EIA REGISTRATION

Under The Environmental Impact Assessment (EIA) Regulation 87-83
For The Province of New Brunswick

Wastewater Treatment System For Organics Diversion
Building Located at the Solid Waste Transfer Station
GRAND MANAN ISLAND, NB

Prepared For:

Village of Grand Manan
4-1021 Route 776
Grand Manan, NB
E5G 4E5

Prepared By:

Silk Stevens Limited
Design & Consulting Engineers
35 Main Street
St. George, NB E5C 3H9

Telephone: (506) 755-3005
Fax: (506) 755-3048
www.silkstevens.ca

October 2014
October 16, 2014

Paul Vanderlaan, Director  
Sustainable Development, Planning & Impact Evaluation Branch  
Department of Environment and Local Government  
20 McGloin Street  
P.O. Box 6000  
Fredericton, N.B. E3B 5H1

Subject: Wastewater Treatment System For Organics Diversion Building Located at Solid Waste Transfer Station, Grand Manan, NB

Dear Mr. Vanderlaan:

Please find attached a completed EIA Registration for the Village of Grand Manan’s proposed wastewater treatment system for their planned Organics Diversion Building located at their existing Solid Waste Transfer Station.

As you are aware, the EIA Regulation requires that all “sewage treatment facilities” be registered for an environmental impact assessment with your Department. The proposed undertaking, described herein, consists of a septic tank and disposal field to treat 150 Igal per day of low strength effluent (grey water) from an organic digester.

There are no significant environmental impacts predicted from the construction, operation and maintenance of this undertaking; and we look forward to working with your staff in reviewing this application and securing the necessary approvals. If we can provide any additional information or if you have any questions please do not hesitate to contact me at (506) 645-9357. You can also contact Rob MacPherson of the Village of Grand Manan at (506) 662-7104.

Very truly yours,

D. N. (Dave) Stevens, P. Eng.  
Senior Engineer  
Silk Stevens Limited  
Email: dave@silkstevens.ca
Contents

1.0  The Proponent  4
2.0  The Undertaking  5
3.0  Description of the Existing Environment  8
4.0  Summary of Environmental Impacts  9
5.0  Summary of Proposed Mitigation  11
6.0  Public Involvement  12
7.0  Approval of the Undertaking  13
8.0  Funding  13
9.0  Signature  13

Appendices

‘A’  –  Drawing G-1: Location Plan
‘B’  –  Drawing G-2: Site Plan
‘C’  –  Drawing C-1: Organics Building Floor Plan, Septic Tank and Disposal Field
‘D’  –  Photographs of Existing Site and Infrastructure
‘E’  –  5-Day Digester Study by Matt Environmental September 2010
‘F’  –  Enviropure Process Description
‘G’  –  Enviropure EPW Spec Sheet
1.0 THE PROONENT

1.1 Name of Proponent:

Village of Grand Manan

1.2 Address of Proponent:

4 – 1021 Route 776
Grand Manan, NB
E5G 4E5

1.3 Chief Executive Officer:

Rob MacPherson, CAO
Tel: (506) 662-7104
Fax: (506) 662-7060
office@villageofgrandmanan.com

1.4 Principal Contact Person for Purposes of Environmental Impact Assessment:

David N. Stevens, P.Eng.
Senior Engineer - Silk Stevens Limited
Design and Consulting Engineers
35 Main Street
St. George, NB E5C 3H9
Tel: (506) 755-3005
Fax: (506) 755-3048
Cell: (506) 645-9357
dave@silkstevens.ca

1.5 Property Ownership:

PID #15106164
Village of Grand Manan
2.0 THE UNDERTAKING

2.1 Name of the Undertaking:

Wastewater Treatment System For Organics Diversion Building Located at the Solid Waste Transfer Station on Grand Manan Island, NB.

2.2 Project Overview:

- The village of Grand Manan is requesting approval to install a septic tank and disposal field to treat the effluent from an organic digester as part of an organics diversion program, to divert solid waste from landfill. Operating an organic digester will reduce the volume and weight of solid waste currently being transported to the mainland for disposal; thus saving tipping fees and transportation costs (and reducing greenhouse gases).

- The Village of Grand Manan proposes to locate an Organics Diversion Building (for an organic digester) on-site at the existing Transfer Station.

- Besides the new organics building and related building services, a waste water treatment system will be required. The waste water treatment system will consist of an on-site sewage disposal system (septic tank and disposal field).

- The Village of Grand Manan plans to purchase an organic digester from Enviropure (EPW 1500i) which they hope to have in place and running by the end of the calendar year.

2.3 Purpose/Rationale/Need for the Undertaking:

Untreated/unscreened process water (effluent) from the proposed organic digester operations at the Transfer Station is estimated to have the following character:

* BOD = 30 mg/L
* TSS = 30 mg/L
* FOG = 10 mg/L

This information is based on an engineering report commissioned by the manufacturer, and attached in Appendix ‘E’ – 5-Day Study by Matt Environmental September.

- The capacity of the organic digester is 1,500 kg. per day.
- The volume of effluent from the Organics Diversion Building is expected to be 150 lgal. per day.
There are no other viable alternatives on Grand Manan Island for diverting organics from landfill.

2.4 Project Location:

The proposed Organics Diversion Building (for Organic Digester) and Related Wastewater Treatment System will be:

- Located on PID# 15106164.
- Located on Curling Club Road at the existing Transfer Station in the Village of Grand Manan, Parish of Grand Manan, County of Charlotte.
- See attached Location Plan in Appendix ‘A’.

2.5 Siting Considerations:

The Organics Diversion Building (for the Organic Digester) and related Wastewater Treatment System needs to be located at the existing Transfer Station because Island residents drop off their solid waste and can source separate their organics.

- Proposed Organics Building and Wastewater Treatment System to be located on-site of the existing Transfer Facility at Curling Club Road:
  - The proposed structure will consist of a wood frame building approximately 16 feet x 24 feet.
  - The proposed Organics Diversion Building and Related Wastewater Treatment System is shown on the attached Site Plan in Appendix ‘B’.
  - The proposed Organics Diversion Building is situated on the site in a location where the process water from the organic digester can drain to the on-site sewage disposal system (septic tank and disposal field).
  - The proposed Organics Diversion Building will be connected to the on-site sewage disposal system by a 3 or 4-inch drain line.

2.6 Physical Components and Dimensions of the Project

- The proposed Organics Diversion Building will accommodate the Enviropure (EPW 1500i) Organic Digester, a sorting table, a trash area and some storage. The building will be approximately 285 square feet and consist of a slab on-grade with wood frame construction.
- See attached Organics Building Floor Plan, Septic Tank and Disposal Field, Appendix ‘C’, showing building foot print and proposed general equipment arrangement.
- The Enviropure (EPW 1500i) Organic Digester will be located inside the building footprint, as shown in Appendix ‘C’.
• See Appendix ‘E’ and ‘F’ for a complete description of the proposed organics digester system, components and capacity.

2.7 Construction Details:
• The following construction schedule is related to the construction of a 16 foot x 24 foot wood frame building and related building services, a waste-water treatment system consisting of an on-site sewage disposal system (septic tank and disposal field) and installation of the Organic Digester and related equipment.
  o Step 1 – Building Construction – 4 weeks.
  o Step 2 – On-site Sewage Disposal System - 1 week.
  o Step 3 – Install Organic Digester equipment – 1 week.
  o Step 4 – Commissioning, startup, and testing – 1 week.
• Hours of construction will be 8 a.m. to 5 p.m., Monday to Friday.
• Construction equipment and methods will be typical of residential construction.
• Solid waste is the only potential source of pollution from the construction.
  o Solid waste will go to the Transfer Facility.

