10.1
4 26-Mar	3798									7.06	10.2
5											
6											
Number of tests		1	1	1	1	2	2	1	1	4	4
Monthly Avg mg/l		100	120	4.0	4.0	11.5	0.34	0.32	130	7.11	10.65
Monthly Averages kg/d					2.5	7.1	0.209	0.196			
Monthly Objectives					10.0	10.0	see CofA	see CofA	0		
Monthly Limits mg/l/kg/d					15.0	15.0	see CofA	see CofA	200		

Comments: Total Phosphorus-May 1-Oct 31 Limit 0.3mg/L 0.3 kg/d
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2012

MONTH Apr

Brussels S.T.P.

Operating Number 110002354

YEAR 2012

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

Municipality of Huron East

ANALYS Maxxam

Test # Date	MLSS	RAW INFLUENT			FINAL EFFLUENT						
	East Aeration S.S.	BOD5 mg/L	S. S. mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 2-Apr	4217	54	75	2.3	3.0	7.0	0.25	0.05	60	7.32	10.5
2 10-Apr	4561						0.21			7.23	9.8
3 18-Apr	4048									7.08	9.9
4 23-Apr	5518									7.03	10.1
5 30-Apr	3157									7.18	10.20
6											
Number of tests		1	1	1	1	1	2	1	1	5	5
Monthly Avg mg/l		54	75	2.3	3.0	7.0	0.23	0.05	60	7.17	10.10
Monthly Averages kg/d					1.3	2.9	0.095	0.021			
Monthly Objectives					10.0	10.0	see CofA	see CofA	0		
Monthly Limits mg/l/kg/d					15.0	15.0	see CofA	see CofA	200		

Comments: Total Phosphorus-May 1-Oct 31 Limit 0.3mg/L 0.3 kg/d
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2012

MONTH May

Brussels S.T.P.

Operating Number 110002354

YEAR 2012

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

Municipality of Huron East

ANALYS Maxxam

Test # Date	MLSS	RAW INFLUENT			FINAL EFFLUENT						
	East Aeration S.S.	BOD5 mg/L	S. S. mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 7-May	3585	110	93	2.9	2.0	3.0	0.20	0.08	10	7.49	9.2
2 14-May	3300						0.21			7.52	8.9
3 22-May	3805									7.31	9.2
4 28-May	4034									7.39	8.8
5											
6											
Number of tests		1	1	1	1	1	2	1	1	4	4
Monthly Avg mg/l		110	93	2.9	2.0	3.0	0.21	0.08	10	7.43	9.03
Monthly Averages kg/d					0.8	1.1	0.079	0.03			
Monthly Objectives					10.0	10.0	see CofA	see CofA	0		
Monthly Limits mg/l/kg/d					15.0	15.0	see CofA	see CofA	200		

Comments: Total Phosphorus-May 1-Oct 31 Limit 0.3mg/L 0.3 kg/d
 Total Phosphorus-November 1-April 30= Limit 1.0mg/L 0.9 kg/d
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2012

MONTH June

Brussels S.T.P.

Operating Number 110002354

YEAR 2012

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

Municipality of Huron East

ANALYS Maxxam

Test # Date	MLSS	RAW INFLUENT			FINAL EFFLUENT						
	East Aeration S.S.	BOD5 mg/L	S. S. mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 4-Jun	3702	68	82	2.2	2.0	3.0	0.16	0.05	150	6.97	9.3
2 11-Jun	3420						0.13			7.06	8.7
3 18-Jun	3475									6.87	8.4
4 25-Jun	3606									6.94	8.6
5											
6											
Number of tests		1	1	1	1	1	2	1	1	4	4
Monthly Avg mg/l		68	82	2.2	2.0	3.0	0.15	0.05	150	6.96	8.75
Monthly Averages kg/d					0.8	1.2	0.061	0.2			
Monthly Objectives					10.0	10.0	see CofA	see CofA	0		
Monthly Limits mg/l/kg/d					15.0	15.0	see CofA	see CofA	200		

Comments: Total Phosphorus-May 1-Oct 31 Limit 0.3mg/L 0.3 kg/d
 Total Phosphorus-November 1-April 30= Limit 1.0mg/L 0.9 kg/d
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2012

MONTH July

Brussels S.T.P.

Operating Number 110002354

YEAR 2012

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

Municipality of Huron East

ANALYS Maxxam

Test # Date	MLSS	RAW INFLUENT			FINAL EFFLUENT						
	East Aeration S.S.	BOD5 mg/L	S. S. mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 3-Jul	1530	13	50	2.4	2.0	1.0	0.19	0.53	7	7.31	8.6
2 9-Jul	2137								0	7.06	8.3
3 16-Jul	2609									6.80	7.9
4 23-Jul	2784									6.9	8.2
5 30-Jul	3062									6.76	5.48
6											
Number of tests		1	1	1	1	1	1	1	2	5	5
Monthly Avg mg/l		13	50	2.4	2.0	1.0	0.19	0.53	1	6.97	7.70
Monthly Averages kg/d					0.7	0.4	0.067	0.189			
Monthly Objectives					10.0	10.0	see CofA	see CofA	0		
Monthly Limits mg/l/kg/d					15.0	15.0	see CofA	see CofA	200		

Comments: Total Phosphorus-May 1-Oct 31 Limit 0.3mg/L 0.3 kg/d
 Total Phosphorus-November 1-April 30= Limit 1.0mg/L 0.9 kg/d
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2012

MONTH Aug

Brussels S.T.P.

