



Town of Petrolia Water Pollution Control Plant

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TOWN OF PETROLIA

Managed, Operated, and Maintained by

CH2M HILL

2009 Annual Report of Operations

March 2010



Petrolia WPCP
546 Maude Street
P.O. Box 329
Petrolia, Ontario
N0N 1R0
Tel. 519.882.3137
Fax 519.882.2253
Dale.Wright@ch2m.com

March 26, 2010.

Chris Hutt, Environmental Officer - Sarnia Office

Ontario Ministry of the Environment
1094 London Road,
Sarnia, Ontario.
N7S 1P1

Dear Mr. Hutt,

On behalf of the Corporation of the Town of Petrolia, in Lambton County, CH2M HILL is pleased to submit to you the annual operating report for the Town of Petrolia Water Pollution Control Plant. Please feel free to contact the undersigned if you have any questions regarding this report.

Respectfully submitted,

CH2M HILL

Dale E. Wright

Operator in Charge

cc: Brian Hansen, Manager of Operations, Town of Petrolia

Terry J. Rands, Area Manager, CH2M HILL

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REPORT

Introduction

The Town of Petrolia Water Pollution Control Plant (WPCP) was constructed in 1975 to replace the existing Lagoon treatment system. Upgrades to the treatment plant have included UV disinfection in 1995, VFD on the pumps at the main lift station in 1996, replacement of the manual bar screen with an automatic step screen in 1999, and replacement of the media in the sand filter in 2000. The plant has a design capacity of 3800 m³/day and is currently treating on average, 2964 m³/day, which is 283 m³/day less than last year. It should be noted that 2008 saw record high flows. The WPCP is a tertiary extended aeration plant with two large lagoons, one used to store digested sludge, and the other to use as a backup system in the event the plant requires maintenance. The plant consists of grit removal, mechanical aeration, jet aeration, clarification, sand filtration, and ultraviolet disinfection. Disinfection is now operated year round, as requested by the Ministry, although the Certificate of Approval only requires seasonal disinfection. The collection system consists of 11 pumping stations. An amendment to the C of A was applied for in 2002 and approved by the MOE Approvals Branch to have the plant re-rated from 3180m³ to 3800m³ based on the installation of two 30hp Jet Aspirators in the aeration tanks. Another amendment to the C of A was applied for in 2008 and approved by the MOE to clarify lagoon discharge criteria.

Monitory and Compliance Reports

Reports submitted to the regional environmental officer are the R1and R2 Municipal Utility Monitoring Program reports for mechanical plants. These reports are submitted quarterly to the Sarnia office of the Ontario Ministry of the Environment, (MOE) with copies sent to Toronto. The sewage treatment program has been running exceptionally well for the 2009 calendar year. The plant is capable of removing 99.1% of BOD₅, 99.8% TSS, 92.6% TP, and 96.7% TKN. The plant also has capacity to handle 22 % more flow than it is currently treating based on 2009 flows.

Monitoring Data Interpretation

The following summarizes the operation and effectiveness of the treatment process. As can be seen from the analytical data, the plant was in compliance with all regulated parameters for the year 2009. Average monthly flows ranged from 2,482 m³/day in dry weather conditions, to 3,753 m³/day during wet weather conditions. Effluent TSS monthly average did not exceed 1.2 mg/L in 2009. The BOD₅ monthly average did not exceed 6.8 mg/L. The highest monthly average for TP reported was 0.63 mg/L with a yearly average of 0.44 mg/L. Ammonia Nitrogen highest monthly average during freezing period, was 1.15 mg/L the highest monthly average during non-freezing period, was 0.41 mg/L. The yearly average for Ammonia Nitrogen was 0.28 mg/L. Noncompliance for these parameters is 10 mg/L (38.0kg/d) BOD₅, 10 mg/L (38.0kg/d) TSS, 1 mg/L (3.8kg/d) TP, and 3.0 mg/L (11.4kg/d), non-freezing period, 7.0mg/L (26.6kg/d),during freezing period for Ammonia Nitrogen .

Maintenance

OMI uses a computerized maintenance management system (CMMS) to track all preventive and corrective maintenance activities. Preventive maintenance activities are carried out on a regularly scheduled basis to ensure optimal performance and readiness of all critical plant equipment. All electrical work done at the plant and pump stations was inspected by the ESA (Electrical Safety Authority). The North West mixer shaft was repaired. The fire extinguishers had their annual inspection. The sand filter head was cleaned out on several occasions. Crystallized alum was removed from the alum lines. Larco did the annual inspection of the hoists. The surge tank was cleaned out. Scrapers on the south clarifier were repaired.

Operational Problems

Despite the age of the facility, the effluent quality remains excellent.

Sludge Handling

Waste activated sludge (WAS) is stored in aerobic digesters and digested for up to 7 days before being transferred to the sludge storage lagoon. No sludge has ever been removed from the lagoons. The plant produces on average 35.29 m³/day of sludge at 0.5 % solids. It is estimated that 12,881 m³ of sludge was sent to the lagoons in 2009, at 0.5 % solids. For the year 2010, it is anticipated that the volume of sludge produced will increase slightly. A copy of the sludge analysis is included with this report.

Monitoring Equipment Calibration and Maintenance

All monitoring equipment is calibrated according the manufacturer's specification at least yearly to ensure proper operation and reliability. A Greyline ultrasonic flow meter is positioned in front of a Parshall Flume on the raw influent to record level through the flume, and converts to a flow at the control room. A Doppler flow meter is installed on the return activated sludge (RAS) line, to monitor the flow of RAS to the aeration. No flow meter is installed on the WAS, so wasting is achieved through measurement in the digester of sludge level. A Pulsar Ultra 3 ultrasonic level controller is installed in the line going to the lagoons and records flows to the lagoons. Copies of the calibration reports are included in this report.

Modifications

As requested by the Ministry of Environment, we are now operating the ultraviolet disinfection system throughout the year. The current Certificate of Approval only requires seasonal disinfection.

Pumping Stations

Pump Stations are checked on a weekly basis, and have alarm monitoring 24 hours per day. One pump station has a backup generator on standby. All other pump stations are equipped with a terminal plug and transfer switch in the event they require a portable generator. The Main Lift station can be bypassed directly to the Plant's on site Lagoons. The generator at Barrett's Lane was serviced. The Main Lift, Barretts Lane, Waterville and Queen Street pumps were unplugged on several occasions. The alarm circuit to Ella and Progress pump stations were repaired. Stainless cable grips were installed at Waterville. Benko cleaned out the wet well at Garfield pump station. The discharge line at Garfield was camera'd.

MOE DATA

Municipality:	Corporation of the Town of Petrolia	Operating Authority:	OMI Canada Inc.
Project Name:	Petrolia WPCP		
Mailing Address:	411 Greenfield St. Box 1270 Petrolia ON N0N 1R0		

File No.	Works Number	Data Period	Days	Discharge Type	Update Code
4 6 1 2	1 1 0 0 0 5 7 9 3 11	Month Year 0 1 0 9 18 19	3 1 20 21	2 22	R 80

C.P. 0 1 12 13	FLows	Parameter Code (10 ³ m ³) 5 0 0 1 0 30 34	Dec. 3 3 3 35	Monthly Results 8 3 . 7 4 5 2 . 7 0 1 3 . 3 2 4 38	# of Occurrences
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2 6 12 13	BYPASS	Plant Bypass Volume (10 ³ m ³) 5 0 0 2 6 30 34	3 1 3 35		# of Occurrences
	Duration	(hours) 8 0 5 6 3 30 34		.	
	Secondary Bypass Volume (10 ³ m ³) 5 0 0 4 0 30 34			-	
	Duration (hours) 8 0 5 6 5 30 34			-	
				-	

0 3 12 13	RAW SEWAGE	(mg/L) 0 0 0 0 1 0 0 0 0 6 0 0 0 2 0 0 0 0 3 3 30 34	0 0 2 1 35	3 1 2 . 2 7 7 . 4 6 . 7 0 7 . 7 38	# of Samples
	BOD ₅			0 4	
	Suspended Solids			0 4	
	TKN			0 4	
	Total Phosphorus			0 4	

0 4 12 13	FINAL EFFLUENT	(mg/L) 0 0 0 0 1 0 0 0 0 6 0 0 0 1 9 0 0 0 2 0 0 0 0 3 3 30 34	1 1 2 2 2 35	1 . 3 0 . 3 0 . 1 0 1 . 1 0 0 . 3 6 38	# of Samples
	BOD ₅			0 4	
	Suspended Solids			0 4	
	Ammonia + Ammonium			0 4	
	TKN			0 4	
	Total Phosphorus			0 4	

0 7 12 13	DISINFECTION	Chlorine Used - (kg as Cl ₂) 5 0 1 0 0 8 0 4 1 0 8 0 4 2 0 30 34	1 1 1 1 35	.	
	Chlorine Dosage - (mg/L as Cl ₂)			-	
	Chlorine Residual - (mg/L as Cl ₂)			-	

Operator's Comments and Contact Person's Phone number &
e-mail address: Dale Wright 519 882 3137 Dale.Wright@ch2m.com

Return completed blue form to:

Municipality:	Corporation of the Town of Petrolia	Operating Authority:	OMI Canada Inc.	
Project Name:	Petrolia WPCP			
Mailing Address:	411 Greenfield St Box 1270 Petrolia ON N0N 1R0			

File No.	Works Number							Data Period		Days		Discharge Type		Update Code		
4 6	1	1	0	0	0	5	7	9	0	1	0	9	3	1	2	R
1 2	3	4	5	6	7	8	9	10	16	17	18	19	20	21	22	60

C.P.	0 3	RAW SEWAGE	Parameter Code	Dec.	Monthly Average Results			# of Samples
12	13	Alkalinity CaCO ₃ mg/l	0 0 0 5 1	2	6	9	0 0	0 4
				3	1	2	3	4
				4	3	4	5	6
				5	2	3	4	5
				6	1	2	3	4
				7	0	1	2	3
				8	0	1	2	3
				9	0	1	2	3
				10	0	1	2	3
				11	0	1	2	3
				12	0	1	2	3
				13	0	1	2	3
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				15	0	1	2	3
				16	0	1	2	3
				17	0	1	2	3
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				19	0	1	2	3
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				22	0	1	2	3
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				25	0	1	2	3
				26	0	1	2	3
				27	0	1	2	3
				28	0	1	2	3
				29	0	1	2	3
				30	0	1	2	3
				31	0	1	2	3
				32	0	1	2	3
				33	0	1	2	3
				34	0	1	2	3

C.P.	0 4	FINAL EFFLUENT	Parameter Code	Dec.	Monthly Average Results			# of samples
12	13	Alkalinity CaCO ₃ mg/l	0 0 0 5 1	2	1	6	0 0	0 4
				3	<	0	0 1	0 4
				4	1	0	3 0	0 4
				5	7	1	7	0 4
				6	0	0	0	0 0
				7	0	0	0	0 0
				8	0	0	0	0 0
				9	0	0	0	0 0
				10	0	0	0	0 0
				11	0	0	0	0 0
				12	0	0	0	0 0
				13	0	0	0	0 0
				14	0	0	0	0 0
				15	0	0	0	0 0
				16	0	0	0	0 0
				17	0	0	0	0 0
				18	0	0	0	0 0
				19	0	0	0	0 0
				20	0	0	0	0 0
				21	0	0	0	0 0
				22	0	0	0	0 0
				23	0	0	0	0 0
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				26	0	0	0	0 0
				27	0	0	0	0 0
				28	0	0	0	0 0
				29	0	0	0	0 0
				30	0	0	0	0 0
				31	0	0	0	0 0
				32	0	0	0	0 0
				33	0	0	0	0 0
				34	0	0	0	0 0

Operator's Comments and Contact Person's Phone number &
e-mail address: Dale Wright 519 882 3137 Dale.Wright@ch2m.com
Seasonal disinfection

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Mailing Address:	411 Greenfield St. Box 1270 Petrolia ON N0N 1R0	Mailing Address:	546 Maude St Box 329 Petrolia ON N0N 1R0

File No.	Works Number	Data Period	Days	Discharge Type	Update Code
4 6 1 2	1 1 0 0 0 5 7 9 3 11	Month Year 0 2 0 9 16 19	Days 2 8 20 21	2 22	R 60

C.P.	Parameter Code	Monthly Results
0 1 12 13	5 0 0 1 0 (10 ³ m ³)	1 0 5 . 0 7 1 3 35 38
Total Flow	5 0 0 1 5 (10 ³ m ³ /d)	3 . 7 5 3
Average Daily Flow	5 0 0 2 0 (10 ³ m ³ /d)	1 1 . 5 9 0
Maximum Daily Flow		

2 6 12 13	BYPASS	# of Occurrences
Plant Bypass Volume	5 0 0 2 6 (10 ³ m ³)	
Duration	8 0 5 6 3 (hours)	
Secondary Bypass Volume	5 0 0 4 0 (10 ³ m ³)	
Duration	8 0 5 6 5 (hours)	

0 3 12 13	RAW SEWAGE	# of Samples
BOD ₅	0 0 0 0 1 (mg/L)	
Suspended Solids	0 0 0 0 6 (mg/L)	
TKN	0 0 0 2 0 (mg/L)	
Total Phosphorus	0 0 0 3 3 (mg/L)	

0 4 12 13	FINAL EFFLUENT	
BOD ₅	0 0 0 0 1 (mg/L)	
Suspended Solids	0 0 0 0 6 (mg/L)	
Ammonia + Ammonium	0 0 0 1 9 (mg/L)	
TKN	0 0 0 2 0 (mg/L)	
Total Phosphorus	0 0 0 3 3 (mg/L)	

0 7 12 13	DISINFECTION	
Chlorine Used - (kg as Cl ₂)	5 0 1 0 0 8 0 4 1 0 30 34	
Chlorine Dosage - (mg/L as Cl ₂)		
Chlorine Residual - (mg/L as Cl ₂)	8 0 4 2 0 35	

Operator's Comments and Contact Person's Phone number & e-mail address: Dale Wright 519 882 3137 Dale.Wright@ch2m.com Started discharging west lagoon under POO 0348-7PMJPG at 15:30 on Feb 27. Discharged app 8940 m³ in 32.5 hours. Above effluent numbers include plant and lagoon discharge averages.

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Municipal Utility Monitoring Program Mechanical Plants

R2

Municipality:	Corporation of the Town of Petrolia	Operating Authority:	OMI Canada Inc.
Project Name:	Petrolia WPCP		
Mailing Address:	411 Greenfield St Box 1270 Petrolia ON N0N 1R0	Mailing Address:	546 Maude St Box 329 Petrolia ON N0N 1R0

File No.	Works Number	Data Period	Days	Discharge Type	Update Code
4 6 1 3	1 1 0 0 0 0 5 7 9 3 11	Month Year 0 2 0 9 16 19	Days 3 1 20 21	2 22	R 80

Operator's Comments and Contact Person's Phone number & e-mail address: Dale Wright 519 882 3137 Dale.Wright@ch2m.com Seasonal disinfection. Started discharging west lagoon under POO 0348-7PMJPG at 15:30 on Feb 27. Discharged app 8940 m³ in 32.5 hours. Above effluent numbers include plant and lagoon discharge averages. One ecoli sample is from west lagoon.