2.8 Operation and Maintenance Details:
• The Organic Digester will run on Monday to Friday.
  o Estimated run-time will depend on the batch size of the loading.
• All work on the construction of the Organics Diversion Building and preparations for installation of the Organic Digester are scheduled for completion by the end of the calendar year, including installation of the trickle septic tank and disposal field.
• The water and power requirements for the Organics Diversion Building will be met by connecting to the existing Redemption Center Building. Water will be used for wash down and as maintenance water for the organic digester.
• There will be no oil or natural gas heat at the Organics Diversion Building. Heat will be electric.
• Routine maintenance will be scheduled for days when no organics processing is planned; or evenings and/or weekends.
  o Critical spare equipment and parts will be maintained on site.
• The predicted character of the process water from the Organic Digester is as follows:
  o BOD = 30 mg/L.
  o TSS = 30 mg/L.
  o FOG = 10 mg/L.
2.9 Future Modifications, Extensions and Abandonment:
- There are no specific requirements.

2.10 Project Related Documents:
- There has been no environmental work previously performed, by the proponent or others, in relation to this project.
- This property and this undertaking are not known to have been subject to a previous EIA.

3.0 DESCRIPTION OF THE EXISTING ENVIRONMENT
- The “existing environment” at the project location consists of an existing Transfer Facility including a Transfer Station building and Redemption Center. See photographs of existing facility in Appendix ‘D’.
- The proposed Organics Diversion Building is planned to be 16 feet x 24 feet (i.e. approximately 285 ft²). See attached drawing C-1: Organics Building Floor Plan, Septic Tank and Disposal Field found in Appendix ‘C’.
- No significant environmental impacts are expected due to construction of the aforementioned 285 square foot building.
- There will be no removal or alteration of any natural or biological features as the result of the proposed construction.
- There are no streams on the property or nearby.
- There is no reasonable expectation of occurrence of a species listed under Provincial and/or Federal Species at Risk Legislative would be affected as the result of the development.
- There are no wetlands in the vicinity of the proposed development.
- Physical and Natural Features:
  - The site topography is generally flat.
  - The surface drainage is towards the ditch along the Curling Club Road.
  - There are no classified (or other) rivers, streams, watercourses, or wetlands adjacent the site.
  - There are no geological and/or hydrogeological features and/or soils at the project site that have the potential to affect the project.
  - There are no adverse environmental conditions present that could affect the project.
  - There are no municipal well fields and protected water sheds within 500 meters of the subject property.
There are no environmentally significant areas within 500 meters of the subject property.

There is no existing vegetation, fish, or wildlife populations and/or habitat at the subject site that will be impacted.

There are no species at risk, species of conservation concern, critical or sensitive habitat, or environmentally significant areas at the site or in the immediate area.

- Cultural Features:

  There are no federal, provincial, or locally recognized recreational sites or features, tourism features or attractions, tourism operations, cultural activities, hunting, fishing, gathering, reserves, traditional uses by First Nations, etc, on the subject property or adjacent lands.

  There are no federal, provincial or locally recognized heritage resources/areas on the subject property or adjacent lands (such as parks, fossils, archeological sites, etc.).

- Existing and Historic Land Uses:

  The proposed undertaking (i.e. Waste Water Treatment System For Organics Diversion Building) is located on PID 15106164 on-site at the Transfer Facility which is zoned as for the activities proposed by the proponent of this undertaking.

  The most recent use of the property is as a Transfer Station by the Village of Grand Manan.

  The Village of Grand Manan owns the land and constructed the existing Transfer Station and Redemption Station.

  Prior to 1990 the site was vacant land.

4.0 SUMMARY OF ENVIRONMENTAL IMPACTS

The anticipated impacts from the proposed undertaking are (and/or will be) in compliance with relevant legislation, policies and standard where they exist.

The proposed undertaking consists of constructing installing a 800 Igal. trickle septic tank and disposal field to treat 150 Igal./day peak flow from an organic digester located in an adjacent Organics Diversion Building. As such, the proposed project will:

  i. not result in the net-loss of wetland functions;
  ii. not result in the destruction of provincially significant wetland;
  iii. not result in the deposit of a deleterious substance harmful to fish or migratory birds;
  iv. not emit effluent in excess of relevant provincial or federal legislation;
v. not violate permissions contained in the Clean Air Act, Clean Water Act, Clean Environment Act, or any relevant regulations made under these acts;  
vi. not result in the loss of individuals of a threatened or endangered species or damage or destroy critical habitat, or compromise the conservation of a species of special concern; and  
vii. not result in the exceedence of Canada-wide standards or national ambient air quality objectives, etc.

The anticipated impacts, for each project phase, on environmental features that exist as the subject site are as follows:

<table>
<thead>
<tr>
<th>Environmental Attribute</th>
<th>Anticipated Impacts During Project Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Construction</td>
</tr>
<tr>
<td>• Air Quality</td>
<td></td>
</tr>
<tr>
<td>– Odours</td>
<td>None</td>
</tr>
<tr>
<td>– Greenhouse Gases</td>
<td>Minor – ve(2)</td>
</tr>
<tr>
<td>• Biology &amp; Ecology (Aquatic)</td>
<td>None</td>
</tr>
<tr>
<td>• Biology &amp; Ecology (Terrestrial)</td>
<td>None</td>
</tr>
<tr>
<td>• Physical Climate/Atmosphere</td>
<td>Minor – ve(3)</td>
</tr>
<tr>
<td>• Physical Geomorphology</td>
<td>None</td>
</tr>
<tr>
<td>• Groundwater</td>
<td>None</td>
</tr>
<tr>
<td>• Surface Water</td>
<td>None</td>
</tr>
<tr>
<td>• Valued Spaces/Locations</td>
<td>None</td>
</tr>
<tr>
<td>• Community Structure (Socio-Economic)</td>
<td></td>
</tr>
<tr>
<td>– Income levels</td>
<td>Minor + ve(4)</td>
</tr>
<tr>
<td>– Employment Opportunities</td>
<td>Minor + ve(5)</td>
</tr>
<tr>
<td>– Municipal Income</td>
<td>Minor + ve(6)</td>
</tr>
<tr>
<td>– Municipal Expenditures</td>
<td>None</td>
</tr>
<tr>
<td>• Community Structure (Physical/Functional)</td>
<td></td>
</tr>
<tr>
<td>– Traffic</td>
<td>Minor – ve(7)</td>
</tr>
<tr>
<td>• Lifestyle and Quality of Life</td>
<td></td>
</tr>
<tr>
<td>– Noise Levels</td>
<td>Minor – ve(8)</td>
</tr>
</tbody>
</table>
Notes:
1) There will be some odours associated with the operation and maintenance of the Organics Diversion Building, although they are expected to be minor compared to the existing odour from the site.
2) There will be a minor release of greenhouse gases and contribution towards global warming during the construction, operation, and maintenance of the Organics Diversion Building.
3) There will be some noise during the construction of the Organics Diversion Building that may be able to be heard in the adjacent residences and businesses.
4) There will be a minor positive impact on income levels in the community due to job creation associated with the construction and operation of the Organics Diversion Program.
5) There will be a minor positive impact on employment opportunities in the community due to the construction and operation of the Organics Diversion Building and wastewater treatment system.
6) There will be a minor positive impact on municipal income during the construction phase due to building permit fees, etc.
7) There will be some increased traffic on the Curling Club Road due to construction and operation of the Organics Diversion Building and wastewater treatment system.
8) There will be increased noise levels during the construction of the Organics Diversion Building that may be heard in adjacent residential areas. Noise levels during the operation and maintenance of the Organics Diversion Building are not expected to be heard in adjacent residential areas.

5.0 SUMMARY OF PROPOSED MITI GATION

The Village of Grand Manan is committed to minimizing all environmental impacts associated with the construction, operation, and maintenance of the Organics Diversion Building (for Organic Digester) and Related Waste Water Treatment System on-site at the Transfer Station Facility on Grand Manan Island. Negative socio-economic and bio-physical impacts will be mitigated to the greatest extent possible as described below; while positive impacts will be enhanced to the greatest extent possible.

- **Air Quality.** There will be minor negative impacts to air quality from odour and from greenhouse gas emissions, during the operation and maintenance of the wastewater treatment facility.