Operating Number 110002354

YEAR 2012

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

Municipality of Huron East

ANALYS Maxxam

Test # Date	MLSS	RAW INFLUENT			FINAL EFFLUENT						
	East Aeration S.S.	BOD5 mg/L	S. S. mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 7-Aug	3497	110	180	2.7	2.0	2.0	0.15	0.15	22	7.17	8.2
2 13-Aug	3729						0.14			7.30	8.1
3 20-Aug										7.46	8.3
4 27-Aug										7.46	8.3
5											
6											
Number of tests		1	1	1	1	1	2	1	1	4	4
Monthly Avg mg/l		110	180	2.7	2.0	2.0	0.15	0.15	22	7.35	8.23
Monthly Averages kg/d					0.8	0.8	0.061	0.162			
Monthly Objectives					10.0	10.0	see CofA	see CofA	0		
Monthly Limits mg/l/kg/d					15.0	15.0	see CofA	see CofA	200		

Comments: Total Phosphorus-May 1-Oct 31 Limit 0.3mg/L 0.3 kg/d
 Total Phosphorus-November 1-April 30= Limit 1.0mg/L 0.9 kg/d
 Ammonia Changes Monthly See C of A
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2012

MONTH Sept

Brussels S.T.P.

Operating Number 110002354

YEAR 2012

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

Municipality of Huron East

ANALYS Maxxam

Test # Date	MLSS	RAW INFLUENT			FINAL EFFLUENT						
	East Aeration S.S.	BOD5 mg/L	S. S. mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 4-Sep	3418	48	56	2.7	2.0	2.0	0.27	0.10	160	7.70	8.2
2 10-Sep	2257									7.22	8.7
3 17-Sep	3496									7.28	8.3
4 24-Sep	3739									7.33	8.68
5											
6											
Number of tests		1	1	1	1	1	1	1	1	4	4
Monthly Avg mg/l		48	56	2.7	2.0	2.0	0.27	0.10	160	7.38	8.46
Monthly Averages kg/d					0.9	0.9	0.115	0.042			
Monthly Objectives					10.0	10.0	see CofA	see CofA	0		
Monthly Limits mg/l/kg/d					15.0	15.0	see CofA	see CofA	200		

Comments: Total Phosphorus-May 1-Oct 31 Limit 0.3mg/L 0.3 kg/d
 Total Phosphorus-November 1-April 30= Limit 1.0mg/L 0.9 kg/d
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2012

MONTH Oct

Brussels S.T.P.

Operating Number 110002354

YEAR 2012

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

Municipality of Huron East

ANALYS Maxxam

Test # Date	MLSS	RAW INFLUENT			FINAL EFFLUENT						
	East Aeration S.S.	BOD5 mg/L	S. S. mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 1-Oct	3508	150	220	6.2	2.0	5.0	0.35	0.12	530	7.22	8.8
2 9-Oct	3784								35	7.13	8.9
3 15-Oct	3429						0.29			6.85	8.9
4 22-Oct	3809									7.16	6.7
5 29-Oct	14-Jan									7.20	9.3
6											
Number of tests		1	1	1	1	1	2	1	1	5	5
Monthly Avg mg/l		150	220	6.2	2.0	5.0	0.32	0.12	136	7.11	8.51
Monthly Averages kg/d					0.9	2.3	0.148	0.055			
Monthly Objectives					10.0	10.0	see CofA	see CofA	0		
Monthly Limits mg/l/kg/d					15.0	15.0	see CofA	see CofA	200		

Comments: Total Phosphorus-May 1-Oct 31 Limit 0.3mg/L 0.3 kg/d
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2012

MONTH Nov

Brussels S.T.P.
 Operating Number 110002354
 Operating Authority: O.M.I. Canada Inc.
 Municipality of Huron East

YEAR 2012

ANALYS Maxxam

Test # Date	MLSS	RAW INFLUENT			FINAL EFFLUENT						
	East Aeration S.S.	BOD5 mg/L	S. S. mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 5-Nov	3293	120	260	4.4	2.0	5.0	0.18	0.07	73	7.67	8.5
2 13-Nov	3535						0.29			7.00	9.9
3 19-Nov	3674									7.34	9.9
4 26-Nov	3917									7.37	10.5
5											
6											
Number of tests											
Monthly Avg mg/l		120	260	4.4	2.0	5.0	0.24	0.07	73	7.35	9.69
Monthly Averages kg/d					0.9	2.4	0.112	0.03			
Monthly Objectives					10.0	10.0	see CofA	see CofA	0		
Monthly Limits mg/l/kg/d					15.0	15.0	see CofA	see CofA	200		

Comments: Total Phosphorus-May 1-Oct 31 Limit 0.3mg/L 0.3 kg/d
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2012