Municipality:	Corporation of the Town of Petrolia	Operating Authority:	OMI Canada Inc.
Project Name:	Petrolia WPCP		
Mailing Address:	411 Greenfield St. Box 1270 Petrolia ON N0N 1R0		

File No.	Works Number	Data Period	Days	Discharge Type	Update Code
4 6	1 1 0 0 0 5 7 9	Month Year	3 1	2	R
1 2	3 11	18 19	20 21	22	60

C.P. 0 1	FLows	Parameter Code	Monthly Results	# of Occurrences	
12 13	Total Flow Average Daily Flow Maximum Daily Flow	(10^3 m^3) ($10^3 \text{ m}^3/\text{d}$) ($10^3 \text{ m}^3/\text{d}$)	5 0 0 1 0 5 0 0 1 5 5 0 0 2 0	1 0 3 . 6 6 3 3 . 3 4 4 7 . 3 2 1	
		30 34	35 38		

2 6	BYPASS	# of Occurrences			
12 13	Plant Bypass Volume Duration Secondary Bypass Volume Duration	(10^3 m^3) (hours) (10^3 m^3) (hours)	5 0 0 2 6 8 0 5 6 3 5 0 0 4 0 8 0 5 6 5	3 1 3 1 3 3 3 1 3 3 3 1 3 3 3 1	
		36 38			

0 3	RAW SEWAGE	# of Samples			
12 13	BOD ₅ Suspended Solids TKN Total Phosphorus	(mg/L)	0 0 0 0 1 0 0 0 0 6 0 0 0 2 0 0 0 0 3 3	1 5 5 . 1 3 6 . 3 3 . 4 0 4 . 9	0 4 0 4 0 4 0 4
		30 34	35 38		

0 4	FINAL EFFLUENT				
12 13	BOD ₅ Suspended Solids Ammonia + Ammonium TKN Total Phosphorus	(mg/L)	0 0 0 0 1 0 0 0 0 6 0 0 0 1 9 0 0 0 2 0 0 0 0 3 3	6 . 1 8 . 9 1 . 5 8 1 . 8 0 0 . 3 0	1 5 1 5 1 5 0 4 1 5
		30 34	35 38		

0 7	DISINFECTION				
12 13	Chlorine Used - (kg as Cl ₂) Chlorine Dosage - (mg/L as Cl ₂) Chlorine Residual - (mg/L as Cl ₂)		5 0 1 0 0 8 0 4 1 0 8 0 4 2 0	1 1 1 1 1 1 1 1 1	
		30 34	35 38		

Operator's Cmmts and Cont Ph # & e-mail: Dale Wright 519 882 3137
Dale.Wright@ch2m.com Seasonal disinfection. Continued discharging
west lagoon under POO 0348-7PMJPG from Feb 27 - Mar 20. 109163
m³ in 468.5 hrs (Mar 1-20). Discharged east under POO 0348-7PMJPG
from Mar 3 - 20, 79380m³ in 409 hrs. Above effluent numbers include
plant and lagoon discharge averages

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Ministry
of the
Environment

Municipal Utility Monitoring Program
Mechanical Plants R2

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Project Name:	Petrolia WPCP		
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File No.	Works Number									Data Period				Days			Discharge Type			Update Code		
	4	6	1	1	0	0	0	0	5	7	9	Month	Year	0	3	0	9	3	1	2	R	60
	1	2	3	4	5	6	7	8	9	10	11	16	17	18	19	20	21	22				

Operator's Comments and Contact Person's Phone number & e-mail address: Dale Wright 519 882 3137 Dale.Wright@ch2m.com Seasonal disinfection. Continued discharging west lagoon from Feb 27 - Mar 20. 109163 m³ in 468.5 hrs (Mar 1-20). Discharged east from Mar 3 - 20, 79380m³ in 409 hrs. Above effluent numbers include plant and lagoon discharge averages. POO 0348-7PMJPG

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File No.	Works Number	Data Period	Days	Discharge Type	Update Code																																									
<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>4</td><td>6</td></tr><tr><td>1</td><td>2</td></tr></table>	4	6	1	2	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>5</td><td>7</td><td>9</td></tr><tr><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td></tr></table>	1	1	0	0	0	0	5	7	9	3	4	5	6	7	8	9	10	11	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>Month</td><td>Year</td></tr><tr><td>0</td><td>4</td><td>0</td><td>9</td></tr><tr><td>18</td><td>19</td><td>20</td><td>21</td></tr></table>	Month	Year	0	4	0	9	18	19	20	21	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>3</td><td>1</td></tr><tr><td>20</td><td>21</td><td>22</td></tr></table>	3	1	20	21	22	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>2</td></tr><tr><td>22</td></tr></table>	2	22	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>R</td></tr><tr><td>60</td></tr></table>	R	60
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12	13																																							
	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; text-align: right;">Total Flow</td> <td style="width: 10%; text-align: center;">(10³ m³)</td> <td style="width: 60%; text-align: center;"><table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>5</td><td>0</td><td>0</td><td>1</td><td>0</td></tr><tr><td>30</td><td>31</td><td>32</td><td>33</td><td>34</td></tr></table></td> </tr> <tr> <td>Average Daily Flow</td> <td>(10³ m³/d)</td> <td><table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>5</td><td>0</td><td>0</td><td>1</td><td>5</td></tr><tr><td>30</td><td>31</td><td>32</td><td>33</td><td>34</td></tr></table></td> </tr> <tr> <td>Maximum Daily Flow</td> <td>(10³ m³/d)</td> <td><table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>5</td><td>0</td><td>0</td><td>2</td><td>0</td></tr><tr><td>30</td><td>31</td><td>32</td><td>33</td><td>34</td></tr></table></td> </tr> </table>	Total Flow	(10 ³ m ³)	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>5</td><td>0</td><td>0</td><td>1</td><td>0</td></tr><tr><td>30</td><td>31</td><td>32</td><td>33</td><td>34</td></tr></table>	5	0	0	1	0	30	31	32	33	34	Average Daily Flow	(10 ³ m ³ /d)	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>5</td><td>0</td><td>0</td><td>1</td><td>5</td></tr><tr><td>30</td><td>31</td><td>32</td><td>33</td><td>34</td></tr></table>	5	0	0	1	5	30	31	32	33	34	Maximum Daily Flow	(10 ³ m ³ /d)	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>5</td><td>0</td><td>0</td><td>2</td><td>0</td></tr><tr><td>30</td><td>31</td><td>32</td><td>33</td><td>34</td></tr></table>	5	0	0	2	0	30	31	32	33	34
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Operator's Comments and Contact Person's Phone number &
e-mail address: Dale Wright 519 882 3137 Dale.Wright@ch2m.com

Return completed blue form to:



Municipality:	Corporation of the Town of Petrolia	Operating Authority:	OMI Canada Inc.
Project Name:	Petrolia WPCP		
Mailing Address:	411 Greenfield St Box 1270 Petrolia ON N0N 1R0	Mailing Address:	546 Maude St Box 329 Petrolia ON N0N 1R0

File No.	Works Number	Data Period	Days	Discharge Type	Update Code
4 6	1 1 0 0 0 0 5 7 9	Month Year	0 4 0 9	3 1	2
		0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9

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File No.	Works Number	Data Period	Days	Discharge Type	Update Code
4 6 1 2	1 1 0 0 0 5 7 9 3 11	Month Year 0 5 0 9 16 19	Days 3 1 20 21	2 22	R 60

C.P. 0 1 12 13	FLows	Parameter Code	Monthly Results	# of Occurrences
Total Flow	(10 ³ m ³) 5 0 0 1 0 30 34	3 3 3 3	9 4 . 3 7 6 3 . 0 4 4 4 . 2 0 4	
Average Daily Flow	(10 ³ m ³ /d) 5 0 0 1 5 30 34			
Maximum Daily Flow	(10 ³ m ³ /d) 5 0 0 2 0 30 34			

C.P. 2 6 12 13	BYPASS	Parameter Code	Monthly Results	# of Occurrences
Plant Bypass Volume	(10 ³ m ³) 5 0 0 2 6 30 34	3 1 3 1		
Duration	(hours) 8 0 5 6 3 30 34			
Secondary Bypass Volume	(10 ³ m ³) 5 0 0 4 0 30 34			
Duration	(hours) 8 0 5 6 5 30 34			

C.P. 0 3 12 13	RAW SEWAGE	Parameter Code	Monthly Results	# of Samples
BOD ₅	(mg/L) 0 0 0 0 1 30 34	0 0 2 1	2 4 4 . 2 2 5 . 3 7 . 8 0 6 , 0	0 4 0 4 0 4 0 4
Suspended Solids	(mg/L)			
TKN	(mg/L)			
Total Phosphorus	(mg/L)			

C.P. 0 4 12 13	FINAL EFFLUENT	Parameter Code	Monthly Results	# of Samples
BOD ₅	(mg/L) 0 0 0 0 1 30 34	1 1 2 2 2	1 . 1 0 . 7 0 . 4 1 1 . 6 0 0 . 2 2	0 3 0 3 0 3 0 3 0 3
Suspended Solids	(mg/L)			
Ammonia + Ammonium	(mg/L)			
TKN	(mg/L)			
Total Phosphorus	(mg/L)			

C.P. 0 7 12 13	DISINFECTION	Parameter Code	Monthly Results	# of Samples
Chlorine Used - (kg as Cl ₂)	5 0 1 0 0 30 34	1 1 1		
Chlorine Dosage - (mg/L as Cl ₂)	8 0 4 1 0 30 34			
Chlorine Residual - (mg/L as Cl ₂)	8 0 4 2 0 30 34			

Operator's Comments and Contact Person's Phone number &
e-mail address: Dale Wright 519 882 3137 Dale.Wright@ch2m.com
Week of May 6, aeration tanks drained for repairs.

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Municipal Utility Monitoring Program Mechanical Plants

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File No.	Works Number								Data Period		Days		Discharge Type		Update Code		
	1	1	0	0	0	0	5	7	9	Month	Year	3	1	2	R	80	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	

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File No.	Works Number	Data Period	Days	Discharge Type	Update Code
4 6	1 1 0 0 0 5 7 9	Month Year	3 1	2	R
1 2	3 11	16 19	20 21	22	80

C.P.	FLOWS	Parameter Code	Monthly Results
0 1	Total Flow	(10 ³ m ³) 5 0 0 1 0	Dec. 3 9 1 . 9 1 1
12 13	Average Daily Flow	(10 ³ m ³ /d) 5 0 0 1 5	3 3 3 3 . 0 6 4
	Maximum Daily Flow	(10 ³ m ³ /d) 5 0 0 2 0	38 4 . 2 8 1
		30 34	

2 6	BYPASS	# of Occurrences	
12 13	Plant Bypass Volume	(10 ³ m ³) 5 0 0 2 6	
	Duration	(hours) 8 0 5 6 3	
	Secondary Bypass Volume	(10 ³ m ³) 5 0 0 4 0	
	Duration	(hours) 8 0 5 6 5	
		30 34	
		38	

0 3	RAW SEWAGE	# of Samples	
12 13	BOD ₅	(mg/L) 0 0 0 0 1	
	Suspended Solids	(mg/L) 0 0 0 0 6	
	TKN	(mg/L) 0 0 0 2 0	
	Total Phosphorus	(mg/L) 0 0 0 3 3	
		30 34	
		38	

0 4	FINAL EFFLUENT		
12 13	BOD ₅	(mg/L) 0 0 0 0 1	
	Suspended Solids	(mg/L) 0 0 0 0 6	
	Ammonia + Ammonium	(mg/L) 0 0 0 1 9	
	TKN	(mg/L) 0 0 0 2 0	
	Total Phosphorus	(mg/L) 0 0 0 3 3	
		30 34	
		38	

0 7	DISINFECTION		
12 13	Chlorine Used - (kg as Cl ₂)	5 0 1 0 0	
	Chlorine Dosage - (mg/L as Cl ₂)	8 0 4 1 0	
	Chlorine Residual - (mg/L as Cl ₂)	8 0 4 2 0	
		30 34	
		38	

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Municipality:	Corporation of the Town of Petrolia	Operating Authority:	OMI Canada Inc.
Project Name:	Petrolia WPCP		
Mailing Address:	411 Greenfield St Box 1270 Petrolia ON N0N 1R0	Mailing Address:	546 Maude St Box 329 Petrolia ON N0N 1R0

File No.	Works Number									Data Period		Days		Discharge Type		Update Code																																												
	1 1 0 0 0 0 5 7 9									Month	Year	0 6 0 9		3 1		2		R																																										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

Operator's Comments and Contact Person's Phone number & e-mail address: Dale Wright 519 882 3137 Dale.Wright@ch2m.com

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File No.	Works Number	Data Period	Days	Discharge Type	Update Code
4 6 1 2	1 1 0 0 0 5 7 9 3 11	Month Year 0 7 0 9 18 19	3 1 20 21	2 22	R 60

C.P. 0 1 12 13	FLows	Parameter Code (10 ³ m ³) 5 0 0 1 0 30 34	Monthly Results Dec 3 3 3 38	# of Occurrences
Total Flow	Average Daily Flow	(10 ³ m ³ /d) 5 0 0 1 5 30 34	7 8 . 4 3 0 2 . 5 3 0 4 . 3 3 2	
Maximum Daily Flow				

2 6 12 13	BYPASS	Plant Bypass Volume (10 ³ m ³) 5 0 0 2 6 30 34	Duration (hours) 8 0 5 6 3 30 34	# of Occurrences
Secondary Bypass Volume (10 ³ m ³) 5 0 0 4 0 30 34	Duration (hours) 8 0 5 6 5 30 34	3 1 3 1 38	.	

0 3 12 13	RAW SEWAGE	BOD ₅ (mg/L) 0 0 0 0 1 30 34	Suspended Solids (mg/L) 0 0 0 0 6 30 34	TKN (mg/L) 0 0 0 2 0 30 34	Total Phosphorus (mg/L) 0 0 0 3 3 30 34	# of Samples
		0 0 2 1 35	0 1 9 5 . 38	3 6 . 3 0 38	6 . 2 38	0 4 0 4 0 4 0 4

0 4 12 13	FINAL EFFLUENT	BOD ₅ (mg/L) 0 0 0 0 1 30 34	Suspended Solids (mg/L) 0 0 0 0 6 30 34	Ammonia + Ammonium (mg/L) 0 0 0 1 9 30 34	TKN (mg/L) 0 0 0 2 0 30 34	Total Phosphorus (mg/L) 0 0 0 3 3 30 34	# of Samples
		1 1 2 2 2 35	2 . 5 38	0 . 1 5 38	1 . 0 0 38	0 . 6 3 38	0 4 0 4 0 4 0 4

0 7 12 13	DISINFECTION	Chlorine Used - (kg as Cl ₂) 5 0 1 0 0 30 34	Chlorine Dosage - (mg/L as Cl ₂) 8 0 4 1 0 30 34	Chlorine Residual - (mg/L as Cl ₂) 8 0 4 2 0 30 34	# of Samples		
		1 1 1 35	2 . 5 38	0 . 3 38	0 . 1 5 38	1 . 0 0 38	0 . 6 3 38

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e-mail address: Dale Wright 519 882 3137 Dale.Wright@ch2m.com

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Municipal Utility Monitoring Program Mechanical Plants

R2

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Project Name:	Petrolia WPCP		
Mailing Address:	411 Greenfield St Box 1270 Petrolia ON N0N 1R0	Mailing Address:	546 Maude St Box 329 Petrolia ON N0N 1R0

File No.	Works Number									Data Period		Days		Discharge Type		Update Code							
	4	6	1	1	0	0	0	0	5	7	9	0	7	0	9	3	1	2	R				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23

Operator's Comments and Contact Person's Phone number & e-mail address: Dale Wright 519 882 3137 Dale.Wright@ch2m.com

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Project Name:	Petrolia WPCP		
Mailing Address:	411 Greenfield St. Box 1270 Petrolia ON N0N 1R0	Mailing Address:	546 Maude St Box 329 Petrolia ON N0N 1R0

File No.	Works Number	Data Period	Days	Discharge Type	Update Code
4 6 1 2	1 1 0 0 0 5 7 9 3 11	0 8 0 9 18 19	3 1 20 21	2 22	R 60

C.P. 0 1 12 13	FLows	Parameter Code	Monthly Results	# of Occurrences
Total Flow	(10^3 m^3)	5 0 0 1 0 35	7 6 . 9 2 9 38	
Average Daily Flow	($10^3 \text{ m}^3/\text{d}$)	5 0 0 1 5 30	2 . 4 8 2 35	
Maximum Daily Flow	($10^3 \text{ m}^3/\text{d}$)	5 0 0 2 0 34	3 . 6 6 9 36	

2 6 12 13	BYPASS	Plant Bypass Volume (10^3 m^3)	5 0 0 2 6 30	Duration (hours)	8 0 5 6 3 35	Monthly Results	# of Occurrences
Secondary Bypass Volume (10^3 m^3)	5 0 0 4 0 34	Duration (hours)	8 0 5 6 5 36	3 1 3 1 35	38	.	