  Odour impacts will be from the storage of organics at the facility; and from cleaning the organic digester. Odours will be minimized by:
  1. Not storing organics or solid wastes on-site for extended periods of time; and
  2. Regular cleaning of the organic digester and related equipment so organic particles don’t accumulate.

  Greenhouse gas impacts will be from the operation of power tools during construction; and consumption of electricity during operation of the Organics Diversion Building. Greenhouse gas emissions will also be produced primarily in the form of carbon dioxide during the
decomposition of organics on-site awaiting disposal. Greenhouse gas emissions will be minimized by:

1. Efficient construction procedures;
2. Use of energy efficient equipment and practices;
3. Responsible management of organic by-products.

- **Physical Atmosphere.** There may be minor negative impacts from noise levels during the construction of the Organics Diversion Building. Noise levels will be from construction equipment such as skill saws, generators, etc. Noise impacts will be minimized by limiting construction to daylight hours and not working on Sunday.

- **Community Structure.** There will be minor positive impacts to income levels and employment opportunities, and a major positive impact to municipal income from the Organics Diversion Building. The Organics Diversion Building will create 2 new permanent jobs which will have a minor positive impact on income levels and employment opportunities for the community. The Village of Grand Manan can enhance the positive impacts to income levels and employment opportunities by offering competitive wages and benefits to its workers and by recruiting locally.

- **Traffic.** There will be minor negative impacts to the community from traffic associated with the construction, operation, and maintenance of the Organics Diversion Building.

Traffic during operation and maintenance of the Organics Diversion Building will involve daily deliveries of household organics. There may be one (1) or two (2) other traffic events per month associated with the operation and maintenance of the Organics Diversion Building.

Traffic during construction of the Organics Diversion Building will involve on average, between five (5) and ten (10) vehicles per day arriving at and leaving from the site daily. Traffic will vary from workers arriving in passenger vehicles and deliveries of construction materials in large trucks. Construction activities are expected to last approximately 4 weeks.

Increased traffic during construction, operation, and maintenance of the wastewater treatment facility will impact the residents and visitors of the Village of Grand Manan who commute past the Grand Manan Transfer Station Facility.

Traffic impacts will be minimized by:

1. Scheduling deliveries at times other than early morning or evening rush hour; and
2. Recruiting (and hiring) local workers.

### 6.0 PUBLIC INVOLVEMENT

The proponent of the Organic Diversion Building project, the Village of Grand Manan will seek and consider public input in relation to the proposed project. Individuals, companies, agencies, organized interest groups, and others that may be affected by the project will be contacted, made aware of the undertaking, explained the details of the project and asked for comments, related to the design and operation of the wastewater treatment facility.
It is the Village of Grand Manan’s objective to obtain additional information about the project that may help with design and operation of the facility; and to understand any concerns that exist about the facility as proposed.

A report documenting the public involvement process will be submitted to the Department of the Environment within 60 days of this registration as required.

7.0 APPROVAL OF THE UNDERTAKING

The following permits, licenses, approvals, and permissions are required for this undertaking:
   a.) Building Permit – Village of Grand Manan.

8.0 FUNDING

This project is being funded through Gas Tax funds.

9.0 SIGNATURE

Please accept this EIA Registration for construction of a Waste Water Treatment Plant for a proposed organic digester to be located in the Organics Diversion Building at the existing Solid Waste Transfer Station for the Village of Grand Manan

[Signature]
Signature of Chief Executive

Oct. 20/14
Date

Rob MacPherson, CAO
Village of Grand Manan
APPENDIX ‘A’

Drawing G-1: Location Plan
APPENDIX ‘B’

Drawing G-2: Site Plan
APPENDIX ‘C’

Drawing C-1: Organics Building
Floor Plan, Septic Tank
and Disposal Field
NOTE:
WATER AND POWER SUPPLIED
FROM ADJACENT REDEMPTION CENTRE BUILDING

WASTEWATER TREATMENT SYSTEM AS PER NB TECHNICAL GUIDELINES FOR ON-SITE SEWAGE DISPOSAL SYSTEMS

ORGANICS DIVERSION BUILDING

VILLAGE OF GRAND MANAN

14-10-053
APPENDIX ‘D’

Photographs of Existing Site and Infrastructure
APPENDIX ‘E’

5-Day Digester Study
by Matt Environmental
September 2010
The Performance of EPW-XXX with the addition of a Biological Additive

Preliminary Evaluation
A 5-Day Study

Project #7282

Prepared For:

Enviro Pure Systems Inc.
First Canadian Place
100 King Street West, Suite 5700
Toronto, Ontario, M5X 1C7

Prepared By:

Maat Environmental Engineering Corp.
1273 North Service Road East, Unit F2
Oakville, Ontario
L6H 1A7

September 7, 2010
Executive Summary

Maat Environmental Engineering Corp. (MEEC) was retained by Enviro Pure Systems Inc. to conduct a study to determine the concentrations of Total Animal/Vegetable Oil and Grease (TOG), Biological Oxygen Demand (BOD), and Total Suspended Solids (TSS) and level of pH in the effluent of the System and the solution in the System. The study also includes the addition of 60 mL of biological additive into the System every day.

The Enviro-Pure Wet (EPW) System is a self-contained, continual feed, organic waste disposal system designed to convert food waste into water. The system is also designed to accelerate the natural aerobic decomposition process of the food waste.

The biological additive used in this Study is a proprietary blend of organic and inorganic nutrients. The additive is typically used for odor control, solids reductions and improved plant performance efficiencies.

The results of the study identified that the overall removal efficiency of TOG, BOD, and TSS were 94%, 97% and 97%.

The pH of the solution in the reactor ranged from 6.1 to 5.3, and the pH of the effluent ranged from 6.1 to 5.7.

The results of this study show that the EPW-XXX System greatly reduces the concentrations of Total Animal/Vegetable Oil and Grease, Biological Oxygen Demand, and Total Suspended Solids.
TABLE OF CONTENTS

1.0 Introduction ..................................................................................................................... 1
   1.1 Enviro-Pure Wet (EPW) System .................................................................................... 1
   1.2 Biological Additive ........................................................................................................ 1
   1.3 TOG, BOD and TSS ..................................................................................................... 1
2.0 Scope of Work .................................................................................................................. 2
   2.1 Method .......................................................................................................................... 2
3.0 Observations ..................................................................................................................... 2
4.0 Results .............................................................................................................................. 3
5.0 Discussion of Results ....................................................................................................... 3
6.0 Conclusion ......................................................................................................................... 5
7.0 General Recommendations ............................................................................................... 5

List of Appendices

Appendix A – Tables
Appendix B – Figures
Appendix C – Certificates of Analyses
1.0 Introduction

Maat Environmental Engineering Corp. (MEEC) was retained by Enviro Pure Systems Inc. to conduct a study to determine the concentrations of Total Animal/Vegetable Oil and Grease (TOG), Biological Oxygen Demand (BOD), and Total Suspended Solids (TSS) and level of pH in the effluent of the Enviro-Pure Wet System and in the System.

1.1 Enviro-Pure Wet (EPW) System

The Enviro-Pure Wet (EPW) System is a self-contained, continual feed, organic waste disposal system designed to convert food waste into water. The system is also designed to accelerate the natural aerobic decomposition process of the food waste.

The System used in this Study is the EPW-XXX. It requires a water supply of approximately 24 gallons/day and discharges effluent at 127 gallons/day.

1.2 Biological Additive

The biological additive is a containing a proprietary blend of organic and inorganic nutrients. The additive is typically used for odor control, and to stimulate higher solids reductions and improved plant performance efficiencies.

1.3 TOG, BOD and TSS

Oil is any one or a combination of mineral, vegetable, and synthetic substances and animal and vegetable fats, where as grease includes the accumulation of oils, fats, cellulose, starch, proteins and wax. Total Oils and Greases (TOG) are a significant concern in operation of typical municipal wastewater collection system and wastewater treatment plant. Oil and grease can congeal and accumulate along the walls of sanitary sewers, thus constrict pipes, impede the flow of wastewater and raise the potential for pipe blockage.