MONTH Dec

Brussels S.T.P.
 Operating Number 110002354
 Operating Authority: O.M.I. Canada Inc.
 Municipality of Huron East

YEAR 2012

ANALYS Maxxam

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	East Aeration S.S.	BOD5 mg/L	S. S. mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 3-Dec	3750	240	160	4.5	2.0	8.0	0.22	0.14	35	7.44	9.9
2 10-Dec	3635							0.14		7.58	10.4
3 17-Dec	3624									7.37	10.1
4 24-Dec	3095									7.46	10.4
5 31-Dec	3669									7.33	10.8
6											
Number of tests											
Monthly Avg mg/l		240	160	4.5	2.0	8.0	0.22	0.14	35	7.44	10.32
Monthly Averages kg/d					1.1	4.4	0.12	0.076			
Monthly Objectives					10.0	10.0	see CofA	see CofA	0		
Monthly Limits mg/l/kg/d					15.0	15.0	see CofA	see CofA	200		

Comments: Total Phosphorus-May 1-Oct 31 Limit 0.3mg/L 0.3 kg/d
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2012

BYPASS STP Bypass Events

Brussels S.T.P.
Operating Number 110002354
Operating Authority: O.M.I. Canada Inc.
Municipality of Huron East

YEAR 2012

ANALYST Maxxam

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

Comments: Events in 2012

O.M.I. Canada Flow Reports Brussels STP 2012

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	713	596	616	456	432	316	349	330	422	440	594	455
2	843	715	407	485	396	519	321	368	387	394	577	587
3	412	648	566	438	397	376	377	352	368	400	624	724
4	696	691	685	449	441	420	312	354	386	406	499	645
5	686	526	632	408	406	439	364	361	427	413	517	751
6	585	592	527	426	419	392	363	313	412	475	486	628
7	618	540	560	462	424	388	409	359	353	430	476	607
8	611	519	1033	422	403	376	359	356	497	386	459	558
9	602	512	1105	458	411	430	350	388	428	426	484	743
10	580	488	865	400	365	456	373	376	402	404	485	481
11	548	508	827	408	394	379	343	788	372	400	461	528
12	559	453	745	440	391	431	341	557	377	409	492	508
13	619	501	843	396	413	453	353	491	399	371	467	521
14	641	466	871	400	415	365	336	517	493	494	452	460
15	550	456	683	420	374	407	349	372	462	553	432	559
16	482	469	657	468	592	404	381	442	464	549	436	518
17	575	444	658	394	84	446	348	450	505	344	460	553
18	708	426	607	361	360	496	341	406	416	450	487	551
19	559	453	546	388	344	468	346	394	433	425	468	519
20	588	428	543	399	379	443	333	409	441	423	433	462
21	527	456	523	435	268	417	328	402	443	530	420	551
22	533	515	499	441	366	386	363	350	409	463	401	576
23	564	465	470	442	355	372	345	393	483	488	431	591
24	599	447	468	377	327	382	352	387	491	620	433	564
25	612	457	503	414	360	407	319	441	444	604	458	488
26	557	454	437	357	344	396	442	412	401	470	451	551
27	625	432	451	375	357	387	328	375	434	497	413	429
28	588	458	427	384	313	381	402	430	406	496	416	473
29	570	401	457	363	420	355	413	381	404	496	444	464
30	569		434	438	343	419	342	397	408	575	439	489
31	521		430		330		371	449		556		490
Total	18440	14516	19075	12504	11623	12306	11053	12800	12767	14387	14095	17024
Min.	412	401	407	357	84	316	312	313	353	344	401	429
Max	843	715	1105	485	592	519	442	788	505	620	624	751
Avg.	595	501	615	417	375	410	357	413	426	464	470	549