0 3 12 13	RAW SEWAGE	BOD ₅ (mg/L)	0 0 0 0 1 30	Suspended Solids (mg/L)	0 0 0 0 6 35	TKN (mg/L)	0 0 0 2 0 36	Total Phosphorus (mg/L)	0 0 0 3 3 34	Monthly Results	# of Samples
		0 0 2 1 35		0 1 3 1 36		2 4 5 . 1 8 5 . 3 9 . 1 0 5 . 5 38			.	0 4 0 4 0 4 0 4	

0 4 12 13	FINAL EFFLUENT	BOD ₅ (mg/L)	0 0 0 0 1 30	Suspended Solids (mg/L)	0 0 0 0 6 35	Ammonia + Ammonium (mg/L)	0 0 0 1 9 36	TKN (mg/L)	0 0 0 2 0 34	Total Phosphorus (mg/L)	0 0 0 3 3 35	Monthly Results	# of Samples
		1 1 2 2 2 35		1 2 2 2 2 36		2 . 0 0 . 4 0 . 1 9 0 . 9 0 0 . 6 0 38			.	0 4 0 4 0 4 0 4 0 4			

0 7 12 13	DISINFECTION	Chlorine Used - (kg as Cl ₂)	5 0 1 0 0 30	Chlorine Dosage - (mg/L as Cl ₂)	1 1 1 36	Chlorine Residual - (mg/L as Cl ₂)	1 1 1 35	Monthly Results	# of Samples
		8 0 4 1 0 34		8 0 4 2 0 36		2 . 0 . 0 . 0 . 0 . 38			0 4 0 4 0 4 0 4 0 4

Operator's Comments and Contact Person's Phone number & e-mail address: Dale Wright 519 882 3137 Dale.Wright@ch2m.com	Return completed blue form to:
---	--------------------------------



Municipality:	Corporation of the Town of Petrolia	Operating Authority:	OMI Canada Inc.
Project Name:	Petrolia WPCP		
Mailing Address:	411 Greenfield St Box 1270 Petrolia ON N0N 1R0	Mailing Address:	546 Maude St Box 329 Petrolia ON N0N 1R0

File No.

Works Number								
1	1	0	0	0	0	5	7	9

Data Period	
Month	Year
08	09

Days	
3	1

Discharge Type

Update Code

C.P.
0 3

0 3 RAW SEWAGE

Parameter Code

Dec

014

0 4 FINAL EFFLUENT

Parameter Code

Нес

Operator's Comments and Contact Person's Phone number & e-mail address: Dale Wright 519 882 3137 Dale.Wright@ch2m.com

Return completed blue form to:

Municipality:	Corporation of the Town of Petrolia	Operating Authority:	OMI Canada Inc.	
Project Name:	Petrolia WPCP			
Mailing Address:	411 Greenfield St. Box 1270 Petrolia ON N0N 1R0		Mailing Address:	546 Maude St Box 329 Petrolia ON N0N 1R0

File No.	Works Number	Data Period	Days	Discharge Type	Update Code
4 6	1 1 0 0 0 0 5 7 9	Month Year	3 1	2	R
1 2	3 11	16 19	20 21	22	80

C.P.	0 1	FLows	Parameter Code	Monthly Results
12	13	Total Flow (10^3 m^3)	5 0 0 1 0	3 7 9 . 0 3 7
		Average Daily Flow ($10^3 \text{ m}^3/\text{d}$)	5 0 0 1 5	3 2 . 6 3 5
		Maximum Daily Flow ($10^3 \text{ m}^3/\text{d}$)	5 0 0 2 0	3 3 . 1 8 8
			30 34	35 38

2 6	BYPASS	# of Occurrences
12 13	Plant Bypass Volume (10^3 m^3)	5 0 0 2 6
	Duration (hours)	8 0 5 6 3
	Secondary Bypass Volume (10^3 m^3)	5 0 0 4 0
	Duration (hours)	8 0 5 6 5
		30 34
		35 38

0 3	RAW SEWAGE	# of Samples
12 13	BOD ₅ (mg/L)	0 0 0 0 1
	Suspended Solids (mg/L)	0 0 0 0 6
	TKN (mg/L)	0 0 0 2 0
	Total Phosphorus (mg/L)	0 0 0 3 3
		30 34
		35 38

0 4	FINAL EFFLUENT	# of Samples
12 13	BOD ₅ (mg/L)	0 0 0 0 1
	Suspended Solids (mg/L)	0 0 0 0 6
	Ammonia + Ammonium (mg/L)	0 0 0 1 9
	TKN (mg/L)	0 0 0 2 0
	Total Phosphorus (mg/L)	0 0 0 3 3
		30 34
		35 38

0 7	DISINFECTION	# of Samples
12 13	Chlorine Used - (kg as Cl ₂)	5 0 1 0 0
	Chlorine Dosage - (mg/L as Cl ₂)	8 0 4 1 0
	Chlorine Residual - (mg/L as Cl ₂)	8 0 4 2 0
		30 34
		35 38

Operator's Comments and Contact Person's Phone number &
e-mail address: Dale Wright 519 882 3137 Dale.Wright@ch2m.com

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Project Name:	Petrolia WPCP		
Mailing Address:	411 Greenfield St Box 1270 Petrolia ON N0N 1R0	Mailing Address:	546 Maude St Box 329 Petrolia ON N0N 1R0

File No.	Works Number									Data Period		Days		Discharge Type		Update Code							
	4	6	1	1	0	0	0	0	5	7	9	0	9	0	9	3	1	2	R				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23

C.P.		RAW SEWAGE										Parameter Code										Monthly Average Results										# of Samples														
0	3																																													
12	13	Alkalinity CaCO ₃ mg/l										0	0	0	5	1																														

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Mailing Address:	411 Greenfield St. Box 1270 Petrolia ON N0N 1R0		

File No.	Works Number	Data Period	Days	Discharge Type	Update Code
4 6 1 2	1 1 0 0 0 5 7 9 3 11	Month Year 1 0 0 9 16 19	3 1 20 21	2 22	R 80

C.P. 0 1 12 13	FLows	Parameter Code	Monthly Results	# of Occurrences
Total Flow (10^3 m^3)	5 0 0 1 0 30 34	3 3 3 35 38	8 9 . 0 5 9 2 8 7 3 3 7 2 9	
Average Daily Flow ($10^3 \text{ m}^3/\text{d}$)	5 0 0 1 5 30 34			
Maximum Daily Flow ($10^3 \text{ m}^3/\text{d}$)	5 0 0 2 0 30 34			

2 6 12 13	BYPASS	Parameter Code	Monthly Results	# of Occurrences
Plant Bypass Volume (10^3 m^3)	5 0 0 2 6 30 34	3 1 3 1 35 38	.	
Duration (hours)	8 0 5 6 3 30 34		.	
Secondary Bypass Volume (10^3 m^3)	5 0 0 4 0 30 34		.	
Duration (hours)	8 0 5 6 5 30 34		.	

0 3 12 13	RAW SEWAGE	Parameter Code	Monthly Results	# of Samples
BOD ₅ (mg/L)	0 0 0 0 1 30 34	0 0 2 6 1 . 35 38	2 6 1 . 1 9 6 . 4 1 . 4 0 6 . 5	0 4 0 4 0 4 0 4
Suspended Solids (mg/L)	0 0 0 0 6 30 34			
TKN (mg/L)	0 0 0 2 0 30 34			
Total Phosphorus (mg/L)	0 0 0 3 3 30 34			

0 4 12 13	FINAL EFFLUENT	Parameter Code	Monthly Results	# of Samples
BOD ₅ (mg/L)	0 0 0 0 1 30 34	1 1 2 2 2 35 38	1 . 3 0 . 3 0 . 1 2 0 . 9 0 0 . 6 0	0 4 0 4 0 4 0 4 0 4
Suspended Solids (mg/L)	0 0 0 0 6 30 34			
Ammonia + Ammonium (mg/L)	0 0 0 1 9 30 34			
TKN (mg/L)	0 0 0 2 0 30 34			
Total Phosphorus (mg/L)	0 0 0 3 3 30 34			

0 7 12 13	DISINFECTION	Parameter Code	Monthly Results	# of Samples
Chlorine Used - (kg as Cl ₂)	5 0 1 0 0 30 34	1 1 1 35 38	.	
Chlorine Dosage - (mg/L as Cl ₂)	8 0 4 1 0 30 34		.	
Chlorine Residual - (mg/L as Cl ₂)	8 0 4 2 0 30 34		.	

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Project Name:	Petrolia WPCP			
Mailing Address:	411 Greenfield St Box 1270 Petrolia ON N0N 1R0			

File No.	Works Number										Data Period		Days		Discharge Type		Update Code			
4	6	1	1	0	0	0	0	5	7	9	Month	Year	3	1	2	22	R	60		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21

C.P.	RAW SEWAGE										Parameter Code		Monthly Average Results										# of Samples	
0	3	Alkalinity CaCO ₃ mg/l	0	0	0	5	1	2	4	9	.	0	0	2	4	9	.	0	0	2	4			
12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33			
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51			

C.P.	FINAL EFFLUENT										Parameter Code		Monthly Average Results										# of samples	
0	4	Alkalinity CaCO ₃ mg/l	0	0	0	5	1	2	4	9	.	0	0	2	4	9	.	0	0	2	4			
12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33			
Nitrite mg/l	0	0	0	2	1	2	4	<	0	.	0	2	2	4	6	8	10	12	14	16	18			
Nitrate mg/l	0	0	0	2	2	2	4	1	2	.	5	0	2	4	4	6	8	10	12	14	16			
pH	8	0	7	7	0	2	4	7	.	0	2	2	4	4	6	8	10	12	14	16	18			
Ecoli per 100 ml	8	3	0	5	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2			
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51			

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Project Name:	Petrolia WPCP		
Mailing Address:	411 Greenfield St. Box 1270 Petrolia ON N0N 1R0		

File No.	Works Number	Data Period	Days	Discharge Type	Update Code
4 6 1 2	1 1 0 0 0 5 7 9 3 11	Month Year 16 19	3 1 20 21	2 22	R 80

C.P. 0 1 12 13	FLows	Parameter Code (10^3 m^3) 5 0 0 1 0 35	Monthly Results Dec. 3 3 3 38	# of Occurrences
Total Flow	($10^3 \text{ m}^3/\text{d}$) 5 0 0 1 5 36	8 6 . 1 6 8		
Average Daily Flow	($10^3 \text{ m}^3/\text{d}$) 5 0 0 2 0 37	2 . 8 7 2		
Maximum Daily Flow		3 . 2 2 9		

2 6 12 13	BYPASS	Plant Bypass Volume (10^3 m^3) 5 0 0 2 6 35	Duration (hours) 8 0 5 6 3 36	# of Occurrences
Secondary Bypass Volume (10^3 m^3) 5 0 0 4 0 37				
Duration (hours) 8 0 5 6 5 38				

0 3 12 13	RAW SEWAGE	BOD ₅ (mg/L) 0 0 0 0 1 35	Suspended Solids (mg/L) 0 0 0 0 6 36	TKN (mg/L) 0 0 0 2 0 37	Total Phosphorus (mg/L) 0 0 0 3 3 38	# of Samples
		2 9 3 .	3 3 6 .	4 2 . 9 0	7 . 4	0 4
						0 4
						0 4
						0 4

0 4 12 13	FINAL EFFLUENT	BOD ₅ (mg/L) 0 0 0 0 1 35	Suspended Solids (mg/L) 0 0 0 0 6 36	Ammonia + Ammonium (mg/L) 0 0 0 1 9 37	TKN (mg/L) 0 0 0 2 0 38	Total Phosphorus (mg/L) 0 0 0 3 3 39	# of Samples
		1 . 6	0 . 4	0 . 1 3	0 . 6 0	0 . 5 6	0 4
							0 4
							0 4
							0 4

0 7 12 13	DISINFECTION	Chlorine Used - (kg as Cl ₂) 5 0 1 0 0 35	Chlorine Dosage - (mg/L as Cl ₂) 8 0 4 1 0 36	Chlorine Residual - (mg/L as Cl ₂) 8 0 4 2 0 37	# of Samples
		1	1	1	0 4
					0 4
					0 4
					0 4

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Return completed blue form to:



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Municipal Utility Monitoring Program Mechanical Plants

R2

Municipality:	Corporation of the Town of Petrolia	Operating Authority:	OMI Canada Inc.
Project Name:	Petrolia WPCP		
Mailing Address:	411 Greenfield St Box 1270 Petrolia ON N0N 1R0	Mailing Address:	546 Maude St Box 329 Petrolia ON N0N 1R0

C.P.		RAW SEWAGE										Parameter Code										Dec.										Monthly Average Results										# of Samples																															
0	3																																																																								
12	13	Alkalinity CaCO ₃ mg/l										0	0	0	5	1											2											2	5	9	.	0	0																														

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Project Name:	Petrolia WPCP		
Mailing Address:	411 Greenfield St. Box 1270 Petrolia ON N0N 1R0		

File No.	Works Number	Data Period	Discharge Type	Update Code
4 6 1 2	1 1 0 0 0 5 7 9 3 11	Month Year 1 2 0 9 16 19	Days 3 1 20 21	2 22
				R 80

C.P. 0 1 12 13	FLows	Parameter Code	Monthly Results	# of Occurrences
Total Flow	(10^3 m^3) 5 0 0 1 0 30 34	Dec. 3 3 3	9 7 . 2 5 3 38	
Average Daily Flow	($10^3 \text{ m}^3/\text{d}$) 5 0 0 1 5 30 34		3 . 1 3 7 38	
Maximum Daily Flow	($10^3 \text{ m}^3/\text{d}$) 5 0 0 2 0 30 34		4 . 1 7 9 38	

C.P. 2 6 12 13	BYPASS	Parameter Code		# of Occurrences
Plant Bypass Volume	(10^3 m^3) 5 0 0 2 6 30 34	Dec. 3 1 3 1	.	
Duration	(hours) 8 0 5 6 3 30 34		.	
Secondary Bypass Volume	(10^3 m^3) 5 0 0 4 0 30 34		.	
Duration	(hours) 8 0 5 6 5 30 34		.	

C.P. 0 3 12 13	RAW SEWAGE	Parameter Code		# of Samples
BOD ₅	(mg/L) 0 0 0 0 1 30 34	Dec. 0 0 2 1	1 8 3 . 38	0 5
Suspended Solids	(mg/L) 0 0 0 0 6 30 34		1 7 4 . 38	0 5
TKN	(mg/L) 0 0 0 2 0 30 34		3 7 . 5 0 38	0 5
Total Phosphorus	(mg/L) 0 0 0 3 3 30 34		5 . 1 38	0 5

C.P. 0 4 12 13	FINAL EFFLUENT	Parameter Code		# of Samples
BOD ₅	(mg/L) 0 0 0 0 1 30 34	Dec. 1 1 2 2 2	2 . 6 38	0 5
Suspended Solids	(mg/L) 0 0 0 0 6 30 34		0 . 6 38	0 5
Ammonia + Ammonium	(mg/L) 0 0 0 1 9 30 34		0 . 2 0 38	0 5
TKN	(mg/L) 0 0 0 2 0 30 34		0 . 9 0 38	0 5
Total Phosphorus	(mg/L) 0 0 0 3 3 30 34		0 . 4 8 38	0 5

C.P. 0 7 12 13	DISINFECTION	Parameter Code		# of Samples
Chlorine Used - (kg as Cl ₂)	5 0 1 0 0 30 34	Dec. 1 1 1	.	
Chlorine Dosage - (mg/L as Cl ₂)	8 0 4 1 0 30 34		.	
Chlorine Residual - (mg/L as Cl ₂)	8 0 4 2 0 30 34		.	

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Project Name:	Petrolia WPCP		
Mailing Address:	411 Greenfield St Box 1270 Petrolia ON N0N 1R0	Mailing Address:	546 Maude St Box 329 Petrolia ON N0N 1R0

File No.