The efficiency of all wastewater treatment, whether primary, secondary or tertiary, is generally rated in terms of the percentage removal of Biological Oxygen Demand (BOD) and the percentage of Suspended Solids (SS). BOD is the amount of oxygen uptake by bacteria to decompose the waste and SS are the organic and inorganic substances suspended in the wastewater.
2.0 Scope of Work

The scope of work for the study was developed with the Client, and includes but was not limited to the following:

- Pick up food waste from local source (within 8 km) daily (Day 1 to 5)
- Load waste into System daily (Day 1 to 5)
- Add 60 mL of biological additive into System daily (Day 1 to 5)
- Monitor system by taking the following readings:
  - Ambient room temperature – Day 1 to 5
  - Reactor temperature – Day 1 to 5
  - pH – Day 1 to 5
  - CH₄ – Day 1 to 5
  - O₂ – Day 1 to 5
  - CO₂ – Day 1 to 5 (upon instrumentation availability)
- Collect 1) effluent sample, and 2) reactor sample for the following laboratory analysis:
  - Biological Oxygen Demand (BOD) – Day 1 to 5
  - Total Suspended Solids (TSS) – Day 1 to 5
  - Oil & Grease – Day 1 to Day 5

2.1 Method

Each day of the 5-day study, methane (CH₄), oxygen (O₂) and carbon dioxide (CO₂) levels, ambient and reactor temperature, and pH of the reactor solution were monitored and recorded. Water samples were taken from inside the reactor and via the outlet pipe (effluent). The samples were submitted to Maxxam Analytics, a CAEAL accredited laboratory, for the analysis of Total Animal/Vegetable Oil and Grease (TOG), Biological Oxygen Demand (BOD), Total Suspended Solids (TSS).

Once the parameters were monitored and samples were taken, 60 mL of biological additive and food waste were loaded into the EPW System.

3.0 Observations

The liquid in the reactor was consistently translucent and brown in color with vegetable/fibrous debris. A limited amount of foam was observed. No odor was emitted from the System.

The effluent was translucent, colourless and odourless. A very limited amount of small solid particles was also observed in the effluent.
4.0 Results

The methane (CH₄), oxygen (O₂) and carbon dioxide (CO₂) levels, ambient and reactor temperature, and pH of the reactor solution were monitored and recorded. The results can be seen in Table 1 in Appendix A.

The analytical results for the reactor and effluent samples collected in the 5-day study are presented in Table 2 in Appendix A. The TOG, BOD and TSS results are also illustrated in Figure 1A/B, 2A/B and 3A/B, respectively, in Appendix B.

All Certificates of Analyses are found in Appendix C.

5.0 Discussion of Results

The ambient methane (CH₄) and oxygen (O₂) concentrations were the same as the concentrations within the reactor. This suggests that adequate aeration is provided for the decomposition of the food waste and that the biological reactions were aerobic in nature. The atmospheric carbon dioxide concentration is 0.039%. The instrumentation used in this Study can detect CO₂ concentrations from 0.25% to 10%. The carbon dioxide concentrations were detected at 0.25% on Day 2 and Day 4 and were not detected on Day 3 and 5. The presence of 0.25% carbon dioxide in the reactor headspace indicates that aerobic reactions are taking place within the reactor.

The temperature of the reactor increased from 30°C on Day 1 to 32°C on Day 3 and remained at 32°C until Day 5. This indicates that the system has reached steady-state with respect to the temperature and provides further evidence of exothermic aerobic reactions taking place.

The pH of the solution in the reactor ranged from 6.1 to 5.3, where as the pH of the effluent ranged from 6.8 to 5.9. As per Table 1, the solution in the reactor and effluent had a pH level of 6.1.

Figures 1A/B, 2A/B and 3A/B illustrate that the concentrations of Total Animal/Vegetable Oil and Grease (TOG), Biological Oxygen Demand (BOD), and Total Suspended Solids (TSS) were greatly reduced. On average, the removal efficiency of TOG, BOD, and TSS were 94%, 97% and 97%, respectively.
Maat Environmental Engineering Corp. (MEEC) was retained by Enviro Pure Systems Inc. to conduct a study to determine the concentrations of Total Animal/Vegetable Oil and Grease (TOG), Biological Oxygen Demand (BOD), and Total Suspended Solids (TSS) and level of pH in the effluent of the Enviro-Pure Wet System and in the System. The study also includes the addition of 60 mL of biological additive into the System every day.

The results of the study identified that the overall removal efficiency of TOG, BOD, and TSS were 94%, 97% and 97%.

The pH of the solution in the reactor ranged from 6.1 to 5.3, and the pH of the effluent ranged from 6.8 to 5.9. The pH level also decreased from Day 1 to Day 5. This study shows that the EPW-XXX System greatly reduces the concentrations of Total Animal/Vegetable Oil and Grease, Biological Oxygen Demand, and Total Suspended Solids.
Respectfully submitted,
Maat Environmental Engineering Corp.

Jenise Lee, BASc.
Environmental Engineer

Derk Z. Maat, MEng., P. Eng., QP
Chief Executive Officer
Appendix A

Tables
Table 1  
TOG, BOD, TSS Results - 5-Day Study  
Performance of EPW-XXX with the addition of BIOLOGIC(R) SR2

<table>
<thead>
<tr>
<th>Maxxam Job Number</th>
<th>B0B2560</th>
<th>B0B4145</th>
<th>B0B4145</th>
<th>B0B5245</th>
<th>B0B5795</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sampling Date</td>
<td>18-Aug-10</td>
<td>19-Aug-10</td>
<td>20-Aug-10</td>
<td>21-Aug-10</td>
<td>24-Aug-10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Day</th>
<th>Reactor</th>
<th>Effluent</th>
<th>Reactor</th>
<th>Effluent</th>
<th>Reactor</th>
<th>Effluent</th>
<th>Reactor</th>
<th>Effluent</th>
<th>Reactor</th>
<th>Effluent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>39.8</td>
<td>3.2</td>
<td>10.7</td>
<td>1.3</td>
<td>48.7</td>
<td>ND</td>
<td>90.1</td>
<td>4.4</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>330</td>
<td>8</td>
<td>380</td>
<td>29</td>
<td>240</td>
<td>3</td>
<td>2500</td>
<td>66</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2300</td>
<td>25</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>340</td>
<td>11</td>
<td>750</td>
<td>43</td>
<td>1100</td>
<td>6</td>
<td>1900</td>
<td>35</td>
</tr>
</tbody>
</table>

**Calculated Parameters**

**Total Animal/Vegetable Oil and Grease (mg/L)**
- Reactor: ND
- Effluent: ND
- Day 1: 39.8
- Day 2: 3.2
- Day 3: 10.7
- Day 4: 1.3
- Day 5: 48.7

**Total BOD (mg/L)**
- Day 1: 330
- Day 2: 8
- Day 3: 380
- Day 4: 29
- Day 5: 240
- Day 6: 3
- Day 7: 2500
- Day 8: 66
- Day 9: 2300
- Day 10: 25

**Total Suspended Solids (mg/L)**
- Day 1: 340
- Day 2: 11
- Day 3: 750
- Day 4: 43
- Day 5: 1100
- Day 6: 6
- Day 7: 1900
- Day 8: 35
- Day 9: 2000
- Day 10: 44

**Petroleum Hydrocarbons**

**Total Oil & Grease (mg/L)**
- Reactor: ND
- Effluent: ND
- Day 1: 41.2
- Day 2: 3.2
- Day 3: 10.7
- Day 4: 1.3
- Day 5: 52.0
- Day 6: ND
- Day 7: 105
- Day 8: 5.6

**Total Oil & Grease Mineral/Synthetic (mg/L)**
- Reactor: ND
- Effluent: ND
- Day 1: 1.4
- Day 2: ND
- Day 3: ND
- Day 4: ND
- Day 5: 3.3
- Day 6: ND
- Day 7: 14.6
- Day 8: 1.2