O.M.I. Canada CI2 Results Brussels STP 2012

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	0.20	0.14	0.20	0.17	0.16	0.14	0.09	0.13	0.10	0.16	0.16	0.19
2	0.21	0.16	0.19	0.19	0.20	0.12	0.14	0.13	0.12	0.17	0.20	0.18
3	0.18	0.16	0.14	0.17	0.2	0.14	0.17	0.15	0.10	0.16	0.17	0.19
4	0.16	0.20	0.15	0.17	0.23	0.11	0.20	0.14	0.10	0.18	0.19	0.17
5	0.18	0.19	0.16	0.20	0.18	0.14	0.16	0.15	0.12	0.20	0.17	0.2
6	0.16	0.18	0.12	0.16	0.16	0.15	0.15	0.13	0.15	0.18	0.20	0.22
7	0.13	0.14	0.21	0.14	0.19	0.15	0.17	0.11	0.14	0.15	0.19	0.19
8	0.14	0.16	0.21	0.15	0.21	0.12	0.16	0.12	0.16	0.18	0.17	0.18
9	0.14	0.14	0.16	0.17	0.2	0.17	0.14	0.11	0.16	0.16	0.17	0.18
10	0.17	0.10	0.17	0.15	0.2	0.11	0.12	0.11	0.14	0.17	0.20	0.19
11	0.17	0.13	0.23	0.15	0.16	0.14	0.14	0.08	0.16	0.19	0.16	0.2
12	0.18	0.14	0.18	0.12	0.18	0.13	0.14	0.13	0.14	0.17	0.18	0.2
13	0.21	0.19	0.22	0.14	0.13	0.17	0.16	0.14	0.14	0.14	0.20	0.20
14	0.19	0.13	0.16	0.15	0.12	0.17	0.19	0.14	0.12	0.15	0.20	0.15
15	0.10	0.14	0.18	0.19	0.16	0.17	0.16	0.13	0.18	0.21	0.15	0.21
16	0.16	0.14	0.19	0.07	0.14	0.18	0.07	0.15	0.17	0.18	0.16	0.19
17	0.16	0.13	0.21	0.13	0.18	0.16	0.14	0.12	0.15	0.19	0.13	0.22
18	0.21	0.09	0.09	0.11	0.21	0.15	0.13	0.12	0.18	0.21	0.13	0.17
19	0.22	0.15	0.16	0.15	0.17	0.15	0.13	0.13	0.20	0.14	0.16	0.17
20	0.13	0.12	0.16	0.14	0.04	0.12	0.12	0.17	0.12	0.14	0.19	0.23
21	0.11	0.13	0.13	0.12	0.19	0.16	0.12	0.15	0.12	0.13	0.13	0.16
22	0.10	0.16	0.14	0.10	0.17	0.17	0.14	0.12	0.15	0.18	0.19	0.16
23	0.20	0.12	0.10	0.16	0.2	0.17	0.15	0.16	0.16	0.17	0.19	0.14
24	0.15	0.18	0.10	0.11	0.19	0.14	0.14	0.14	0.15	0.17	0.16	0.15
25	0.12	0.19	0.13	0.14	0.18	0.17	0.1	0.015	0.14	0.20	0.18	0.16
26	0.14	0.20	0.13	0.20	0.19	0.05	0.16	0.16	0.17	0.19	0.17	0.14
27	0.23	0.20	0.16	0.17	0.19	0.11	0.11	0.12	0.14	0.13	0.23	0.16
28	0.21	0.21	0.09	0.22	0.2	0.16	0.13	0.11	0.16	0.15	0.16	0.18
29	0.20	0.19	0.16	0.15	0.12	0.13	0.18	0.13	0.13	0.16	0.17	0.14
30	0.18		0.15	0.21	0.12	0.15	0.16	0.13	0.11	0.19	0.18	0.13
31	0.19		0.14		0.16		0.16	0.11		0.21		0.16
Min.	0.10	0.09	0.09	0.07	0.04	0.05	0.07	0.015	0.10	0.13	0.13	0.13
Max	0.23	0.21	0.23	0.22	0.23	0.18	0.2	0.17	0.2	0.21	0.23	0.23
Avg.	0.17	0.16	0.16	0.15	0.17	0.14	0.14	0.13	0.14	0.17	0.17	0.18

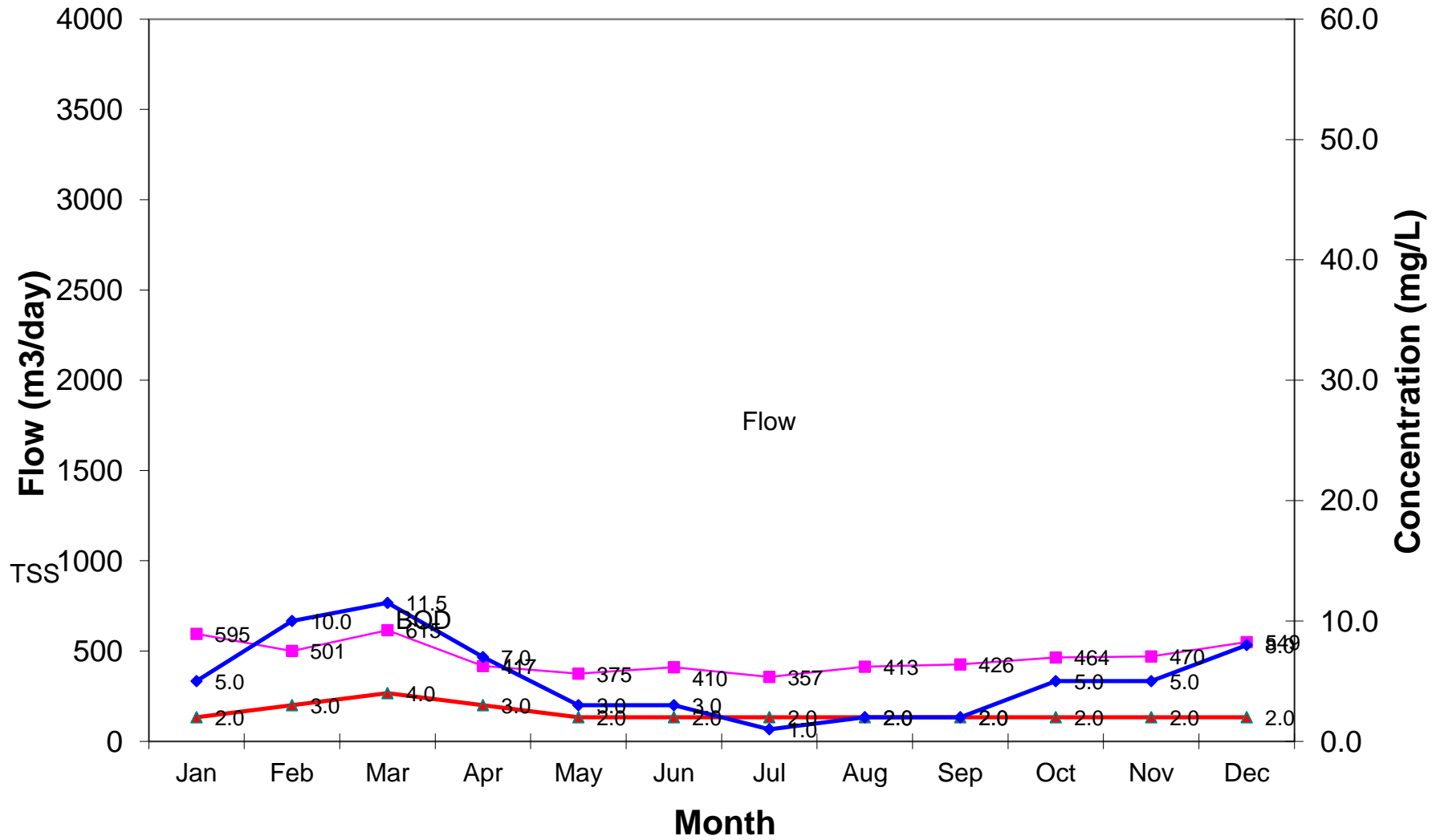
O.M.I. Canada pH Results Brussels STP 2012