Works Number								
1	1	0	0	0	0	5	7	9

Data Period	
Month	Year
1	2009

Days
3 1

Discharge Type

Update Code

Dec

Monthly Average Results

of Samples

Dec

Monthly Average Results

of sample

0

Operator's Comments and Contact Person's Phone number & e-mail address: Dale Wright 519 882 3137 Dale.Wright@ch2m.com

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DATA

PETROLIA WPCP EFFLUENT LOADINGS 2009

PARAMETER	AVERAGE MONTHLY LOADING				AVG FLOW	AVERAGE MONTHLY CONCENTRATION			
	SUSPENDED SOLIDS	BOD	TOTAL "P"	AMMONIA		SUSPENDED SOLIDS	BOD	AMMONIA	
						mg/L	mg/L	mg/L	
MONTH									
JAN.	0.81	3.51	0.97	0.27	2701	0.3	1.3	0.36	
FEB.	1.50	5.63	1.16	1.05	3753	0.4	1.5	0.31	
MARCH	2.01	6.35	0.80	1.24	3344	0.6	1.9	0.24	
APRIL	3.76	21.32	0.91	3.61	3136	1.2	6.8	0.29	
MAY	2.13	3.35	0.67	1.25	3044	0.7	1.1	0.22	
JUNE	1.23	4.90	1.07	0.52	3064	0.4	1.6	0.35	
JULY	0.76	6.33	1.59	0.38	2530	0.3	2.5	0.63	
AUGUST	0.99	4.96	1.49	0.47	2482	0.4	2.0	0.60	
SEPT.	1.05	3.16	1.53	0.29	2635	0.4	1.2	0.58	
OCT.	0.86	3.73	1.72	0.34	2873	0.3	1.3	0.60	
NOV.	1.15	4.60	1.61	0.37	2872	0.4	1.6	0.56	
DEC.	1.88	8.16	1.51	0.63	3137	0.6	2.6	0.48	

Average monthly concentration X average monthly flow / 1000 = Average monthly loading

2009 AVERAGE MONTHLY ANALYTICAL RESULTS

Petrolia W.P.C.P.
 Operations Number: 110000579
 Operating Authority: O.M.I. Canada Inc.
 Municipality: Town of Petrolia

Month	FLOWS			RAW INFLUENT			FINAL EFFLUENT			Geomean Avg					
	Total Flow m3	Avg. Flows m3/Day	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	TKN mg/L	Alkalinity CaCO3 mg/L	Nitrate NO3 mg/L	Nitrite Nitrate mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml
January	83745	2701	312	277	46.7	7.7	278	1.3	0.3	1.1	0.36	65	0.006	10.3	0.10
February	105071	3753	200	160	34.7	5.3	256	1.5	0.4	1.5	0.31	101	0.017	6.8	0.28
March	1036663	3344	155	136	33.4	4.9	223	1.9	0.6	1.8	0.24	136	0.051	5.4	0.37
April	94085	3136	272	190	30.4	5.0	256	6.8	1.2	3.1	0.29	121	0.237	3.6	1.15
May	94376	3044	244	225	37.8	6.0	264	1.1	0.7	1.6	0.22	51	0.063	11.5	0.41
June	91911	3064	223	203	39.6	6.8	274	1.6	0.4	1.1	0.35	65	0.023	11.4	0.17
July	78430	2530	189	195	36.3	6.2	247	2.5	0.3	1.0	0.63	50	0.053	12.1	0.15
August	76929	2482	245	185	39.1	5.5	259	2.0	0.4	0.9	0.60	58	0.008	10.6	0.19
September	79037	2635	266	234	40.2	5.9	244	1.2	0.4	1.4	0.58	74	0.005	10.5	0.11
October	89059	2873	261	196	41.4	6.5	249	1.3	0.3	0.9	0.60	74	0.019	12.5	0.12
November	86168	2872	293	336	42.9	7.4	259	1.6	0.4	0.6	0.56	36	0.005	13.2	0.13
December	97253	3137	183	174	37.5	5.1	263	2.6	0.6	0.9	0.48	54	0.024	13.8	0.20
Total Flow / 09	1079727														3
Annual Average:		237	209	38.3	6.0	256	2.1	0.5	1.3	0.44	74	0.043	10.1	0.28	3

2009 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Petrolia W.P.C.P.
 Operations Numbe 110000579
 Operating Authority: O.M.I. Canada Inc.
 Municipality: Town of Petrolia

MONTH: January

YEAR: 2009

Analyst : Dale Wright

Test # Date	Aeration MLSS mg/L	RAW INFLUENT						FINAL EFFLUENT												
		Flows m ³	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Cor Alk mg/L	Alk CaCO ₃ mg/L	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Cor Alk mg/L	Alk CaCO ₃ mg/L	Nitrate NO ₂ mg/L	Nitrite NO ₃ mg/L	Ammonia NH ₃ mg/L	E-Coli Per 100ml	Reactive P mg/L	pH
1 07-Jan	5386	2712	308	382	44.3	8.0	308	76	2.1	0.3	1.0	0.26	65	16	0.006	11.3	0.10	N/A	0.20	7.10
2 14-Jan	5384	2492	343	324	46.0	8.1	284	70	1.1	0.3	0.9	0.49	65	16	0.003	11.0	0.12	N/A	0.40	7.12
3 21-Jan	5190	2610	302	200	47.3	7.1	252	62	1.1	0.3	1.2	0.34	40	10	0.005	10.4	0.09	N/A	0.25	7.10
4 28-Jan	4028	2595	295	202	49.0	7.5	268	66	0.9	0.3	1.2	0.33	89	22	0.010	8.4	0.10	N/A	0.25	7.37
5																				
6 /																				
Number of Tests																				
Monthly Average:	312	277	46.7	7.7	278	69	1.3	0.3	1.1	0.36	65	16	0.006	10.3	0.10	N/A	0.28	7.17		

Comments: Seasonal disinfection.

* Corrected Alkalinity result = alkalinity result times 4.065

2009 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Petrolia W.P.C.P.
Operations Number 110000579
Operating Authority: O.M.I. Canada Inc.
Municipality: Town of Petrolia

MONTH: February

YEAR: 2009

Analyst : Dale Wright

RAW INFLUENT

Aeration MLSS		RAW INFLUENT						FINAL EFFLUENT													
Test #	Date	Flows m ³	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Cor Alk *	Alk CaCO ₃ mg/L	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Cor Alk *	Alkalinity CaCO ₃ mg/L	Nitrite NO ₂ mg/L	Nitrate NO ₃ mg/L	Ammonia NH ₃ mg/L	E-Coli Per 100ml	Reactive P mg/L	pH	
1	04-Feb	3532	2587	292	162	41.9	6.3	243	60	1.0	0.3	1.3	0.33	81	20	0.006	7.7	0.14	N/A	0.26	7.06
2	11-Feb	3644	6032	168	130	24.0	4.4	260	64	1.0	0.3	2.2	0.41	121	30	0.046	5.5	0.78	N/A	0.30	7.11
3	18-Feb	3718	3383	201	210	42.4	5.3	260	64	2.0	0.5	1.1	0.24	113	28	0.007	6.4	0.12	N/A	0.18	7.35
4	25-Feb	3218	2721	140	138	30.5	5.1	260	64	2.0	0.3	1.5	0.26	89	22	0.009	7.4	0.09	N/A	0.23	7.75
5	/																				
6	/																				
Number of Tests																					
Monthly Average:		200	160	34.7	5.3	256	63	1.5	0.4	1.5	0.31	101	25	0.017	6.8	0.28	N/A	0.24	7.32	4	4

Comments: Seasonal disinfection
* Corrected Alkalinity result = alkalinity result times 4.065

2009 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Petrolia W.P.C.P.
 Operations Number: 110000579
 Operating Authority: O.M.I. Canada Inc.
 Municipality: Town of Petrolia

MONTH: March _____
 YEAR: 2009
 Analyst : Dale Wright _____

Aeraton MLSS	RAW INFLUENT						FINAL EFFLUENT														
	Test # Date	mg/L	Flows m³	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Cor Alk mg/L	Alk CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Cor Alk *	Alkalinity CaCO3 mg/L	Nitrate NO2 mg/L	Nitrite NO3 mg/L	Ammon NH3 mg/L	E-Coli Per 100ml	P mg/L	pH
1 04-Mar	3288	2555	166	212	46.8	7.1	243	60	2.0	0.3	1.1	0.21	130	32	0.020	7.6	0.17	N/A	0.14	7.42	
2 11-Mar	3948	7321	62	74	19.2	3.6	203	50	2.0	1.5	1.6	0.30	170	42	0.076	3.7	0.92	N/A	0.26	7.36	
3 18-Mar	4020	2786	94	98	23.5	4.0	219	54	2.0	0.3	1.9	0.21	146	36	0.043	4.4	0.19	N/A	0.15	7.40	
4 25-Mar	4304	2865	297	160	44.1	4.8	227	56	1.5	0.3	2.7	0.22	97	24	0.066	5.8	0.19	N/A	0.16	7.10	
5																					
6 /																					
Number of Tests																					
Monthly Ave.:		155	136	33.4	4.9	223	55	1.9	0.6	1.8	0.24	136	34	0.051	5.4	0.37	N/A	0.18	7.32		

Comments:

Seasonal disinfection
 * Corrected Alkalinity result = alkalinity result times 4.065

2009 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Petrolia W.P.C.P.
 Operations Number: 110000579
 Operating Authority: O.M.I. Canada Inc.
 Municipality: Town of Petrolia

MONTH: April

YEAR: 2009

Analyst: Dale Wright

RAW INFLUENT

Test # Date	Aeration MLSS mg/L	RAW INFLUENT						FINAL EFFLUENT												
		Flows m ³	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Cor Alk *	Alk CaCO ₃ mg/L	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Cor Alk *	Alkalinity CaCO ₃ mg/L	Nitrite NO ₂ mg/L	Nitrate NO ₃ mg/L	Ammonia NH ₃ mg/L	E-Coli Per 100ml	Reactive P mg/L	pH
1 01-Apr	4884	3406	283	152	28.4	4.9	227	56	8.2	1.0	3.2	0.28	97	24	0.245	4.0	1.48	2	0.15	7.10
2 08-Apr	5020	4099	193	202	29.6	5.6	252	62	17.0	2.0	3.4	0.38	162	40	0.194	3.0	1.24	174	0.17	7.26
3 15-Apr	5036	2897	316	278	38.0	4.8	276	68	7.0	2.0	2.4	0.30	113	28	0.313	4.5	1.10	2	0.22	7.10
4 22-Apr	5284	2787	287	224	39.5	6.7	284	70	1.0	0.3	3.4	0.24	40	10	0.212	3.5	0.90	2	0.14	7.21
5 29-Apr	5438	2956	280	92	16.4	3.2	243	60	1.0	0.5	2.9	0.24	195	48	0.222	2.9	1.02	2	0.19	7.18
6 /																				
Number of Tests																				
Monthly Average:		272	190	30.4	5.0	256	63	6.8	1.2	3.1	0.29	121	30	0.237	3.6	1.15	5	5	5	5

Comments: * Corrected Alkalinity result = alkalinity result times 4.065

2009 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Petrolia W.P.C.P.
Operations Number: 110000579
Operating Authority: O.M.I. Canada Inc.
Municipality: Town of Petrolia

MONTH: May

YEAR: 2009

Analyst : Dale Wright

RAW INFLUENT

Aeration MLSS	RAW INFLUENT						FINAL EFFLUENT														
	Test #	Date	Flows m³	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Cor Alk *	Alk CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Cor Alk *	Alk CaCO3 mg/L	Nitrate NO3 mg/L	Nitrite NO2 mg/L	Ammonia NH3 mg/L	E. Coli Per 100ml	Reactive P mg/L	pH
1	06-May	N/A	2289	263	88	31.8	4.4	268	66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	13-May	1752	3316	212	78	38.2	5.8	268	66	1.0	1.5	1.3	0.16	48	12	0.021	11.3	0.14	2	0.13	7.11
3	20-May	2538	3130	210	82	39.2	6.2	260	64	1.3	0.3	2.4	0.25	65	16	0.163	9.6	0.95	2	0.20	7.15
4	27-May	2904	3145	292	652	42.1	7.6	260	64	1.0	0.3	1.0	0.25	40	10	0.004	13.5	0.13	2	0.20	7.10
5																					
6	/																				
Number of Tests		4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3
Monthly Average:		244	225	37.8	6.0	264	65	1.1	0.7	1.6	0.22	51	13	0.063	11.5	0.41	2	0.18	7.12		

Comments:

Week of May 6, raw flows to lagoon, no effluent sample.
* Corrected Alkalinity result = alkalinity result times 4.065

2009 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Petrolia W.P.C.P.
 Operations Number: 110000579
 Operating Authority: O.M.I. Canada Inc.
 Municipality: Town of Petrolia

MONTH: June

YEAR: 2009

Analyst: Dale Wright

	RAW INFLUENT						FINAL EFFLUENT													
	Aeration MLSS	Flows m ³	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Cor Alk mg/L	Alk CaCO ₃ mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Cor Alk *	Alkalinity CaCO ₃ mg/L	Nitrite NO ₂ mg/L	Nitrate NO ₃ mg/L	Ammonia NH ₃ mg/L	E-Coli Per 100ml	Reactive P mg/L	pH	
Test # Date	mg/L	m ³	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Cor Alk *	Alk CaCO ₃ mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Cor Alk *	Alkalinity CaCO ₃ mg/L	Nitrite NO ₂ mg/L	Nitrate NO ₃ mg/L	Ammonia NH ₃ mg/L	E-Coli Per 100ml	Reactive P mg/L	pH	
1 03-Jun	3252	3064	130	144	34.4	5.5	268	66	2.0	0.5	1.3	0.23	56	14	0.005	17.6	0.25	2	0.18	7.37
2 10-Jun	3296	2993	193	198	42.2	7.9	243	60	2.0	0.3	2.2	0.23	16	4	0.009	13.9	0.17	2	0.20	7.26
3 17-Jun	3752	4281	303	218	43.2	7.0	260	64	1.0	0.3	0.8	0.26	73	18	0.081	8.2	0.17	2	0.20	7.10
4 24-Jun	3640	2672	283	246	41.8	7.5	308	76	1.0	0.3	0.9	0.46	97	24	0.010	8.2	0.13	2	0.40	7.09
5 29-Jun	2812	3049	208	208	36.4	6.0	292	72	2.0	0.5	0.5	0.55	81	20	0.009	9.3	0.12	2	0.50	7.10
6 /																				
Number of Tests			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
Monthly Average:		223	203	39.6	6.8	274	68	1.6	0.4	1.1	0.35	65	16	0.023	11.4	0.17	2	0.30	7.18	

Comments: * Corrected Alkalinity result = alkalinity result times 4.065

2009 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Petrolia W.P.C.P.
 Operations Number: 110000579
 Operating Authority: O.M.I. Canada Inc.
 Municipality: Town of Petrolia

MONTH: July
 YEAR: 2009
 Analyst : Dale Wright

Aeration MLSS	RAW INFLUENT						FINAL EFFLUENT													
	Test # Date	Flows m ³	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Cor Alk *	Alk CaCO ₃ mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Cor Alk *	Alkalinity CaCO ₃ mg/L	Nitrate NO ₂ mg/L	Nitrite NO ₃ mg/L	Ammonia NH ₃ mg/L	E-Coli Per 100ml	Reactive P mg/L	pH	
1 08-Jul	3866	2561	175	208	38.2	6.0	260	64	2.0	0.3	0.5	0.65	81	20	0.006	10.8	0.14	2	0.60	7.06
2 15-Jul	3720	2011	168	106	30.0	5.9	243	60	2.0	0.3	1.2	0.65	40	10	0.177	12.3	0.19	4	0.60	7.05
3 22-Jul	3492	2546	242	266	42.5	7.4	243	60	2.0	0.3	1.7	0.60	40	10	0.022	12.6	0.15	2	0.59	7.03
4 29-Jul	3676	2268	169	200	34.6	5.3	243	60	4.0	0.3	0.5	0.62	40	10	0.006	12.7	0.12	2	0.49	7.08
5																				
6 /																				
Number of Tests																				
Monthly Average:	189	195	36.3	6.2	247	61	2.5	0.3	1.0	0.63	50	13	0.053	12.1	0.15	2	0.57	7.06		

Comments: * Corrected Alkalinity result = alkalinity result times 4.065

2009 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Petrolia W.P.C.P.
 Operations Number: 110000579
 Operating Authority: O.M.I. Canada Inc.
 Municipality: Town of Petrolia

MONTH: August

YEAR: 2009

Analyst : Dale Wright

Test #	Date	RAW INFLUENT				FINAL EFFLUENT														
		Aeration MLSS mg/L	Flows m ³	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Con Alk mg/L	Alk CaCO ₃ mg/L *	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Car Alk mg/L	Alkalinity CaCO ₃ mg/L	Nitrite NO ₂ mg/L	Nitrate NO ₃ mg/L	Ammonia NH ₃ mg/L	E-Coli Per 100ml	Reactive P mg/L
1	4038 05-Aug	2007	221	282	43.5	6.1	252	62	4.0	0.3	0.8	0.45	40	10	0.007	14.1	0.10	34	0.36	7.25
2	3830 12-Aug	2772	184	144	30.6	4.7	276	68	2.0	0.5	0.5	0.60	40	10	0.006	8.1	0.11	2	0.55	7.15
3	3830 19-Aug	2654	324	98	35.6	4.4	243	60	1.0	0.3	0.8	0.66	89	22	0.009	8.1	0.30	2	0.61	7.20
4	3986 26-Aug	2630	249	214	46.7	6.7	264	1.0	0.4	1.4	0.67	62	62	0.009	12.0	0.24	2	0.60	7.16	
5																				
6																				
Number of Tests																				
Monthly Average:		245	185	39.1	5.5	259	114	2.0	0.4	0.9	0.60	58	26	0.008	10.6	0.19	4	4	4	4

Comments: * Corrected Alkalinity result = alkalinity result times 4.065
 Week of Aug 26, correct acid concentration used for alkalinity.