ND - Not Detected Above Laboratory Reportable Detection Limit (RDL) - See Certificate of Analysis in Appendix C for RDLs
# Table 2

**Methane, Oxygen, Temperature and pH Results - 5-Day Study**

Performance of EPW-XXX with the addition of BIOLOGIC(R)

<table>
<thead>
<tr>
<th>Day</th>
<th>CH4 (%)</th>
<th>O2 (%)</th>
<th>CO2 (%)</th>
<th>Temp (oC)</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reactor</td>
<td>Ambient</td>
<td>Reactor</td>
<td>Ambient</td>
<td>Atmospheric</td>
</tr>
<tr>
<td>Day 1</td>
<td>0</td>
<td>0</td>
<td>20.9</td>
<td>20.9</td>
<td>n/a</td>
</tr>
<tr>
<td>Day 2</td>
<td>0</td>
<td>0</td>
<td>20.9</td>
<td>20.9</td>
<td>0.25</td>
</tr>
<tr>
<td>Day 3</td>
<td>0</td>
<td>0</td>
<td>20.9</td>
<td>20.9</td>
<td>&lt;0.25</td>
</tr>
<tr>
<td>Day 4</td>
<td>0</td>
<td>0</td>
<td>20.9</td>
<td>20.9</td>
<td>0.25</td>
</tr>
<tr>
<td>Day 5</td>
<td>0</td>
<td>0</td>
<td>20.9</td>
<td>20.9</td>
<td>&lt;0.25</td>
</tr>
</tbody>
</table>

n/a - not applicable
Appendix B

Figures
Figure 1A: Total Animal/Vegetable Oil and Grease

<table>
<thead>
<tr>
<th>Time (Day)</th>
<th>Total Animal/Vegetable Oil and Grease (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>39.8</td>
</tr>
<tr>
<td>3</td>
<td>10.7</td>
</tr>
<tr>
<td>4</td>
<td>90.1</td>
</tr>
<tr>
<td>5</td>
<td>4.4</td>
</tr>
</tbody>
</table>

- **Reactor**
- **Effluent**
Figure 1A: Total Animal/Vegetable Oil and Grease
Figure 2A: Total Biological Oxygen Demand (BOD)

- **Total Biological Oxygen Demand (BOD)**
- **Time (Day)**
- **Total Biological Oxygen Demand (mg/L)**
  - Reactor
  - Effluent

<table>
<thead>
<tr>
<th>Time (Day)</th>
<th>Reactor</th>
<th>Effluent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>330</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>380</td>
<td>29</td>
</tr>
<tr>
<td>3</td>
<td>240</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>2500</td>
<td>66</td>
</tr>
<tr>
<td>5</td>
<td>2300</td>
<td>25</td>
</tr>
</tbody>
</table>
Figure 2A: Total Biological Oxygen Demand (BOD)
Figure 3A: Total Suspended Solids (TSS)
Figure 3A: Total Suspended Solids (TSS)

- **Y-axis:** Total Suspended Solids (mg/L)
- **X-axis:** Time (Day)

- **Legend:**
  - Blue line: Reactor
  - Red line: Effluent

<table>
<thead>
<tr>
<th>Time (Day)</th>
<th>Reactor</th>
<th>Effluent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2500</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>2000</td>
<td>200</td>
</tr>
<tr>
<td>3</td>
<td>1500</td>
<td>300</td>
</tr>
<tr>
<td>4</td>
<td>1000</td>
<td>400</td>
</tr>
<tr>
<td>5</td>
<td>500</td>
<td>500</td>
</tr>
</tbody>
</table>
Appendix C

Certificates of Analyses
Attention: Derek Maat  
Maat Environmental Engineering Corp  
1273 North Service Rd E  
Unit F2  
Oakville, ON  
L6H 1A7

Report Date: 2010/09/07  
This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0B2560  
Received: 2010/08/18, 17:27

Sample Matrix: Water  
# Samples Received: 2

<table>
<thead>
<tr>
<th>Analyses</th>
<th>Quantity</th>
<th>Date Extracted</th>
<th>Date Analyzed</th>
<th>Laboratory Method</th>
<th>Method Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological Oxygen Demand (BOD)</td>
<td>2</td>
<td>N/A</td>
<td>2010/08/25</td>
<td>CAM SOP-00427</td>
<td>APHA 5210B</td>
</tr>
<tr>
<td>Animal and Vegetable Oil &amp; Grease</td>
<td>2</td>
<td>N/A</td>
<td>2010/08/19</td>
<td>CAM SOP-00326</td>
<td>SM 5520 B</td>
</tr>
<tr>
<td>Total Oil and Grease</td>
<td>2</td>
<td>2010/08/19</td>
<td>2010/08/19</td>
<td>CAM SOP-00326</td>
<td>EPA 1664A</td>
</tr>
<tr>
<td>TPH (Heavy Oil)</td>
<td>2</td>
<td>2010/08/19</td>
<td>2010/08/19</td>
<td>CAM SOP-00326</td>
<td>SM 5520F</td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td>1</td>
<td>N/A</td>
<td>2010/08/19</td>
<td>CAM SOP-00428</td>
<td>SM 2540D</td>
</tr>
<tr>
<td>Low Level Total Suspended Solids</td>
<td>1</td>
<td>N/A</td>
<td>2010/08/19</td>
<td>CAM SOP-00428</td>
<td>SM 2540D</td>
</tr>
</tbody>
</table>

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager  
Email: Abrasil@maxxamanalytics.com  
Phone# (905) 817-5817

====================================================================
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1
# RESULTS OF ANALYSES OF WATER

<table>
<thead>
<tr>
<th>Maxxam ID</th>
<th>GW3240</th>
<th>GW3241</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sampling Date</td>
<td>2010/08/18</td>
<td>2010/08/18</td>
</tr>
<tr>
<td>COC Number</td>
<td>00579544</td>
<td>00579544</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Calculated Parameters</th>
<th>Units</th>
<th>DAY 1-EFFLUENT</th>
<th>RDL</th>
<th>QC Batch</th>
<th>DAY 1-REACTOR</th>
<th>RDL</th>
<th>QC Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Animal/Vegetable Oil and Grease</td>
<td>mg/L</td>
<td>ND</td>
<td>0.5</td>
<td>2238148</td>
<td>ND</td>
<td>0.5</td>
<td>2238148</td>
</tr>
<tr>
<td>Inorganics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total BOD</td>
<td>mg/L</td>
<td>8</td>
<td>2</td>
<td>2240741</td>
<td>330</td>
<td>2</td>
<td>2240741</td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td>mg/L</td>
<td>11</td>
<td>1</td>
<td>2240545</td>
<td>340</td>
<td>30</td>
<td>2240675</td>
</tr>
<tr>
<td>Petroleum Hydrocarbons</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Oil &amp; Grease</td>
<td>mg/L</td>
<td>ND</td>
<td>0.5</td>
<td>2240184</td>
<td>ND</td>
<td>0.5</td>
<td>2240184</td>
</tr>
<tr>
<td>Total Oil &amp; Grease Mineral/Synthetic</td>
<td>mg/L</td>
<td>ND</td>
<td>0.5</td>
<td>2240210</td>
<td>ND</td>
<td>0.5</td>
<td>2240210</td>
</tr>
</tbody>
</table>

ND = Not detected  
RDL = Reportable Detection Limit  
QC Batch = Quality Control Batch
Results relate only to the items tested.
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