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1			7.11	7.37	7.25	7.27	7.22	6.63	7.15	7.22	7.21	6.94
2			7.09	7.32	7.37	7.23	7.10	6.59	7.45	7.32	7.16	6.88
3	7.18	7.98	6.86	7.46	7.29	6.96	7.31	6.78	7.25	7.24	7.07	7.44
4		7.80	6.75	7.47	7.25	6.97	6.83	6.69	7.70	7.16	7.16	7.05
5		7.31	7.07	7.42	7.35	7.10	7.33	6.55	7.23	7.05	7.67	7.05
6		7.26	7.04	7.49	7.37	7.31	7.35	6.12	7.18	7.11	7.19	7.32
7			7.01	7.27	7.49	7.10	7.29	7.17	7.06	6.97	7.06	7.16
8		7.61	7.03	7.52	7.39	7.13	7.31	7.09	7.05	7.07	7.09	7.10
9	7.10	7.77	6.97	7.52	7.44	7.07	7.06	6.89	7.07	7.12	7.13	7.34
10		7.49	6.86	7.23	7.37	7.38	7.15	6.99	7.22	7.01	7.06	7.58
11		7.14	7.59	7.59	7.54	7.06	7.13	7.00	7.14	6.97	7.18	7.20
12		7.23	7.24	7.78	7.62	7.11	7.48	7.04	7.14	6.99	6.88	7.20
13		7.19	7.14	7.78	7.55	7.03	7.38	7.30	7.04	6.95	7.00	7.24
14		7.08	7.04	7.76	7.52	7.01	7.28	7.07	7.03	6.87	7.02	7.23
15		7.14	7.04	7.75	7.41	7.03	7.09	7.07	7.15	6.85	7.06	7.27
16	7.16	7.15	7.03	7.45	7.34	6.98	6.80	7.08	7.23	7.14	7.06	7.24
17		7.12	6.98	7.72	7.44	6.93	7.00	6.72	7.22	6.95	7.04	7.37
18		7.00	7.02	7.08	7.48	6.87	6.93	6.70	7.15	6.99	7.04	7.24
19		7.04	7.08	7.34	7.52	7.02	6.80	7.19	7.10	7.01	7.34	7.26
20		7.82	7.11	7.36	7.41	7.12	6.88	7.46	7.16	6.98	7.19	7.24
21		7.24	7.24	7.59	7.37	7.05	6.91	7.12	7.39	6.87	7.07	7.31
22		7.43	7.26	7.38	7.31	7.24	6.89	7.47	7.20	7.16	7.03	7.17
23		7.25	7.24	7.03	7.43	7.15	6.90	7.13	7.32	6.99	7.11	7.27
24	7.27	7.20	7.31	7.57	7.13	7.22	6.89	7.26	7.33	7.03	7.22	7.46
25		7.31	7.25	7.43	7.30	6.94	6.92	6.97	7.29	7.18	7.10	7.27
26		7.27	7.06	7.53	7.40	7.17	6.87	7.13	7.31	7.32	7.37	7.18
27		7.12	7.34	7.4	7.33	7.21	6.55	7.46	7.36	7.10	7.14	7.13
28		7.58	7.39	7.47	7.39	7.18	6.62	7.17	7.27	7.25	7.10	7.30
29		7.20	7.43	7.39	7.29	7.24	6.59	7.19	7.09	7.20	7.04	7.10
30	7.60		7.46	7.18	7.25	7.28	6.76	7.21	7.13	7.16	7.02	7.20
31			7.39		7.41		6.54	7.49		7.17		7.33
Min.	7.10	7	7.03	7.13	7.13	6.87	6.54	6.12	7.03	6.85	6.88	6.88
Max	7.6	7.98	7.78	7.62	7.62	7.38	7.48	7.49	7.7	7.32	7.67	7.58
Avg.	7.26	7.34	7.46	7.39	7.39	7.11	7.01	7.02	7.21	7.08	7.13	7.23