2009 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Petrolia W.P.C.P. Operations Number: 110000579
Operating Authority: O.M.I. Canada Inc.
Municipality: Town of Petrolia

September

MONTH:

YEAR: 2009

Analyst: Dale Wright

RAW INFLUENT

Comments:

2009 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Petrolia W.P.C.P.
 Operations Number: 110000579
 Operating Authority: O.M.I. Canada Inc.
 Municipality: Town of Petrolia

MONTH: October

YEAR: 2009

Analyst : Dale Wright

Test # Date	Aeration MLSS mg/L	RAW INFLUENT						FINAL EFFLUENT										
		Flows m³	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	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Nitrite NO2 mg/L	Nitrate NO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	Reactive P mg/L	pH
1 07-Oct	3842	2796	284	216	42.9	7.0	250	1.0	0.3	1.0	0.64	74	0.041	12.8	0.10	2	0.60	6.96
2 14-Oct	3940	2933	251	150	42.2	5.3	250	1.0	0.3	0.5	0.65	90	0.008	12.5	0.14	2	0.60	7.03
3 21-Oct	3880	2973	333	220	37.1	6.5	244	1.3	0.3	1.7	0.50	52	0.007	13.2	0.15	2	0.45	7.05
4 28-Oct	3992	2806	175	198	43.5	7.0	252	2.0	0.3	0.5	0.62	80	0.018	11.4	0.10	2	0.55	7.02
5																		
6 /																		
Number of Tests																		
Monthly Average:		261	196	41.4	6.5	249	1.3	0.3	0.9	0.60	74	0.019	12.5	0.12	2	0.55	7.02	

Comments:

2009 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Petrolia W.P.C.P.
 Operations Number: 110000579
 Operating Authority: O.M.I. Canada Inc.
 Municipality: Town of Petrolia

MONTH: November
 YEAR: 2009
 Analyst: Dale Wright

Aeration MLSS	RAW INFLUENT						FINAL EFFLUENT											
	Test # Date	mg/L	Flows m ³	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO ₃ mg/L	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO ₃ mg/L	Nitrite NO ₂ mg/L	Nitrate NO ₃ mg/L	Ammonia NH ₃ mg/L	E-Coli Per 100ml	Reactive P mg/L
1 04-Nov	3870	2755	256	298	42.8	6.7	260	2.0	0.3	0.5	0.62	42	0.004	10.1	0.11	2	0.56	6.98
2 12-Nov	4196	2766	346	482	48.7	8.3	300	1.2	0.5	0.6	0.62	40	0.004	13.5	0.13	8	0.57	6.99
3 18-Nov	3948	2920	296	324	31.9	6.6	220	1.6	0.3	0.8	0.60	30	0.006	14.5	0.12	2	0.52	7.00
4 25-Nov	3744	2739	272	238	48.0	7.8	254	1.5	0.3	0.5	0.41	32	0.007	14.8	0.14	2	0.35	6.85
5																		
6 /																		
Number of Tests																		
Monthly Average:	293	336	42.9	7.4	259	1.6	0.4	0.6	0.56	36	0.005	13.2	0.13	3	0.50	6.96		

Comments:

2009 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

Petrolia W.P.C.P.
 Operations Number: 110000579
 Operating Authority: O.M.I. Canada Inc.
 Municipality: Town of Petrolia

MONTH: December

YEAR: 2009

Analyst : Dale Wright

Test #	Aeration Date	RAW INFLUENT						FINAL EFFLUENT											
		MLSS mg/L	Flows m³	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	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Nitrate NO2 mg/L	Nitrite NO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	Reactive P mg/L	pH
1	3770 02-Dec	2994	253	192	44.5	7.4	232	2.0	0.3	0.7	0.35	36	0.005	12.4	0.12	2	0.27	7.06	
2	3396 09-Dec	4179	248	392	39.5	5.5	272	4.0	0.3	1.7	0.52	56	0.004	17.3	0.14	2	0.61	8.02	
3	3400 16-Dec	3235	188	188	45.1	5.5	292	3.0	0.3	1.3	0.58	80	0.018	13.7	0.08	6	0.62	7.85	
4	3466 22-Dec	3233	130	52	31.7	4.1	240	2.0	0.8	0.5	0.44	40	0.082	13.9	0.51	2	0.42	7.15	
5	1580 29-Dec	2659	94	48	26.5	3.0	280	2.0	1.3	0.5	0.51	60	0.013	11.6	0.13	6	0.34	7.53	
6																			
Number of Tests																			
Monthly Average:		183	174	37.5	5.1	263	2.6	0.6	0.9	0.48	54	0.024	13.8	0.20	3	0.45	7.52		

Comments:

FLOW DATA

(β)

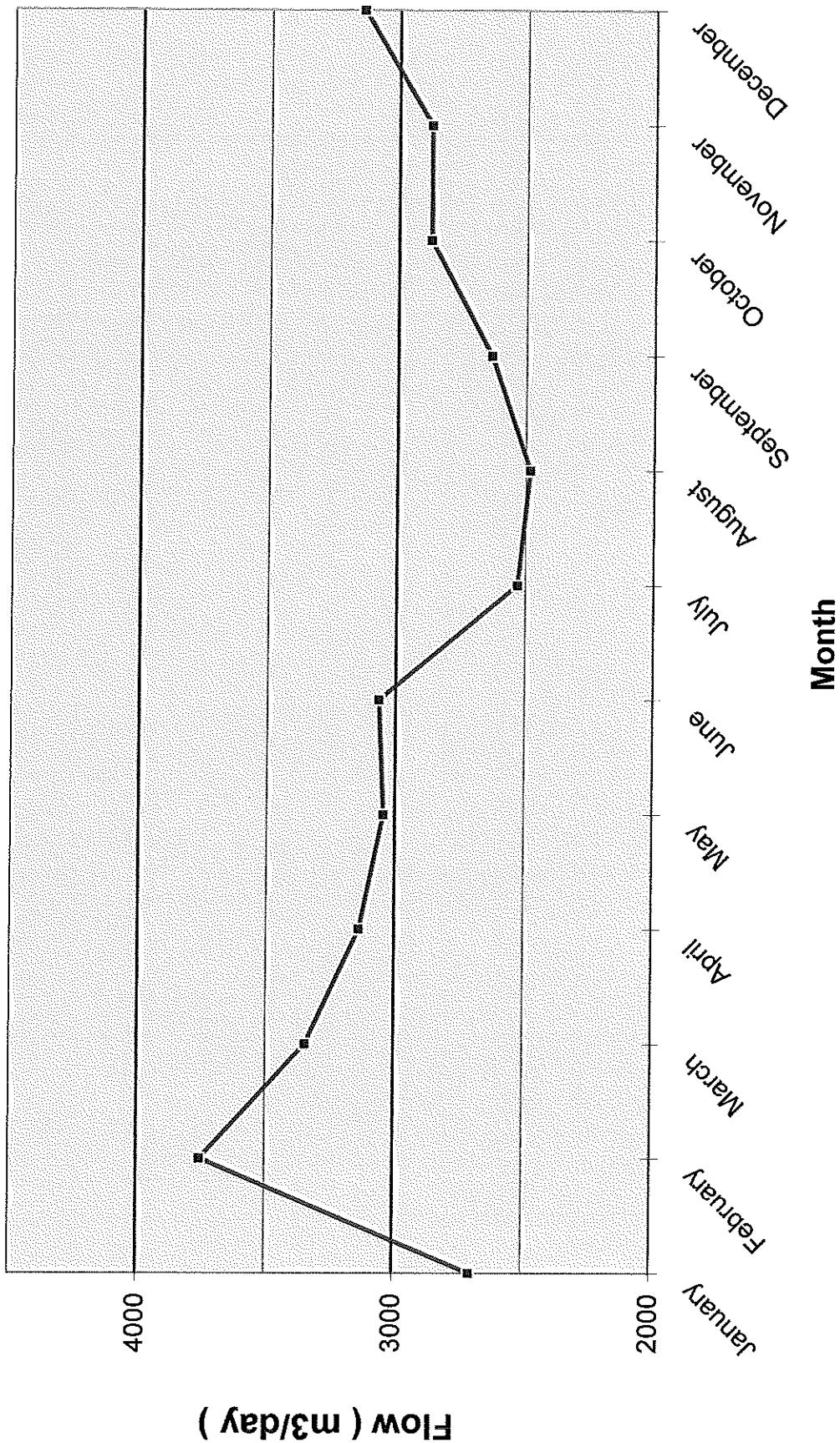
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(β)

O.M.I. Canada Flow Reports Petrolia W.P.C.P. 2009

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	m3/d
1	2709	2723	2834	3406	3599	3098	4332	2285	2437	2791	2750	3462	m3
2	2688	2744	2731	2890	2658	3083	3072	2096	2476	3156	2943	2994	m3
3	2627	2818	2609	3308	2448	3064	2785	2072	2562	2934	3004	3480	m3
4	2582	2587	2555	2870	2484	3069	2616	2117	2836	2892	2755	3339	m3
5	2672	2630	2737	2683	2208	3003	2486	2007	2572	2936	2874	3069	m3
6	2598	2617	2808	4602	2289	3008	2585	2105	2412	2779	3229	2957	m3
7	2712	3132	4288	3967	2325	2984	2529	2300	2517	2796	3010	3124	m3
8	2565	3422	7299	4099	2335	3268	2561	2831	2254	2778	2835	3632	m3
9	2505	3014	4957	3757	4204	3188	2577	2817	2136	3729	2892	4179	m3
10	2588	4310	4299	3076	3486	2993	2501	2834	2528	3349	3083	3362	m3
11	2576	6032	7321	2951	3599	3379	2583	3669	2786	2817	2968	3388	m3
12	2647	11590	3581	2752	3380	3202	2395	2772	2701	2717	2766	3134	m3
13	2527	9226	3144	2737	3316	2695	2112	2330	2642	2889	2942	3283	m3
14	2492	3600	3103	2617	3740	2507	1899	2342	2506	2933	3100	2801	m3
15	2633	3255	2842	2897	3208	2488	2011	2554	2636	2920	2802	2958	m3
16	2786	3240	2753	2543	3373	2552	2555	2501	2702	2735	2880	3235	m3
17	3324	3116	2738	2631	3134	4281	2676	2519	2588	2613	3202	3125	m3
18	2888	3383	2786	2544	3108	3697	2702	2486	2779	2396	2920	3331	m3
19	2847	3345	2545	2475	3135	2973	2575	2654	2834	2636	2986	3202	m3
20	2606	3087	2600	3152	3130	4209	2650	2670	2678	2865	3019	2796	m3
21	2610	2965	2590	2969	3117	3154	2551	2561	3188	2973	2738	2749	m3
22	2906	2830	2639	2787	3267	2882	2546	2357	2754	2848	2320	3233	m3
23	2928	2871	2761	2699	2970	2824	2720	2379	2829	3514	2398	3388	m3
24	2800	2692	2710	2614	2979	2672	2419	2462	2547	2854	2884	3294	m3
25	2658	2721	2865	2855	3078	2691	2479	2385	2596	2258	2739	3313	m3
26	2684	2763	3077	5291	2947	2674	2267	2630	2506	2636	2817	3075	m3
27	2640	5129	2784	3406	3145	2881	2284	2453	2582	2796	2970	2301	m3
28	2595	3229	2846	3237	2903	2983	2248	2469	3031	2806	2850	2271	m3
29	2758	3957	2956	2830	3049	2268	2369	2762	2699	2635	2659	3033	m3
30	2907	3530	3314	2980	3360	2220	2409	2660	2979	2857	3096	3096	m3
31	2687	3374	3001	2226	2494	3035	2023	3023	3023	3023	3023	3023	m3
Total	83745	105071	103663	94085	94376	91911	78430	76929	79037	89059	86168	97253	m3
Min.	2492	2587	2475	2208	2488	1899	2007	2136	2258	2320	2271	2271	m3
Max.	3324	11590	7321	5291	4204	4281	4332	3669	3188	3729	3229	4179	m3
Avg.	2701	3753	3344	3136	3044	3064	2530	2482	2635	2873	3137	2872	2864