### QA/QC Summary

<table>
<thead>
<tr>
<th>Batch Num</th>
<th>QC Type</th>
<th>Parameter Description</th>
<th>Date Analyzed</th>
<th>Value</th>
<th>Recovery</th>
<th>Units</th>
<th>QC Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2240184 AMJ</td>
<td>Spiked Blank</td>
<td>Total Oil &amp; Grease</td>
<td>2010/08/19</td>
<td></td>
<td>95</td>
<td>%</td>
<td>85 - 115</td>
</tr>
<tr>
<td>2240184 AMJ</td>
<td>RPD</td>
<td>Total Oil &amp; Grease</td>
<td>2010/08/19</td>
<td>3.6</td>
<td>%</td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>2240210 AMJ</td>
<td>Method Blank</td>
<td>Total Oil &amp; Grease</td>
<td>2010/08/19</td>
<td>ND, RDL=0.5</td>
<td>mg/L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2240545 JDO</td>
<td>QC Standard</td>
<td>Total Suspended Solids</td>
<td>2010/08/19</td>
<td>98</td>
<td>%</td>
<td>85 - 115</td>
<td></td>
</tr>
<tr>
<td>2240545 JDO</td>
<td>Method Blank</td>
<td>Total Suspended Solids</td>
<td>2010/08/19</td>
<td>ND, RDL=1</td>
<td>mg/L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2240675 JDO</td>
<td>QC Standard</td>
<td>Total Suspended Solids</td>
<td>2010/08/19</td>
<td>96</td>
<td>%</td>
<td>85 - 115</td>
<td></td>
</tr>
<tr>
<td>2240675 JDO</td>
<td>Method Blank</td>
<td>Total Suspended Solids</td>
<td>2010/08/19</td>
<td>ND, RDL=10</td>
<td>mg/L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2240741 FZH</td>
<td>QC Standard</td>
<td>Total BOD</td>
<td>2010/08/25</td>
<td>110</td>
<td>%</td>
<td>85 - 115</td>
<td></td>
</tr>
<tr>
<td>2240741 FZH</td>
<td>Method Blank</td>
<td>Total BOD</td>
<td>2010/08/25</td>
<td>ND, RDL=2</td>
<td>mg/L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2240741 FZH</td>
<td>RPD</td>
<td>Total BOD</td>
<td>2010/08/25</td>
<td>NC</td>
<td>%</td>
<td></td>
<td>25</td>
</tr>
</tbody>
</table>
Validation Signature Page

Maxxam Job #: B0B2560

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

CRISTINA CARRIERE, Scientific Services

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.
Attention: Derek Maat
Maat Environmental Engineering Corp
1273 North Service Rd E
Unit F2
Oakville, ON
L6H 1A7

Report Date: 2010/09/07
This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0B4145
Received: 2010/08/20, 16:14

Sample Matrix: Water
# Samples Received: 4

<table>
<thead>
<tr>
<th>Analyses</th>
<th>Quantity</th>
<th>Date Extracted</th>
<th>Date Analyzed</th>
<th>Laboratory Method</th>
<th>Method Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological Oxygen Demand (BOD)</td>
<td>4</td>
<td>N/A</td>
<td>2010/08/26</td>
<td>CAM SOP-00427</td>
<td>APHA 5210B</td>
</tr>
<tr>
<td>Animal and Vegetable Oil &amp; Grease</td>
<td>4</td>
<td>N/A</td>
<td>2010/08/23</td>
<td>CAM SOP-00326</td>
<td>SM 5520 B</td>
</tr>
<tr>
<td>Total Oil and Grease</td>
<td>4</td>
<td>2010/08/23</td>
<td>2010/08/23</td>
<td>CAM SOP-00326</td>
<td>EPA 1664A</td>
</tr>
<tr>
<td>TPH (Heavy Oil) §</td>
<td>4</td>
<td>2010/08/23</td>
<td>2010/08/23</td>
<td>CAM SOP-00326</td>
<td>SM 5520F</td>
</tr>
<tr>
<td>Low Level Total Suspended Solids</td>
<td>4</td>
<td>N/A</td>
<td>2010/08/24</td>
<td>CAM SOP-00428</td>
<td>SM 2540D</td>
</tr>
</tbody>
</table>

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

================================================================================================
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.
**RESULTS OF ANALYSES OF WATER**

<table>
<thead>
<tr>
<th>Maxxam ID</th>
<th>GX0877</th>
<th>GX0878</th>
<th>GX0879</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sampling Date</td>
<td>2010/08/19</td>
<td>2010/08/19</td>
<td>2010/08/20</td>
</tr>
<tr>
<td>COC Number</td>
<td>12243</td>
<td>12243</td>
<td>12243</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Units</th>
<th>DAY 2 REACTOR</th>
<th>RDL</th>
<th>DAY 2 EFFLUENT</th>
<th>RDL</th>
<th>DAY 3 REACTOR</th>
<th>RDL</th>
<th>QC Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Calculated Parameters</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Animal/Vegetable Oil and Grease</td>
<td>mg/L</td>
<td>39.8</td>
<td>0.5</td>
<td>3.2</td>
<td>0.5</td>
<td>10.7</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Inorganics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total BOD</td>
<td>mg/L</td>
<td>380</td>
<td>2</td>
<td>29</td>
<td>2</td>
<td>240</td>
<td>2</td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td>mg/L</td>
<td>750</td>
<td>30</td>
<td>43</td>
<td>5</td>
<td>1100</td>
<td>30</td>
</tr>
<tr>
<td><strong>Petroleum Hydrocarbons</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Oil &amp; Grease</td>
<td>mg/L</td>
<td>41.2</td>
<td>0.5</td>
<td>3.2</td>
<td>0.5</td>
<td>10.7</td>
<td>0.5</td>
</tr>
<tr>
<td>Total Oil &amp; Grease Mineral/Synthetic</td>
<td>mg/L</td>
<td>1.4</td>
<td>0.5</td>
<td>ND</td>
<td>0.5</td>
<td>ND</td>
<td>0.5</td>
</tr>
</tbody>
</table>

ND = Not detected  
RDL = Reportable Detection Limit  
QC Batch = Quality Control Batch

<table>
<thead>
<tr>
<th>Maxxam ID</th>
<th>GX0880</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sampling Date</td>
<td>2010/08/20</td>
</tr>
<tr>
<td>COC Number</td>
<td>12243</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Units</th>
<th>DAY 3 EFFLUENT</th>
<th>RDL</th>
<th>QC Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Calculated Parameters</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Animal/Vegetable Oil and Grease</td>
<td>mg/L</td>
<td>1.3</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Inorganics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total BOD</td>
<td>mg/L</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td>mg/L</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td><strong>Petroleum Hydrocarbons</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Oil &amp; Grease</td>
<td>mg/L</td>
<td>1.3</td>
<td>0.5</td>
</tr>
<tr>
<td>Total Oil &amp; Grease Mineral/Synthetic</td>
<td>mg/L</td>
<td>ND</td>
<td>0.5</td>
</tr>
</tbody>
</table>

ND = Not detected  
RDL = Reportable Detection Limit  
QC Batch = Quality Control Batch
GENERAL COMMENTS

Revised report: sample IDs changed as per client request.

Results relate only to the items tested.
**Quality Assurance Report**
Maxxam Job Number: MB0B4145