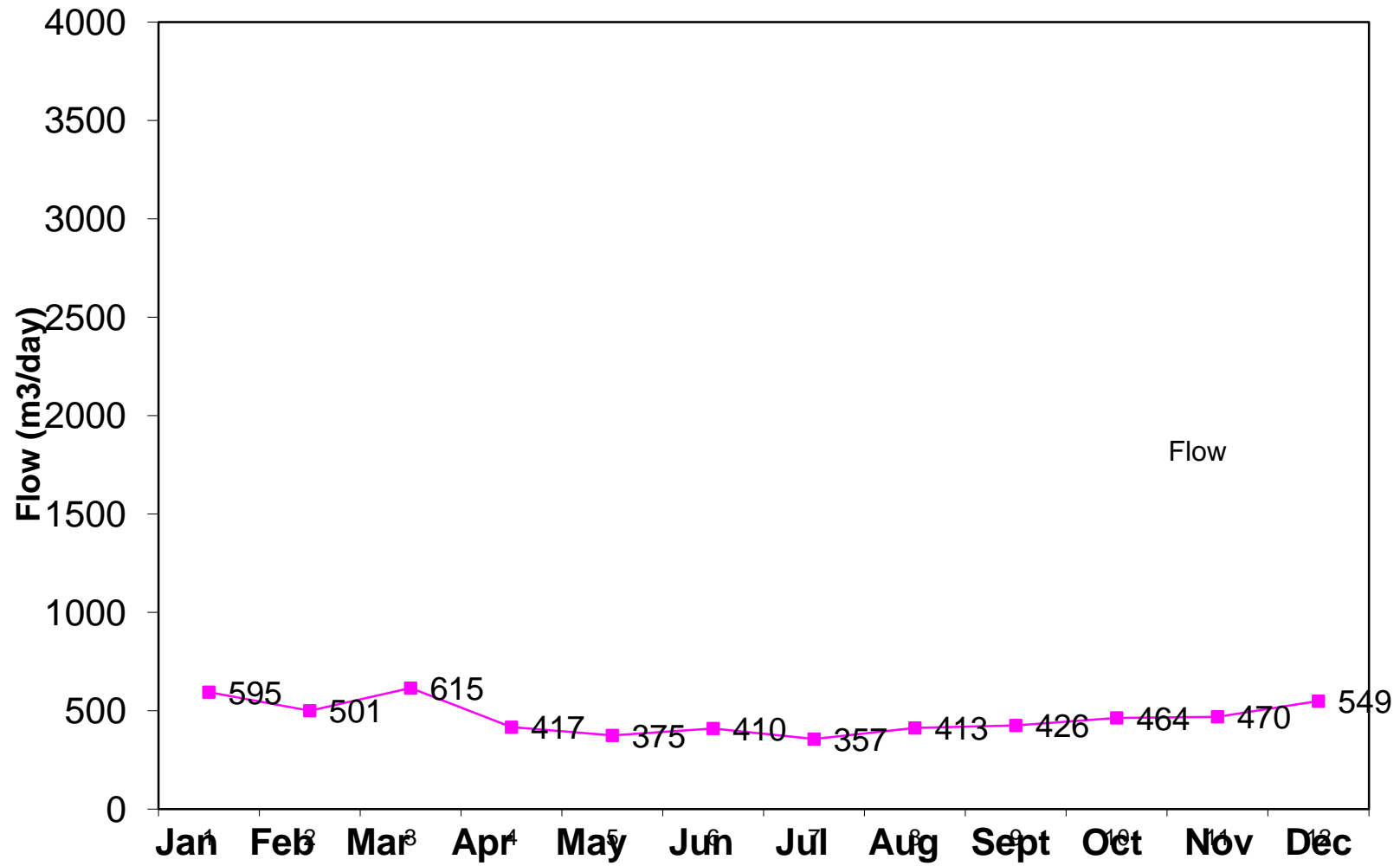
O.M.I. Canada Temp Results Brussels STP 2012