Petrolia W.P.C.P. 2009 Flows



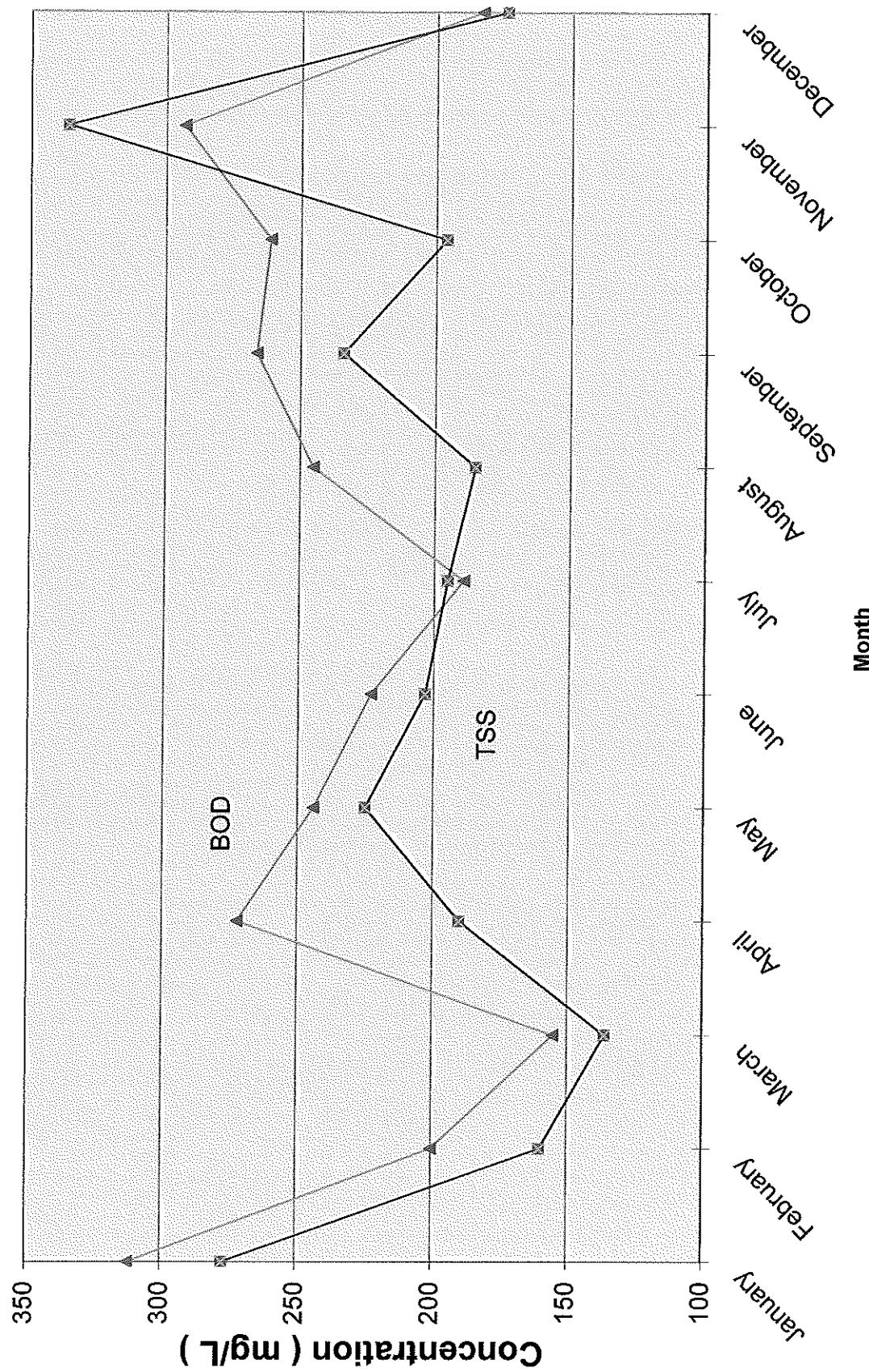
GRAPHS

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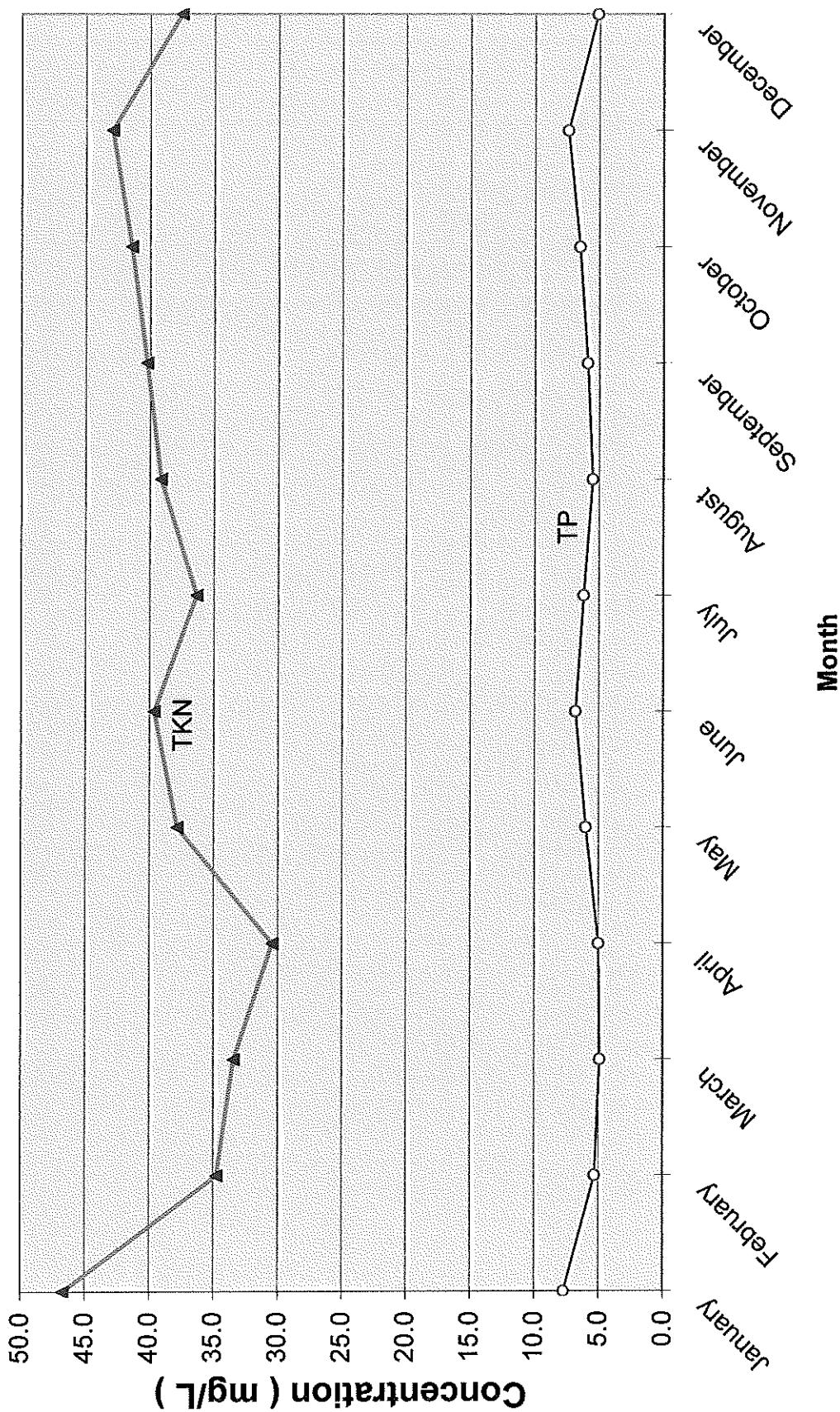
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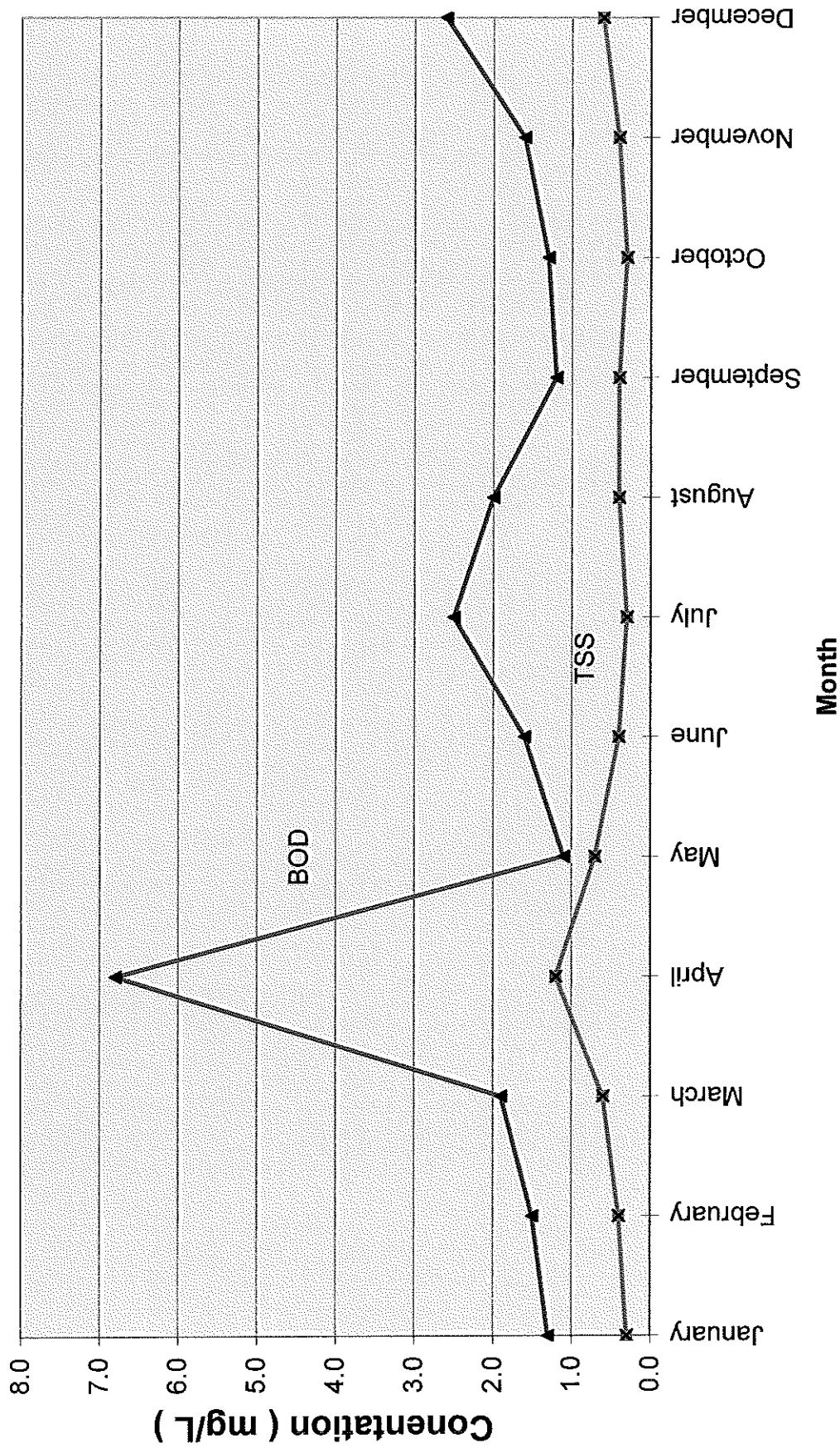
Petrolia W.P.C.P. 2009 Influent BOD and T.S.S.



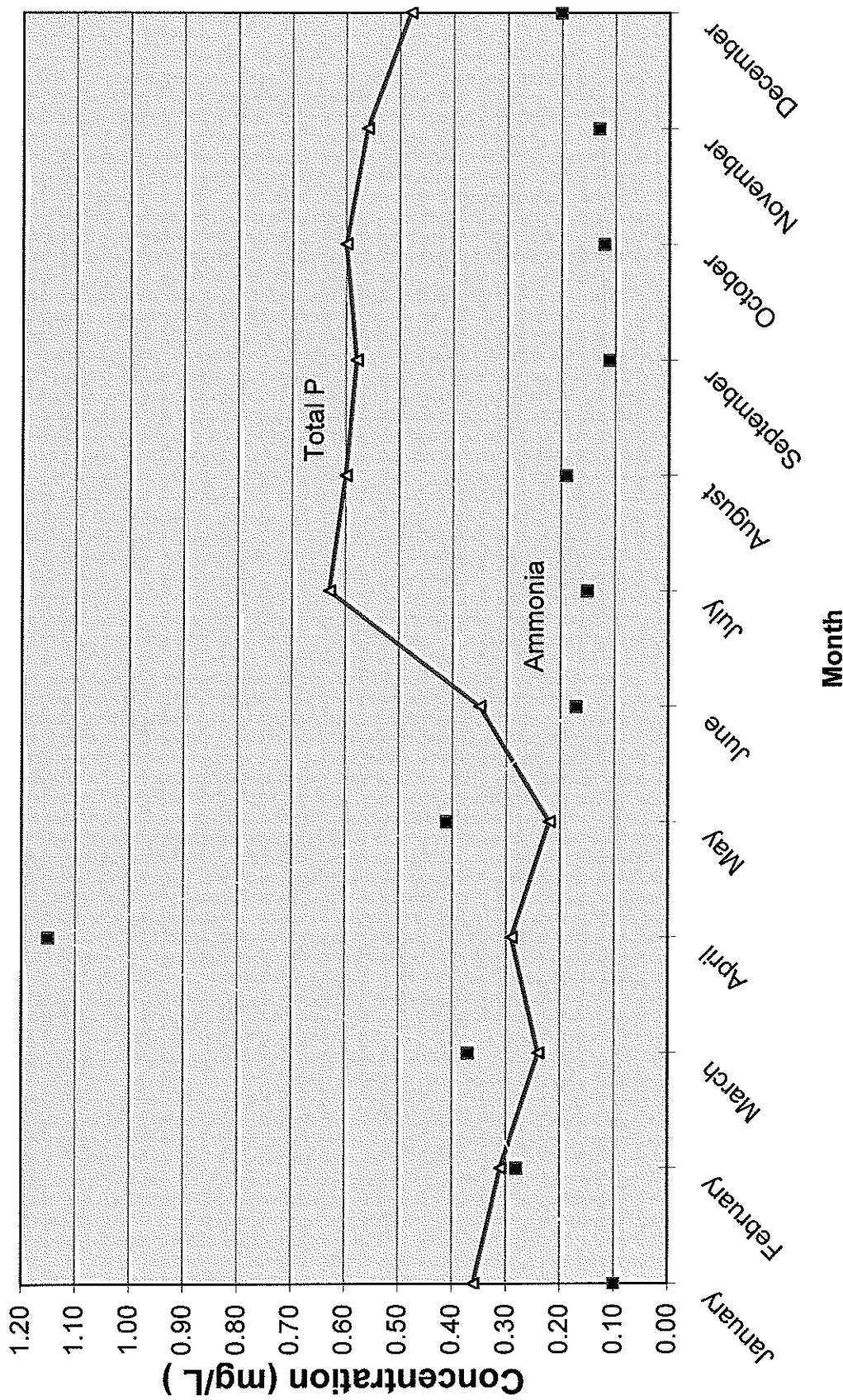
Petrolia W.P.C.P. 2009 Influent TKN and Total P



Petrolia W.P.C.P. 2009 Effluent BOD and TSS



Petrolia W.P.C.P. 2009 Effluent Total P & Ammonia



LAGOON &
SLUDGE



SGS Lakefield Research Limited
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

O.M.I. Canada Inc.(Petrolia WPCP)

Thursday, November 12, 2009

Attn : Candace Tidball ctidball@lambtonshores.ca; dale.wright@ch2m.com

Date Rec. : 05 November 2009

LR Report: CA12084-NOV09

7550 Brush Rd., Box 659
Forest, ON
N0N 1J0, Canada

Copy: #1

Phone: 519-786-2421
Fax:excel (SMP), pdf

CERTIFICATE OF ANALYSIS Final Report

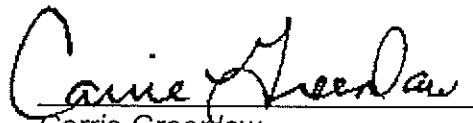
Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Approval Date	4: Analysis Approval Time	5: Petrolia Sludge
Sample Date & Time					04-Nov-09 08:00
Temperature Upon Receipt [°C]	--	--	--	--	7.0
Total Solids [mg/L]	06-Nov-09	22:47	10-Nov-09	08:58	5010
TS ASH [mg/L]	06-Nov-09	22:47	12-Nov-09	08:49	1570
TS LOI [mg/L]	10-Nov-09	20:13	12-Nov-09	08:49	4070
T. kjeldahl Nitrogen [as N mg/L]	09-Nov-09	11:35	11-Nov-09	10:25	348
Ammonia+Ammonium (N) [mg/L]	06-Nov-09	07:58	10-Nov-09	12:20	2.6
Nitrite as N [mg/L]	06-Nov-09	21:26	11-Nov-09	08:57	< 0.3
Nitrate as N [mg/L]	06-Nov-09	21:26	11-Nov-09	08:57	1.2
Nitrite+Nitrate as N [mg/L]	06-Nov-09	21:26	11-Nov-09	08:57	1.2
Arsenic [mg/L]	10-Nov-09	09:42	10-Nov-09	10:44	< 0.3
Cadmium [mg/L]	10-Nov-09	09:42	10-Nov-09	10:44	< 0.03
Cobalt [mg/L]	10-Nov-09	09:42	10-Nov-09	10:44	< 0.05
Chromium [mg/L]	10-Nov-09	09:42	10-Nov-09	10:44	0.3
Copper [mg/L]	10-Nov-09	09:42	10-Nov-09	10:44	2.9
Mercury [mg/L]	09-Nov-09	14:18	10-Nov-09	09:22	0.001
Potassium [mg/L]	10-Nov-09	09:42	10-Nov-09	10:45	28
Molybdenum [mg/L]	10-Nov-09	09:42	10-Nov-09	10:45	< 0.1
Nickel [mg/L]	10-Nov-09	09:42	10-Nov-09	10:45	< 0.1
Phosphorus [mg/L]	10-Nov-09	09:42	10-Nov-09	10:45	160
Lead [mg/L]	10-Nov-09	09:42	10-Nov-09	10:45	0.1
Selenium [mg/L]	10-Nov-09	09:42	10-Nov-09	10:45	< 0.3
Zinc [mg/L]	10-Nov-09	09:42	10-Nov-09	10:45	1.9

SGS

SGS Lakefield Research Limited
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : CA12084-NOV09

*Note: Metals are analyzed on the as received sludge portion. Detection limits reflect this calculation. Hg analysis is performed on the as received sample.

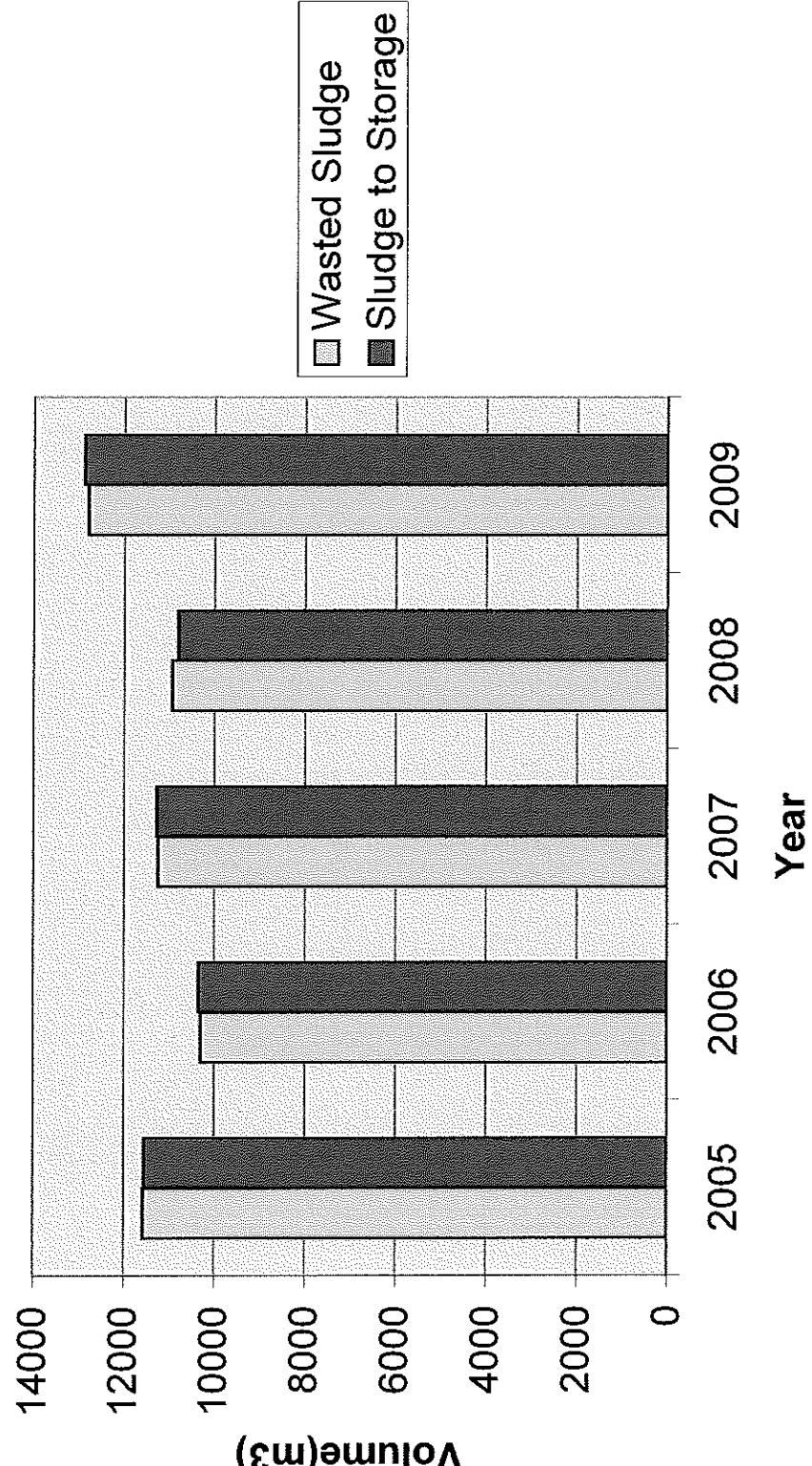


Carrie Greenlaw
Carrie Greenlaw
Project Specialist
Environmental Services, Analytical