<table>
<thead>
<tr>
<th>QA/QC Batch Num</th>
<th>QC Type</th>
<th>Parameter</th>
<th>Date Analyzed</th>
<th>Value</th>
<th>Recovery</th>
<th>Units</th>
<th>QC Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2242112 FZH</td>
<td>QC Standard</td>
<td>Total BOD</td>
<td>2010/08/26</td>
<td>ND</td>
<td>97%</td>
<td>mg/L</td>
<td>85 - 115</td>
</tr>
<tr>
<td>Method Blank</td>
<td>Total BOD</td>
<td>2010/08/26</td>
<td>ND, RDL=2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RPD</td>
<td>Total BOD</td>
<td>2010/08/26</td>
<td>NC</td>
<td></td>
<td></td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>2242468 HAG</td>
<td>QC Standard</td>
<td>Total Suspended Solids</td>
<td>2010/08/24</td>
<td>100%</td>
<td></td>
<td></td>
<td>85 - 115</td>
</tr>
<tr>
<td>Method Blank</td>
<td>Total Suspended Solids</td>
<td>2010/08/24</td>
<td>ND, RDL=1</td>
<td></td>
<td></td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>RPD</td>
<td>Total Suspended Solids</td>
<td>2010/08/24</td>
<td>1%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2242525 FA</td>
<td>Spiked Blank</td>
<td>Total Oil &amp; Grease</td>
<td>2010/08/23</td>
<td>99%</td>
<td></td>
<td></td>
<td>85 - 115</td>
</tr>
<tr>
<td>RPD</td>
<td>Total Oil &amp; Grease</td>
<td>2010/08/23</td>
<td>1.7%</td>
<td></td>
<td></td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>Method Blank</td>
<td>Total Oil &amp; Grease</td>
<td>2010/08/23</td>
<td>ND, RDL=0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2242529 FA</td>
<td>Spiked Blank</td>
<td>Total Oil &amp; Grease Mineral/Synthetic</td>
<td>2010/08/23</td>
<td>98%</td>
<td></td>
<td></td>
<td>85 - 115</td>
</tr>
<tr>
<td>RPD</td>
<td>Total Oil &amp; Grease Mineral/Synthetic</td>
<td>2010/08/23</td>
<td>3.1%</td>
<td></td>
<td></td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>Method Blank</td>
<td>Total Oil &amp; Grease Mineral/Synthetic</td>
<td>2010/08/23</td>
<td>ND, RDL=0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2243709 HAG</td>
<td>QC Standard</td>
<td>Total Suspended Solids</td>
<td>2010/08/24</td>
<td>103%</td>
<td></td>
<td></td>
<td>85 - 115</td>
</tr>
<tr>
<td>Method Blank</td>
<td>Total Suspended Solids</td>
<td>2010/08/24</td>
<td>ND, RDL=1</td>
<td></td>
<td></td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>RPD</td>
<td>Total Suspended Solids</td>
<td>2010/08/24</td>
<td>NC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Duplicate:** Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

**QC Standard:** A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

**Spiked Blank:** A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

**Method Blank:** A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

**NC (RPD):** The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

---

Maat Environmental Engineering Corp
Attention: Derek Maat
Client Project #: 7282 OPUS
P.O. #: 
Project name:
The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

EWA PRANJIC, M.Sc., C.Chem, Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.
Your Project #: 7282/OPUS
Your C.O.C. #: N/A

Attention: Derek Maat
Maat Environmental Engineering Corp
1273 North Service Rd E
Unit F2
Oakville, ON
L6H 1A7

Report Date: 2010/09/07
This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0B5245
Received: 2010/08/24, 08:07

Sample Matrix: Water
# Samples Received: 2

<table>
<thead>
<tr>
<th>Analyses</th>
<th>Quantity</th>
<th>Date Extracted</th>
<th>Date Analyzed</th>
<th>Laboratory Method</th>
<th>Method Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological Oxygen Demand (BOD)</td>
<td>2</td>
<td>N/A</td>
<td>2010/08/30</td>
<td>CAM SOP-00427</td>
<td>APHA 5210B</td>
</tr>
<tr>
<td>Animal and Vegetable Oil &amp; Grease</td>
<td>2</td>
<td>N/A</td>
<td>2010/08/25</td>
<td>CAM SOP-00326</td>
<td>SM 5520 B</td>
</tr>
<tr>
<td>Total Oil and Grease</td>
<td>2</td>
<td>2010/08/25</td>
<td>2010/08/25</td>
<td>CAM SOP-00326</td>
<td>EPA 1664A</td>
</tr>
<tr>
<td>TPH (Heavy Oil)</td>
<td>2</td>
<td>2010/08/25</td>
<td>2010/08/25</td>
<td>CAM SOP-00326</td>
<td>SM 5520F</td>
</tr>
<tr>
<td>Low Level Total Suspended Solids</td>
<td>2</td>
<td>N/A</td>
<td>2010/08/25</td>
<td>CAM SOP-00428</td>
<td>SM 2540D</td>
</tr>
</tbody>
</table>

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

====================================================================
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.
# RESULTS OF ANALYSES OF WATER

<table>
<thead>
<tr>
<th>Maxxam ID</th>
<th>GX6053</th>
<th>GX6054</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sampling Date</td>
<td>2010/08/21</td>
<td>2010/08/21</td>
</tr>
<tr>
<td>COC Number</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Units</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DAY4-EFFLUENT</td>
<td>RDL</td>
<td>DAY4-REACTOR</td>
</tr>
<tr>
<td>Calculated Parameters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Animal/Vegetable Oil and Grease</td>
<td>mg/L</td>
<td>ND</td>
</tr>
<tr>
<td>Inorganics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total BOD</td>
<td>mg/L</td>
<td>66</td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td>mg/L</td>
<td>35</td>
</tr>
<tr>
<td>Petroleum Hydrocarbons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Oil &amp; Grease</td>
<td>mg/L</td>
<td>ND</td>
</tr>
<tr>
<td>Total Oil &amp; Grease Mineral/Synthetic</td>
<td>mg/L</td>
<td>ND</td>
</tr>
</tbody>
</table>

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
GENERAL COMMENTS

Revised report: Reported IDs changed as per client request

Results relate only to the items tested.
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Spiked Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Method Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
Validation Signature Page

Maxxam Job #: B0B5245

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

EWA PRANJIC, M.Sc., C.Chem, Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.
Attention: Derek Maat  
Maat Environmental Engineering Corp  
1273 North Service Rd E  
Unit F2  
Oakville, ON  
L6H 1A7

Report Date: 2010/09/07  
This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0B5795  
Received: 2010/08/24, 17:09

Sample Matrix: Water  
# Samples Received: 2

<table>
<thead>
<tr>
<th>Analyses</th>
<th>Quantity</th>
<th>Date Extracted</th>
<th>Date Analyzed</th>
<th>Laboratory Method</th>
<th>Method Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological Oxygen Demand (BOD)</td>
<td>2</td>
<td>N/A</td>
<td>2010/08/31</td>
<td>CAM SOP-00427</td>
<td>APHA 5210B</td>
</tr>
<tr>
<td>Animal and Vegetable Oil &amp; Grease</td>
<td>2</td>
<td>N/A</td>
<td>2010/08/26</td>
<td>CAM SOP-00326</td>
<td>SM 5520 B</td>
</tr>
<tr>
<td>Total Oil and Grease</td>
<td>2</td>
<td>2010/08/26</td>
<td>2010/08/26</td>
<td>CAM SOP-00326</td>
<td>EPA 1664A</td>
</tr>
<tr>
<td>TPH (Heavy Oil) §</td>
<td>2</td>
<td>2010/08/26</td>
<td>2010/08/26</td>
<td>CAM SOP-00326</td>
<td>SM 5520F</td>
</tr>
<tr>
<td>Low Level Total Suspended Solids</td>
<td>2</td>
<td>N/A</td>
<td>2010/08/26</td>
<td>CAM SOP-00428</td>
<td>SM 2540D</td>
</tr>
</tbody>
</table>

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager  
Email: Abrasil@maxxamanalytics.com  
Phone# (905) 817-5817

====================================================================================
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.
### RESULTS OF ANALYSES OF WATER

<table>
<thead>
<tr>
<th></th>
<th>GX8543</th>
<th>GX8544</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maxxam ID</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sampling Date</td>
<td>2010/08/24</td>
<td>2010/08/24</td>
</tr>
<tr>
<td>COC Number</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Calculated Parameters</th>
<th>DAYS- REACTOR</th>
<th>RDL</th>
<th>DAYS-- EFFLUENT</th>
<th>RDL</th>
<th>QC Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Animal/Vegetable Oil and Grease</td>
<td>mg/L</td>
<td>90.1</td>
<td>0.5</td>
<td>4.4</td>
<td>0.5</td>
</tr>
<tr>
<td>Inorganics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total BOD</td>
<td>mg/L</td>
<td>2300</td>
<td>2</td>
<td>25</td>
<td>2</td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td>mg/L</td>
<td>2000</td>
<td>50</td>
<td>44</td>
<td>3</td>
</tr>
<tr>
<td>Petroleum Hydrocarbons</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Oil &amp; Grease</td>
<td>mg/L</td>
<td>105</td>
<td>0.5</td>
<td>5.6</td>
<td>0.5</td>
</tr>
<tr>
<td>Total Oil &amp; Grease Mineral/Synthetic</td>
<td>mg/L</td>
<td>14.6</td>
<td>0.5</td>
<td>1.2</td>
<td>0.5</td>
</tr>
</tbody>
</table>

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
GENERAL COMMENTS

Revised report: sample IDs changed as per client request.