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1			7.5	10.2	10.7	15.6	19.2	21.0	19.4	16.1	12.9	11.8
2			7.6	9.1	11.1	15.5	19.1	21.0	19.5	16.4	12.6	12.4
3	8.7	9.7	7.9	9.8	12.3	15.0	18.9	21.0	19.5	16.4	13.2	11.4
4		9.2	7.6	10.1	15.3	14.0	19.1	21.2	19.9	16.9	12.2	12.3
5		8.5	6.6	9.9	15.0	14.6	20.5	22.1	19.6	17.8	12.3	12.8
6		8.1	6.8	9.8	15.0	15.0	21.5	22.0	20.5	17.1	12.0	10.4
7	9.0		7.3	10.1	13.4	15.6	21.8	20.1	20.7	15.6	11.4	10.4
8		7.9	8.8	10.4	13.2	16.1	20.9	20.4	20.3	14.9	12.5	12.0
9		8.3	7.3	10.0	13.3	16.6	19.2	20.2	19.8	14.5	13.2	12.1
10		8.9	7.0	10.0	12.9	16.8	19.1	19.4	18.0	14.6	13.4	10.2
11		8.6	7.8	9.7	12.7	17.2	19.0	19.0	17.8	13.8	13.6	9.8
12		6.4	8.1	11.0	14.7	17.8	19.0	19.0	18.2	13.4	14.4	9.4
13		6.0	9.1	11.0	14.4	16.6	20.1	19.1	18.6	13.4	12.0	9.30
14	7.7	6.7	8.8	12.0	13.6	17.3	20.6	19.2	18.8	14.1	11.4	9.5
15		7.4	9.3	12.5	14.0	17.4	20.7	19.1	18.9	15.0	11.3	9.6
16		7.6	9.8	12.4	14.1	17.7	20.0	19.0	18.3	14.4	12.4	9.7
17		7.6	10.3	13.0	13.6	17.9	20.8	19.7	17.8	14.4	12.7	10.5
18			10.8	11.2	13.4	17.2	21.1	19.5	18.1	15.4	12.7	10.6
19		7.6	10.9	11.3	14.0	18.1	20.6	19.7	17.1	15.0	11.9	10.4
20		7.2	11.6	13.0	15.0	18.8	19.7	18.7	16.7	15.5	11.7	11.2
21	7.9	7.1	12.1	12.5	15.7	19.3	19.5	18.4	16.5	15.6	11.6	10.9
22		7.3	12.4	12.2	15.6	20.3	19.7	18.5	16.8	15.2	11.9	11.8
23		7.5	13.2	10.9	15.8	19.8	20.0	19.6	16.3	15.2	12.3	11.2
24		7.7	13.1	11.5	16.2	19.7	20.8	19.9	15.9	15.5	10.4	8.7
25		6.8	11.5	10.1	16.6	17.6	20.5	20.2	15.4	14.9	9.8	10.8
26		6.6	10.8	11.7	17.1	17.4	20.2	20.8	16.2	15.3	9.9	10.4
27		7.0	9.5	10.2	17.0	17.5	20.5	20.0	16.1	15.4	10.0	8.1
28		7.0	9.6	10.3	16.0	17.8	20.1	19.9	15.9	14.9	9.9	8.3
29		7.6	9.6	10.1	17.6	18.4	20.7	19.4	16.3	13.0	10.6	9.3
30	7.4		10.0	10.6	17.0	18.8	20.2	19.1	16.6	11.9	11.0	9.9
31			10.2		16.1		20.7	19.3		12.8		8.0
Min.	7.4	6.0	6.6	9.1	10.7	14.0	18.9	18.4	15.4	11.9	9.8	8.0
Max	9.0	9.7	13.2	13.0	17.6	20.3	21.8	22.1	20.7	17.8	14.4	12.8
Avg.	8.1	7.6	9.4	10.9	14.6	17.2	20.1	19.9	18.0	15.0	11.9	10.4