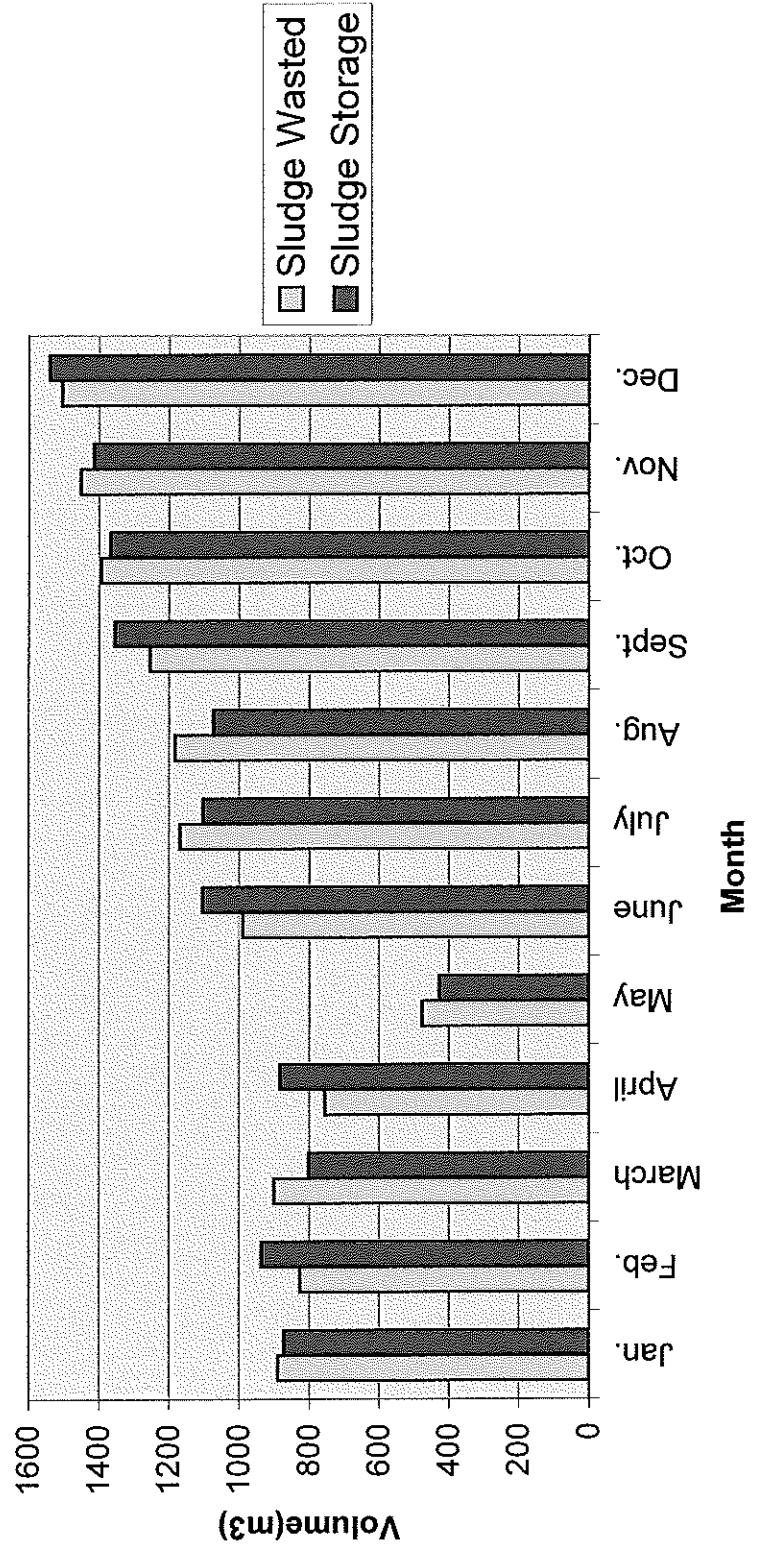
Petrolia WPCP 2009 Sludge Summary Report

Month	Sludge Wasted/ To Storage m3		Total m3
Jan	890		890
	872		872
Feb	827		827
	937		937
Mar	901		901
	802		802
Apr	755		755
	883		883
May	477		477
	427		427
June	989		989
	1105		1105
July	1169		1169
	1103		1103
Aug	1184		1184
	1074		1074
Sept	1255		1255
	1355		1355
Oct	1393		1393
	1367		1367
Nov	1452		1452
	1415		1415
Dec	1505		1505
	1541		1541
Total Sludge Wasted	12797		12797
Total Sludge to Storage	12881		12881

Sludge Summary Report for Petrolia WPCP



Petrolia WPCP Sludge Summary for 2009



Petrolia lagoons 2009

A Provincial Officer's Order 0348-7PMJPG was issued February 27 2009 for the discharge of the east and west lagoons. The lagoons were discharged in accordance with the order. Refer to the following pages for details, sample results and associated correspondence.

Flow Meter

The Pulsar Ultra 3 flow meter was calibration checked on December 17 2009. A copy of the calibration report is attached at the end of this report.

East Lagoon

The east lagoon was discharged in March 2009. Approximately 79380 m³ was discharged. Approximately 12881 m³ of sludge was transferred to the east lagoon in 2009.

West Lagoon

The west lagoon was discharged in February and March 2009. Approximately 118103 m³ was discharged. Approximately 92583 m³ of flow was sent to the west lagoon in 2009. However this number may not be accurate as there were instances where snow drifted under the transducer, causing a false high reading and instances where sludge would build up behind the tip of the V notch weir under the transducer, causing false high headings. The flows included plant maintenance flows, flows from rain events or high flow conditions, leaking valves, infiltration, etc.

2009 Petrolia West Lagoon

Friday February 27 2009 15:30 began discharge. Level at 28"

Monday March 2 2009 12:30 level at 37" = 9" discharged in 69 hours so that is 0.13 inches/hr

32.5 hours from Feb 27 1530 to Feb 28 midnight = 4.239" times 2109m3/inch = 8940 m3 discharged from Feb 27 1530 to Feb 28 midnight.

Feb 28 midnight level at app 32.239"

Friday March 20 1230 level at app 84". Stopped discharge.

51.761" discharged in 468.5 hours at 2109m3/inch = 109163 m3 discharged from Feb 28 midnight to Mar 20 1230.

Total volume discharged from West lagoon from Feb 27 to Mar 20 = 118103m3

2009 Petrolia East Lagoon

Tuesday March 3 at 1530 level at 0". Began discharge

Friday March 20 at 1630 level at app 54". Stopped discharge.

Discharged 54" at 1470m3/inch = 79380m3 discharged in 409 hrs.

Samples were collected twice per week, results attached.

LAGOON DATA
LOCATION: Petrolia East
YEAR: 2009

LAGOON EFFLUENT											
	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Nitrite NO2 mg/L	Nitrate NO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	Reactive P mg/L	pH -log[H]+
Date	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Nitrite NO2 mg/L	Nitrate NO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	Reactive P mg/L	pH -log[H]+
23-Feb 9:00	<4	9.0	1.9	0.48	26	0.038	1.2	1.64	4	0.43	7.70
04-Mar 8:35	5.0	9.0	N/A	0.50	42	0.121	3.3	1.65	12	0.35	7.30
09-Mar 12:30	5.0	5.0	N/A	0.23	20	0.014	1.0	0.17	380	0.13	7.30
11-Mar 8:35	5.0	7.0	N/A	0.30	26	0.011	0.7	0.27	2	0.15	7.53
16-Mar 12:45	10.0	7.0	N/A	0.32	28	0.009	1.4	1.74	<2	0.15	7.22
18-Mar 9:35	3.0	5.0	N/A	0.28	28	0.009	1.2	1.60	<20	0.14	7.26

Comments: Started discharging east lagoon at 15:30 on Mar 3 under the POO.

LAGOON DATA
LOCATION: Petrolia West
YEAR: 2009

	LAGOON EFFLUENT										
	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO ₃ mg/L	Nitrite NO ₂ mg/L	Nitrate NO ₃ mg/L	Ammonia NH ₃ mg/L	E-Coli Per 100ml	Reactive P mg/L	pH -log[H] ⁺
23-Feb 9:00	9.0	21.0	4.1	0.30	30	0.320	1.5	4.80	8640	0.03	7.75
27-Feb 15:45	4	22.0	N/A	0.30	34	0.204	2.0	4.60	2600	0.03	7.62
02-Mar 12:30	8.0	21.0	N/A	0.32	34	0.076	2.6	4.00	680	0.01	7.56
04-Mar 8:30	11.0	20.0	N/A	0.36	40	0.041	3.0	3.60	580	0.01	7.36
09-Mar 12:35	10.0	17.0	N/A	0.34	36	0.029	1.5	2.80	2	0.01	7.29
11-Mar 8:30	9.0	14.0	N/A	0.30	22	0.030	1.4	2.06	117	0.01	7.26
16-Mar 12:40	13.0	14.0	N/A	0.33	30	0.027	1.5	2.20	<2	0.04	7.15

Comments: Started discharging west lagoon at 15:30 on Feb 27 under the POO.

LAGOON DATA
LOCATION: Petrolia West
YEAR: 2009

Comments: Started discharging west lagoon at 15:30 on Feb 27 under the POO.

Petrolia WPCP Flow Diversion to Lagoons

Year 2009 Month January

Date	Start time	m3	End time	m3	East	West	reason for flow
1							14.85 infiltration
2							25.23 HD and infiltration
3							8.98 infiltration
4							11.84 infiltration
5				284.00		6.15 transfer sludge	
6							13.66 infiltration
7							40.94 HD and infiltration
8							12.28 infiltration
9							7.26 infiltration
10							10.11 infiltration
11							7.48 infiltration
12				152.00		5.21 transfer sludge	
13							10.57 infiltration
14							8.23 infiltration
15							17.20 HD and infiltration
16							5.82 infiltration
17							9.04 infiltration
18							6.95 infiltration
19				204.00		5.52 transfer sludge	
20							17.81 infiltration
21							13.99 infiltration
22							22.74 infiltration
23							26.92 HD
24							3.09 infiltration
25							7.81 infiltration
26				232.00		1.55 transfer sludge	
27							15.35 infiltration
28							14.67 infiltration
29							19.28 infiltration
30							25.06 HD
31							27.45 Snow causing false readings
Total					872.00		423.04

Petrolia WPCP Flow Diversion to Lagoons

Year 2009 Month February

Date	Start time	m3	End time	m3	East	West	reason for flow
1						7661.91	snow causing false readings
2						21.32	snow causing false readings
3				278.00		2.11	transfer sludge
4						3.23	snow causing false readings
5						16.73	snow causing false readings
6						11.70	snow causing false readings
7						157.20	filter flows
8						564.85	filter flows
9						273.99	filter flows
10						315.56	filter flows
11						2060.00	Flows from Main Lift. Heavy Rain
12	11:30			273.00		10077.00	transfer sludge & clarifier flows to lagoon. High flows
13						8041.00	Clarifier flows to lagoon. High flows.
14						140.08	Filter flows
15						116.78	filter flows
16						132.77	filter flows
17						133.19	filter flows
18						155.68	filter flows
19						340.08	filter flows
20				218.00		262.04	transfer sludge
21						250.50	filter flows
22						231.08	filter flows
23						203.33	filter flows
24						147.00	filter flows
25						156.45	filter flows
26						168.00	119.24 transfer sludge
27						1042.80	Rain event & surge tank overflow and HD
28						290.18	Rain
29							
30							
31						937.00	32927.80
Total							

Petrolia WPCP Flow Diversion to Lagoons

Year 2009 Month March

Date	Start time	m3	End time	m3	East	West	reason for flow
1						96.64	filter flows
2						60.51	filter flows
3						46.43	filter flows
4						40.49	filter flows
5				196.00		34.48	transfer sludge
6						62.20	filter flows
7						90.56	filter flows
8						5227.22	Heavy rain. Surge tank overflow
9						1206.75	Heavy rain. Surge tank overflow
10						350.08	Surge tank overflow
11						2546.79	Heavy rain. Surge tank overflow
12				220.00		249.32	transfer sludge & surge tank overflow
13						46.17	filter flows
14						60.40	filter flows
15						52.61	filter flows
16						47.37	filter flows
17						48.88	filter flows
18						72.46	filter flows
19				201.00		26.82	transfer sludge
20						59.27	filter flows
21						51.40	filter flows
22						49.51	filter flows
23						49.12	filter flows
24						69.25	filter flows
25						134.90	rain
26						103.86	transfer sludge
27						52.89	filter flows
28						46.23	filter flows
29						77.57	filter flows
30						75.54	filter flows
31						64.88	filter flows
Total				802.00		11200.60	

Petrolia WPCP Flow Diversion to Lagoons

Year 2009 Month April

Date	Start time	m3	End time	m3	East	West	reason for flow
1						77.79	filter flows
2					218.00	41.87	transfer sludge
3						92.05	filter flows
4						90.56	filter flows
5						71.73	filter flows
6						360.87	Rain & wet snow
7						402.22	Rain
8						103.47	filter flows
9					187.00	381.42	transfer sludge & hosed clarifiers
10						100.77	sludge under transducer
11						80.46	sludge under transducer
12						65.26	sludge under transducer
13						55.64	sludge under transducer
14						53.67	sludge under transducer
15						64.00	sludge under transducer
16					202.00	497.71	transfer sludge and cleaned south clarifier
17						26.72	valve leaking or infiltration?
18						30.81	valve leaking or infiltration?
19						27.91	valve leaking or infiltration?
20						42.09	valve leaking or infiltration?
21						64.96	valve leaking or infiltration?
22						42.94	valve leaking or infiltration?
23					276.00	5.47	transfer sludge and HD
24						45.42	valve leaking or infiltration?
25						33.76	valve leaking or infiltration?
26	8:30					5639.28	Rain event. Put clarifier flows to lagoon
27			16:00			2409.69	High flows due to rain event. Clarifier flows to lagoon.
28						2914.44	Aeration tanks drained for repair to NW aerator
29						3166.41	Raw flows to lagoon. Aeration tanks being repaired.
30						2254.04	Raw flows to lagoon. Aeration tanks being repaired.
31							
Total					883.00	19243.43	



Petrolia WPCP Flow Diversion to Lagoons

Year 2009 Month May

Date	Start time	m3	End time	m3	East	West	reason for flow
1						3164.39	Raw flows to lagoon. Aeration tanks being repaired.
2						1940.18	Raw flows to lagoon. Aeration tanks being repaired.
3						1706.19	Raw flows to lagoon. Aeration tanks being repaired.
4						1733.60	Raw flows to lagoon. Aeration tanks being repaired.
5						3472.68	Raw flows to lagoon. Aeration tanks being repaired.
6		11130				1167.59	Raw flows to lagoon. Aeration tanks being repaired.
7						38.64	Clarifier flows to lagoon while seed sludge taking hold.
8						911.64	Clarifier flows to lagoon while seed sludge taking hold.
9		11130				2966.23	Clarifier flows to lagoon while seed sludge taking hold.
10						33.16	valve leaking or infiltration?
11						14.80	valve leaking or infiltration?
12						10.25	valve leaking or infiltration?
13						10.32	valve leaking or infiltration?
14						19.96	valve leaking or infiltration?
15						14.91	valve leaking or infiltration?
16						19.20	valve leaking or infiltration?
17						13.89	valve leaking or infiltration?
18						11.91	valve leaking or infiltration?
19						13.29	valve leaking or infiltration?
20						10.84	valve leaking or infiltration?
21		220.00				10.17	transfer sludge
22						6.29	infiltration
23						5.93	infiltration
24						4.26	infiltration
25						4.66	infiltration
26						7.08	infiltration
27						8.33	infiltration
28						207.00	195.03 transfer sludge and hosed clarifiers
29						5.36	infiltration
30						6.26	infiltration
31						4.26	infiltration
Total						427.00	17531.30