Results relate only to the items tested.
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Spiked Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
Validation Signature Page

Maxxam Job #: B0B5795

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

CRISTINA CARRIERE, Scientific Services

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.
APPENDIX ‘F’

Enviropure Process Description
THE ENVIROPURE SOLUTION

- Hyper-accelerated food waste decomposition system
- **On-site** elimination of food waste in 24 hours
- Uses physical and biological processes in a **submersed environment** to break down food waste into $\text{H}_2\text{O}$ and $\text{CO}_2$
- Produces **gray water bi-product** safe for disposal in sewer
- **NO** odors, **NO** sludge build-up, **NO** system clean outs
**HOW IT WORKS?**

- Just like **COMPOSTING**: uses natural biological decomposition processes
- Decomposition is accelerated through combined action of the SYSTEM and the BIOMIX additive
- **PHYSICAL PROCESSING** by the system breaks down the food waste and releases the $\text{H}_2\text{O}$
- BioMix facilitates the **BIOLOGICAL CONVERSION** of remaining materials into $\text{CO}_2$ and $\text{H}_2\text{O}$ and microscopic organic material

---

**Process Steps**

1. Load Food into unit
2. Mechanical Grinding process occurs
3. Food Waste enters processing vessel & is stirred in the vessel
4. Air is introduced into the processing vessel water
5. Bio Mix (micro nutrient) is added
6. Filter clean cycle
7. Fresh water
8. Settle time to allow for solids
9. Breakdown and water treatment
PHYSICAL PROCESSING BY SYSTEM

- Continuous **GRINDING** of the food waste to release water, reduce particle size and increase surface area
- Controlled **ENVIRONMENT** in the reaction chamber (O₂, PH, Temp levels)
- Aeration of the chamber provides O₂ and **AEROBIC** conversion of carbon components to CO₂
- Insulated chamber retains **HEAT** to accelerate the reaction
BioMix is all **NATURAL** non-toxic, biodegradable **NUTRIENT** mix

BioMix feeds the **BACTERIA** already present in the food waste allowing them to **MULTIPLY**

“Good” bacteria out-compete the “Bad” bacteria that cause the odors for the food waste

BioMix provides a **CATALYST** that **ACCELERATES** the decomposition **REACTION**
VALUE PROPOSITION TO CUSTOMER

BOTTOM LINE SAVINGS
- Immediate savings vs. current pick up and hauling costs
- Consistent, predictable future disposal costs
- Quick payback and good long term ROI

OPERATIONAL EFFICIENCIES
- Eliminates odors and associated odor and pest control costs
- Improved workplace environment
- Reduces workplace sanitation labor and supply costs

GOOD FOR THE ENVIRONMENT
- Immediate positive impact on environment
- Removes food from landfill and emissions from trucks on the road
- Provides sustainability / business differentiation positioning
“We chose an EnviroPure system as part of our global sustainability initiative because of the immediate environmental impact of the system on our overall carbon footprint. The operational efficiencies and substantial cost savings we achieved made the decision easy!”

-Director of Engineering, Hyatt Regency McCormick Place, Chicago-
“Food Waste Elimination Solutions At The Source”

Offices: 2011 West Fulton Street, Chicago, IL, 888.324.7265
2275 Upper Middle Road E., Suite 101, Oakville, ON 416.237.0390
APPENDIX ‘G’

Enviropure EPW Spec Sheet
SYSTEM OVERVIEW

EnviroPure EPW Systems are self-contained, continual feed, organic food waste elimination systems that convert food waste into water. The technology uses a combination of mechanical processing, heat, oxygen and all-natural additives to accelerate the natural aerobic decomposition process. Organic waste is quickly reduced to a gray water effluent that can be safely disposed of into existing municipal waste water systems. EPW systems handle virtually any kind of food waste including vegetables, fruits, meat, fish and poultry, dairy products, bones, shells and pits, with complete decomposition typically occurring within 24 hours!

STANDARD FEATURES

- **UL® U.S. & Canadian Certified**
- Simple one-button on/off, fully automated “feed it and forget it” operation
- Automatic on/off interlock door safety switch
- High quality, heavy duty Gould, Emerson & Vaughan pumps and motors provide quiet operation and superior performance
- Front mounted controls and display panel provide quick and easy operation, troubleshooting, monitoring and reporting of system function
- Commercial grade stainless steel enclosure
- 10 different sizes to fit any size foodservice operation (custom models up to 3 tons/day capacity available)
- Same day installation. Standard 208/220V power requirements, cold water and waste water line hookup using standard PVC/copper fittings

- All natural, non-toxic, biodegradable EPW-BioMix additive catalyzes and accelerates naturally occurring biological decomposition processes
- Continual oxygenation of decomposition tank ensures fully aerobic decomposition process resulting in water and carbon dioxide bi-products
- Complete elimination of all solid food waste with absolutely NO odours, NO sludge build up and NO system cleanout required
- Gray water effluent bi-product meets standards for safe disposal into municipal waste water systems

<table>
<thead>
<tr>
<th>QUALITY MEASURED</th>
<th>MUNICIPAL LIMITS</th>
<th>ENVIROPURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological Oxygen Demand (BOD)</td>
<td>300 mg / L</td>
<td>&lt; 30 mg / L</td>
</tr>
<tr>
<td>Fats, Oils &amp; Grease (FOGs)</td>
<td>150 mg / L</td>
<td>&lt; 10 mg / L</td>
</tr>
<tr>
<td>Total Suspended Solids (TSS)</td>
<td>300 mg / L</td>
<td>&lt; 30 mg / L</td>
</tr>
</tbody>
</table>

* Always confirm municipal waste water limits and requirements in your area

• System does not require connection to grease interceptor

OPTIONS & ACCESSORIES

- **Remote Food Disposal Grinder System**
  Commercial grade stainless steel foodservice food waste disposer integrated into your kitchen prep areas and/or dish line for remote feeding of food waste into system

- **Custom Configured Chute / Scrap Table / Trough Feeder Systems**

- **Interior / Exterior / Combination Install Configurations Available**

- **Cold Weather Exterior Install Package**
  Steel frame construction, galvanized siding, insulated enclosure, with heater & blower, feed/drain piping sleeves and electrical heat tape wrap for exterior installations in cold weather climates

- **3 Phase 600V Electrical Connection**

- **10/100 Base-T RJ-45 Network Connection**
  Network connection for remote control, monitoring, and notification of system functions, performance and fault states. Front end reporting and monitoring software included. (* Available late 2012)
Due to an ongoing value analysis program at EnviroPure, specification contained in this catalog are subject to change without notice.


Utilities

1. **Electrical**
   - 208-240/60/3; 3 wire plus ground, (See Box).
   - 480/60/3; 3 wire plus ground, (See Box).

2. **Cold Water**
   - 1/2" supply; cold water connection. Incoming supply pressure must maintain a minimum flow rate of 5.0 US gpm [18.9 litres per minute]. Machine equipped with 3/4" NPT male fitting for input cold water connection.

3. **Waste Water Drain**
   - Machine equipped with 1 1/2" PVC drain connection. Maximum drain flow 15.0 US gpm [56.8 litres per minute].

---

### Elec. Specs.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>208/60/1</td>
<td>36</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>240/60/1</td>
<td>32</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>208/60/3</td>
<td>24</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>240/60/3</td>
<td>22</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>480/60/3</td>
<td>12</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

**Warning** Plumbing and electrical connections should be made by qualified personnel who will observe all the applicable plumbing, sanitary and safety codes and the National Electrical Code.

**Note:** Electrical supply service must be a 3-wire plus ground for connection shown.