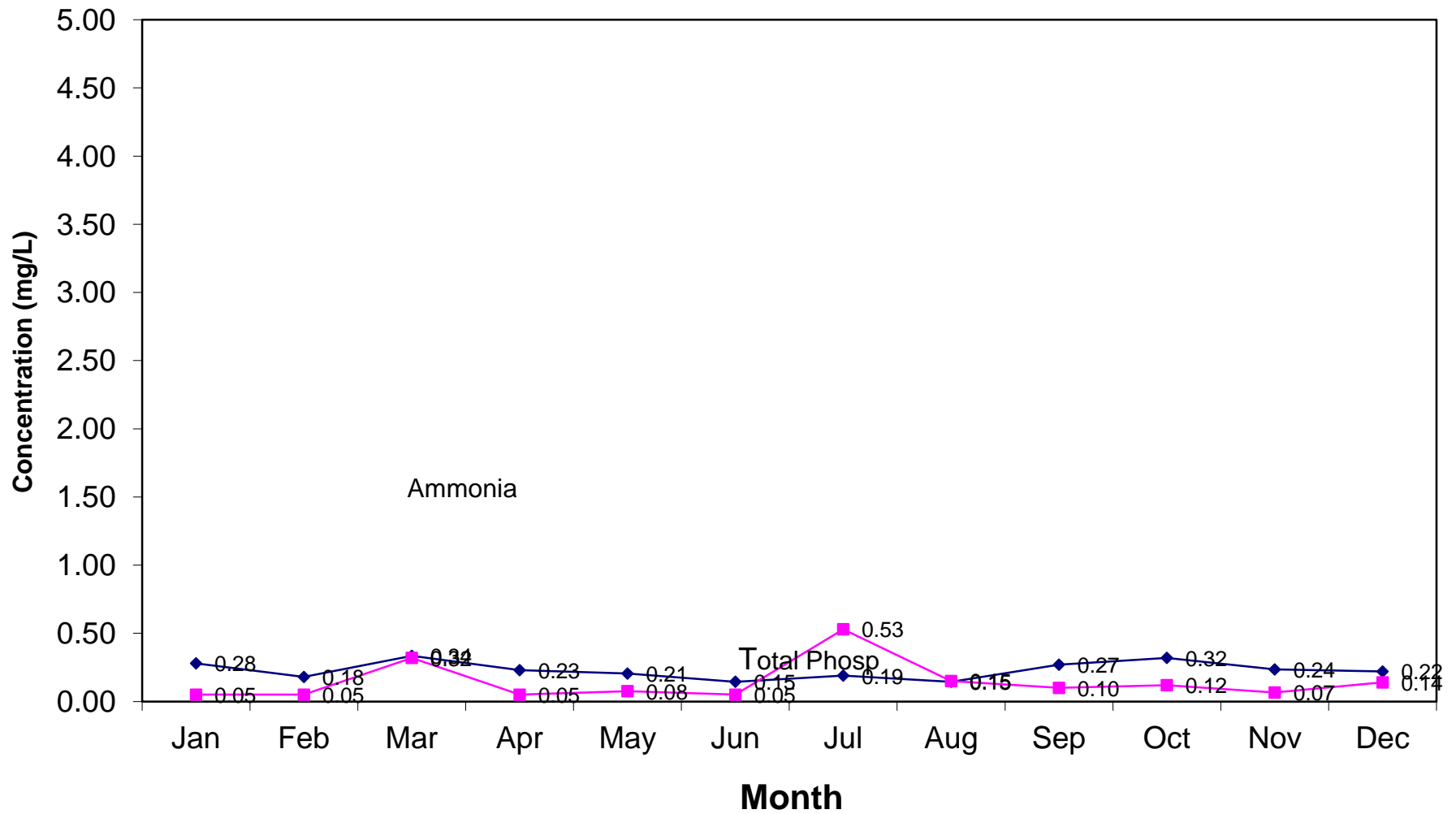
Brussels STP BOD and TSS vs Flow



Brussels STP. Average Monthly Flows



Brussels STP Monthly Total Phosphorus and Ammonia



2012 Municipality of Huron East Brussels STP Monthly Average Lab Results

RAW SEWAGE				Effluent Concentration mg/l								Effluent Loading kg/d							
Test Date	BOD5 mg/L	S. S. mg/L	Total P mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Ammonia		E-Coli		Cl2 Res	pH	D.O	BOD5 kg/d	S.S. kg/d	Total P kg/d	Ammonia		Avg Monthly Flow
							NH3 mg/L	Per 100ml	Per 100ml	Avg Monthly									
Monthly																			
Jan	67	74	2.6	2.0	5.0	0.28	0.05	31	0.17	7.11	10.3								
Feb	100	98	3.1	3.0	10.0	0.18	0.05	150	0.16	7.20	11.0								
Mar	100	120	4.0	4.0	11.5	0.34	0.32	130	0.16	7.11	10.7								
Apr	54	75	2.3	3.0	7.0	0.23	0.05	60	0.15	7.17	10.1								
May	110	93	2.9	2.0	3.0	0.21	0.08	10	0.17	7.43	9.0								
Jun	68	82	2.2	2.0	3.0	0.15	0.05	150	0.14	6.96	8.8								
Jul	13	50	2.4	2.0	1.0	0.19	0.53	1	0.14	6.97	7.7								
Aug	110	180	2.7	2.0	2.0	0.15	0.15	22	0.13	7.35	8.2								
Sep	48	56	2.7	2.0	2.0	0.27	0.10	160	0.14	7.38	8.5								
Oct	150	220	6.2	2.0	5.0	0.32	0.12	136	0.17	7.11	8.5								
Nov	120	260	4.4	2.0	5.0	0.24	0.07	73	0.17	7.35	9.7								
Dec	240	160	4.5	2.0	8.0	0.22	0.14	35	0.18	7.44	10.3								
Monthly Objectives				10.0	10.0	See CofA		0					10.0	10.0	See CofA				
Monthly Limits				15.0	15.0	See CofA		200					15.0	15.0	See CofA				
				Yearly Averages/Min/Max															
Average	98	122	3.3	2.3	5.2	0.23	0.14	46	0.16	7.21	9.40								
Minimum	13	50	2.2	2.0	1.0	0.15	0.05	1	0.13	6.96	7.70								
Maximum	240	260	6.2	4.0	11.5	0.34	0.53	160	0.18	7.44	11.03								

Comments:
 Total Phosphorus-May 1-Oct 31 Limit 0.3mg/L 0.3 kg/d
 Total Phosphorus-November 1-April 30= Limit 1.0mg/L 0.9 kg/d
 Ammonia Changes Monthly See C of A
 pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times