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Petrolia WPCP Flow Diversion to Lagoons

Year 2009 Month June

Date	Start time	m3	End time	m3	East	West	reason for flow
1						6.33	infiltration
2						4.97	infiltration
3						5.04	infiltration
4						5.37	infiltration
5						16.30	HD
6				44.00		5.17	transfer sludge
7						6.30	infiltration
8				218.00		6.01	infiltration
9						9.51	infiltration
10						6.64	infiltration
11				146.00		36.48	transfer sludge & rain
12						8.83	infiltration
13						5.12	infiltration
14						3.52	infiltration
15						395.49	cleaned clarifiers
16						479.59	cleaned clarifiers
17						191.08	Rain event
18				226.00		406.98	transfer sludge & rain
19						12.78	sludge under transducer
20						26.45	sludge under transducer
21						23.70	sludge under transducer
22						11.81	sludge under transducer
23						17.48	sludge under transducer
24						3.50	sludge under transducer
25				256.00		2.02	transfer sludge
26						7.97	infiltration
27						10.95	infiltration
28						8.57	infiltration
29						12.47	infiltration
30				215.00		5.71	transfer sludge
31							
Total						1105.00	1742.14

CHILLIWACK
OMNI

Petrolia WPCP Flow Diversion to Lagoons

Year 2009 Month July

Date	Start time	m3	End time	m3	East	West	reason for flow
1						699.74	Rain event
2						20.20	infiltration
3						12.83	infiltration
4						7.95	infiltration
5						5.32	infiltration
6						4.34	infiltration
7				248.00		3.16	transfer sludge
8						16.92	sludge under transducer
9						4.04	infiltration
10						4.22	infiltration
11						3.66	infiltration
12						6.28	infiltration
13						395.54	cleaned clarifier
14				267.00		578.57	transfer sludge & cleaned clarifier
15						314.07	cleaned clarifier
16						11.44	sludge under transducer
17						5.19	sludge under transducer
18						3.75	sludge under transducer
19						3.29	sludge under transducer
20				204.00		2.19	transfer sludge
21						4.12	sludge under transducer
22						5.66	Rain event
23						7.49	Rain event
24				179.00		7.83	transfer sludge
25						12.28	Rain event
26						26.57	Rain event
27						8.55	infiltration
28						9.88	infiltration
29						7.21	infiltration
30						6.40	infiltration
31				205.00		6.61	transfer sludge
Total				1103.00		2205.30	

CH12WHTLL
OMI

Petrolia WPCP Flow Diversion to Lagoons

Year 2009 Month August

Date	Start time	m3	End time	m3	East	West	reason for flow
1						12.62	sludge under transducer
2						7.72	sludge under transducer
3						8.26	sludge under transducer
4						10.35	sludge under transducer
5						4.83	sludge under transducer
6				100.00	2.18	transfer sludge	
7				213.00	14.73	transfer sludge	
8					3.16	sludge under transducer	
9					101.42	grease balls under transducer causing false readings	
10					54.29	grease balls under transducer causing false readings	
11					793.79	grease balls under transducer causing false readings	
12					111.80	grease balls under transducer causing false readings	
13					473.40	overflowed clarifiers	
14				254.00	1.17	transfer sludge	
15					3.19	infiltration	
16					3.64	infiltration	
17					95.70	hosed clarifiers	
18					13.84	sludge under transducer	
19					10.21	sludge under transducer	
20				223.00	2.20	transfer sludge	
21					5.24	sludge under transducer	
22					10.10	sludge under transducer	
23					25.84	sludge under transducer	
24					37.64	sludge under transducer	
25					4.20	sludge under transducer	
26					19.06	HD	
27				284.00	2.06	transfer sludge	
28					19.85	sludge under transducer	
29					7.18	sludge under transducer	
30					7.53	sludge under transducer	
31					3.04	sludge under transducer	
Total				1074.00	1870.24		



Petrolia WPCP Flow Diversion to Lagoons

Year 2009 Month September

 Chartwell
OMI

Date	Start time	m3	End time	m3	East	West	reason for flow
1						2.94	sludge under transducer
2						3.06	sludge under transducer
3					240.00	1.08	transfer sludge
4					50.00	2.90	transfer sludge
5						2.94	sludge under transducer
6						4.18	sludge under transducer
7						4.22	sludge under transducer
8						4.64	sludge under transducer
9					3.56	sludge under transducer	
10					238.00	1.04	transfer sludge
11						4.30	sludge under transducer
12						7.96	sludge under transducer
13						2.96	sludge under transducer
14						2.96	cleaned clarifiers
15					248.00	1.17	transfer sludge
16						9.23	sludge under transducer
17						8.76	sludge under transducer
18						11.36	sludge under transducer
19						6.14	sludge under transducer
20						17.53	sludge under transducer
21					251.00	13.12	transfer sludge
22						5.85	sludge under transducer
23						6.60	sludge under transducer
24						6.68	sludge under transducer
25					130.00	2.16	transfer sludge
26						28.81	sludge under transducer
27						53.30	sludge under transducer
28						52.62	sludge under transducer
29					198.00	2.17	transfer sludge
30						6.38	sludge under transducer
31							
Total					1355.00	420.05	

Petrolia WPCP Flow Diversion to Lagoons

Year 2009 Month October

Date	Start time	m3	End time	m3	East	West	reason for flow
1							6.75 infiltration
2					152.00	1.16	transfer sludge
3						8.99	sludge under transducer
4						5.61	sludge under transducer
5						4.98	sludge under transducer
6				185.00	332.69	overflow clarifiers and transfer sludge	
7						5.65	sludge under transducer
8					14.37	sludge under transducer	
9				154.00	29.10	transfer sludge	
10					40.21	sludge under transducer	
11					14.35	sludge under transducer	
12					12.05	sludge under transducer	
13				157.00	1.36	transfer sludge	
14					4.71	infiltration	
15					4.50	infiltration	
16				143.00	1.18	transfer sludge	
17					32.76	sludge under transducer	
18					23.32	sludge under transducer	
19					18.20	sludge under transducer	
20					3.47	infiltration	
21					4.30	infiltration	
22				270.00	17.58	transfer sludge	
23					38.38	sludge under transducer	
24					31.77	sludge under transducer	
25					1118.06	Filter carriage motor coupling out of alignment	
26				174.00	690.12	Filter carriage motor coupling out of alignment & transfer sludge	
27					14.38	sludge under transducer	
28					16.55	sludge under transducer	
29					132.00	14.15 transfer sludge	
30					43.13	HD	
31					6.41	infiltration	
Total				1367.00	2560.24		



Petrolia WPCP Flow Diversion to Lagoons

Year 2009 Month November

Date	Start time	m3	End time	m3	East	West	reason for flow
1						5.23	infiltration
2				196.00		1.17	transfer sludge
3						5.18	infiltration
4						4.51	infiltration
5				124.00		1.16	transfer sludge
6					23.77	HD	
7						4.72	infiltration
8						3.84	infiltration
9				174.00		366.77	transfer sludge & overflowed clarifiers
10						4.92	infiltration
11						3.61	infiltration
12						3.08	infiltration
13				165.00		1.86	transfer sludge
14						4.04	infiltration
15						4.42	infiltration
16						4.06	infiltration
17				243.00		66.18	transfer sludge
18						67.35	sludge under transducer
19						6.50	infiltration
20				130.00		160.02	transfer sludge & HD
21						3.88	infiltration
22						4.07	infiltration
23						4.38	infiltration
24				163.00		2.06	transfer sludge
25						4.80	infiltration
26						3.95	infiltration
27				220.00		4.22	transfer sludge & HD
28						15.06	sludge under transducer
29						9.37	sludge under transducer
30						16.08	sludge under transducer
31							
Total				1415.00		810.26	



CH2M HILL

Petrolia WPCP Flow Diversion to Lagoons

Year 2009 Month December

Date	Start time	m3	End time	m3	East	West	reason for flow
1					185.00	4.72	transfer sludge
2						6.93	sludge under transducer
3						45.93	sludge under transducer
4					182.00	3.62	transfer sludge
5						4.34	sludge under transducer
6						5.03	sludge under transducer
7						4.62	sludge under transducer
8					160.00	1.17	transfer sludge
9						37.10	sludge under transducer
10						29.34	HD & sludge under transducer
11					182.00	2.00	transfer sludge
12						8.44	sludge under transducer
13						11.75	sludge under transducer
14					174.00	2.01	transfer sludge
15						26.58	sludge under transducer
16						21.37	sludge under transducer
17						26.44	sludge under transducer
18					190.00	19.10	HD & transfer sludge
19						15.53	sludge under transducer
20						358.39	filter train not working
21						726.35	filter train not working
22						3.55	sludge under transducer
23					203.00	15.49	transfer sludge & HD
24						16.88	sludge under transducer
25						24.60	sludge under transducer
26						27.29	sludge under transducer
27						20.19	sludge under transducer
28						54.57	sludge under transducer
29					113.00	52.52	transfer sludge
30						26.92	sludge under transducer
31					152.00	46.64	HD & transfer sludge
Total					1541.00	1649.41	



CALIBRATION
RECORDS



519-766-1152 Fax 519-766-1153

Instrument Calibration Sheet

Client Name: OMI Canada Inc

Date: December 17, 2009

Equipment Description: Influent Flow Meter

Assigned Number: _____

Area Located: Petrolia STP

Drawing Number: _____

Instrument Data

Manufacturer: Grayline

Model Number: OCF-III

Type: Doppler

Serial Number: 7792

Range: 0 - 175.6 l/s

Accuracy: +/- 1%

Method Of Calibration: Standard Measurement

Application: Wastewater

Calibration Data

Input %	Input	As Found	As Left	% Error
0.0	4.00 mA	0 l/s	0 l/s	
25	8.00 mA	43.9 l/s	43.9 l/s	
50	12.00 mA	87.8 l/s	87.8 l/s	
75	16.00 mA	131.7 l/s	131.7 l/s	
100	20.00 mA	175.6 l/s	175.6 l/s	

Confirmed Run Mode: ✓

Placed back in service: ✓

Comments:

Checked By: Jeremy Drake

Signature:



519-766-1152 Fax 519-766-1153

Instrument Calibration Sheet

Client Name: OMI Canada Inc

Date: December 17, 2009

Equipment Description: RAS Flow Meter

Assigned Number: _____

Area Located: Petrolia STP

Drawing Number: _____

Instrument Data

Manufacturer: Grayline

Model Number: DFM-IV-A1A1A1B1A

Type: Doppler

Serial Number: 15938

Range: 0 - 55.0 l/s

Accuracy: +/- 1%

Method Of Calibration: Standard Measurement

Application: Wastewater

Calibration Data

Input %	Input	As Found	As Left	% Error
0.0	4.00 mA	0 l/s	0 l/s	
25	8.00 mA	13.75 l/s	13.75 l/s	
50	12.00 mA	27.50 l/s	27.50 l/s	
75	16.00 mA	41.25 l/s	41.25 l/s	
100	20.00 mA	55.00 l/s	55.00 l/s	

Confirmed Run Mode: ✓

Placed back in service: ✓

Comments:

Checked By: Jeremy Drake

Signature:



Instrument Calibration Sheet

Client Name: OMI Canada Inc

Date: December 17, 2009

Equipment Description: Flow Meter

Assigned Number: _____

Area Located: Petrolia STP

Drawing Number: _____

Instrument Data

Manufacturer: Pulsar

Model Number: Ultra 3

Type: Ultrasonic Measurement

Flume/Weir Type: 60° V notch weir

Range: 0 - 222.2 l/s

Accuracy: +/- 5%

Method Of Calibration: Standard Measurement

Application: Wastewater

Calibration Data

Input %	Input	As Found	Theoretical	% Error
0.0	0 cm	0.00 l/s	0.00 l/s	
25	15 cm	6.99 l/s	6.94 l/s	
50	30 cm	39.33 l/s	39.27 l/s	
75	45 cm	108.25 l/s	108.22 l/s	
100	60 cm	222.2 l/s	222.16 l/s	

Confirmed Run Mode:

Placed back in service:

Comments:

Findings verified using Isco Open Channel Flow Handbood (sixth edition)

Checked By: Jeremy Drake

Signature: 



Instrument Calibration Sheet

Client Name: OMI Canada Inc

Date: December 17, 2009

Effluent

Equipment Description: Flow Meter

Assigned Number: _____

Area Located: Petrolia STP

Drawing Number: _____

Instrument Data

Manufacturer: Siemens/Milltronics

Model Number: OCM III

Type: Ultrasonic Measurement

Serial Number: _____

Range: 0 - 53.5185 l/s

Accuracy: +/- 1%

Method Of Calibration: Standard Measurement

Application: Wastewater

Calibration Data

Input %	Input	As Found	As Left	% Error
0.0	0 cm	0.00 l/s	0.00 l/s	
25	1 "	13.38 l/s	5.39 l/s	
39.4	1.58 "	21.13 l/s	7.95 l/s	
50	2 "	26.76 l/s	15.90 l/s	
75	3 "	40.14 l/s	23.85 l/s	
100	4 "	53.52 l/s	31.80 l/s	

Confirmed Run Mode: ✓

Placed back in service: ✓

Comments:

Checked By: Jeremy Drake

Signature:



Alphabetical Parameter Listing OCM III
 Tag # Effluent Flow
 Date: December 17, 2009

#	Parameter	Value	#	Parameter	Value
P0	Language	0	D0	Head	1.5
P1	Dimensional Units	1	D1	Flow Rate	12.2
P2	Temperature Units	0	D2	Short Total	399784
P3	Primary Element	0	D3	Maximum Flow Rate	37.20845
P4	Method of Calculation	1	D4	Minimum Flow Rate	0
P5	Flow Rate Units	0	D5	Temperature	9.6
P6	Flow at Maximum Head	53.5185	D6	Maximum Temperature	27.17
P7	Height of Maximum Head	4	D7	Minimum Temperature	5.99
P8	Volts in at Zero Velocity	----	D8	Velocity	----
P9	Velocity at 5 Volts In	----	D9	Nominal Target Range	29
P10	Velocity at maximum flow	----	D10	Analog Milliams	7.85
P13	Display Damping	0	D11	Internal DC Volts	26.29
P14	Display Lighting	0	D12	Velocity Volts	----
P15	Relay 1 Assignment	0	D13	Auxiliary Input Volts	0.00
P16	Relay 1 High Set Point	----	D14	Temperature Sensor Ohms	10960
P17	Relay 1 Low Set Point	----	D15	Self-test Checksum	0000H
P18	Relay 2 Assignment	0	D16	Restarts	433
P19	Relay 2 High Set Point	----	D17	Exceptions	0
P20	Relay 2 Low Set Point	----	D18	Valid Echos per 100	81
P21	Relay 3 Assignment	0	F2	Run Mode I/s	
P22	Relay 3 High Set Point	----		Total X 1000	
P23	Relay 3 Low Set Point	----	F6	Software Identification Number	
P24	mA assignment	0	F7	View Min/Max Data	
P25	If Custom mA, 20 mA =?	----		Max Flow	37.3
P26	mA Span	0		Time	22:45:56
P27	mA Damping	10		Date	20/06/2009
P28	mA Options	0		Min Flow	0
P29	Fail-safe Time	0		Time	10:55:38
P30	Fail-safe Analog Mode	1		Date	10/12/2008
P31	Fail-safe Analog mA	4		Max Temperature	27.16
P32	Totalizer Multiplier	6		Time	17:21:11
P33	Flow Rate Display	2		Date	16/08/2009
P34	Printer Mode	0		Min Temperature	5.98
P35	Printer Timing	----		Time	18:06:13
P36	Measurement Interval	0		Date	10/12/2009
P37	Serial Data Rate	5			
P38	Site Number	0			
P39	Data Logging Rate	2			
P40	Log Rapid Setpoint	----	F8	Reset Min/Max Data	v
P41	Log Normal Setpoint	----			
P42	Head Determination	0			
P43	Volts in For Zero Head	----			
P44	Head at 5 Volts In	----			
P45	Low Flow Cut-off Head	0			
P46	Range at Zero Head	30.39487			
P47	Blanking Distance	25			
U0	Exponent	1.5			

Site Location: Petrolia STP