



Submitted by Mark Milne Enviroclean Landfill Solutions Ltd.

41 Jefferson St. Morden MB.
R6M 0B8 [Tel:204-362-9393](tel:204-362-9393)
mark@envirocleanag.com
Fax: 204-325-5371

Office & Accounting Address: 100-570 Centennial St. Winkler,
MB, R6W 1J4. Tel:204-325-4336

**Enviroclean Landfill
Solutions Ltd. License
“Notice of Alteration”
As pertaining to
License #2999**

Public Version

Original License Issue Date: **March 23rd, 2012**

Page Two

Table of Contents:

Title Page	Page 1
Table of Contents	Page 2
NOA	Page 3
Cover Letter	Page 4

Notice of Alteration Requests:

- **Create specific Aerobic In-Vessel Composting Category**
- **Alarm and Critical gas Continuous Monitoring** Page 5
- **Storage of Final Product** Page 6
- **Type, Scope and Delivery of Product to Be Received** Page 7
- **RECORD KEEPING AND REPORTING REQUIREMENTS** Page 7

Appendix "A"&"C" CQA Tests Emphasis Maturity & Moisture	Page 8 & 10
Appendix "B" Picture of site after a rain	Page 9
Appendix "D" Proposed Solvita Test	Page 11

Notice of Alteration Form



Client File No. :		Environment Act Licence No. : 2999	
Legal name of the Licencee: Enviroclean Landfill Solutions Ltd			
Name of the development: Enviroclean Landfill Solutions Ltd			
Category and Type of development per Classes of Development Regulation: Energy Production and Waste Conversion ▼ <SELECT> ▼			
Licencee Contact Person: Mark Milne Mailing address of the Licencee: 100-570 Centennial Dr. City: Winkler Province: MB Postal Code: R6W 1J4 Phone Number: (204) 362-9393 Fax: (204) 325-5371 Email: mark@envirocleanag.com			
Name of proponent contact person for purposes of the environmental assessment (e.g. consultant): N/A			
Phone:		Mailing address:	
Fax:			
Email address:			
Short Description of Alteration (max 90 characters):			
Alteration fee attached: Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>			
If No, please explain:			
Date:		Signature: <div style="border: 1px solid red; width: 150px; height: 30px;"></div>	
		Printed name:	
<p>A complete Notice of Alteration (NoA) consists of the following components:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Cover letter <input checked="" type="checkbox"/> Notice of Alteration Form <input checked="" type="checkbox"/> 2 hard copies and 1 electronic copy of the NoA detailed report (see "Information Bulletin - Alteration to Developments with Environment Act Licences") <input checked="" type="checkbox"/> \$500 Application fee, if applicable (Cheque, payable to the Minister of Finance) 		<p>Submit the complete NoA to:</p> <p>Director Environmental Approvals Branch Manitoba Sustainable Development 1007 Century Street Winnipeg, Manitoba R3H 0W4</p> <p>For more information: Phone: (204) 945-8321 Fax: (204) 945-5229 http://www.gov.mb.ca/sd/ea/</p>	
<p>Note: Per Section 14(3) of the Environment Act, Major Notices of Alteration must be filed through submission of an Environment Act Proposal Form (see "Information Bulletin – Environment Act Proposal Report Guidelines")</p>			

[Reset](#)

[Print](#)



41 Jefferson St. Morden MB.
R6M 0B8 [Tel:204-362-9393](tel:204-362-9393)
mark@envirocleanag.com

Cover Letter

Enviroclean Landfill Solutions Ltd. has operated a Compost Facility at 41 Jefferson ST. Morden MB. for 8 years and has processed food and green waste for the City of Morden based on a 5 year contract running from Jan 1st 2016 – Dec. 31st 2020. This contract has been renewed, by the City of Morden for a further 5 years, beginning Jan 1st 2021. In excess of 5,500 tones of organic food and green waste will have been processed by the end of 2020.

Enviroclean also has Organic Certification, currently renewed for the third consecutive year, with CSI (Government Accredited Certifying Agency). Other memberships: ongoing Member of the Canadian Compost Council (CCC), presently processing membership for the CQA (Compost Quality Assurance) backed and run by CCC.

Enviroclean has enjoyed a good relationship between the City of Morden and the contractor that was hired by the City (MWM) to deliver the product. The all year-round operation and control of the “RBD” (Rapid Bio-Digester) process has enabled Enviroclean to accommodate all scenarios that have been presented; some potential challenges due to weather, contamination of product, occasional difficulties for the contractor due to unexpected delays e.g. breakdown, weather etc. There has been positive contact between the City of Morden and Enviroclean which has provided an efficient, satisfactory and trouble-free service for the City, this proven by the fact that our service has just been extended for a further 5 years.

The last five years the unique process that Enviroclean employs has produced data, experience and information to support the creation of a distinctive category (license). During the past Enviroclean has found it difficult to comply, as the License has been written for a different application.

As the RBD process is reproducible in every city, and also many varied applications across all communities. Enviroclean proposes that an Aerobic In-Vessel category be created with its own specific criteria.

NOTICE OF ALTERATION REQUESTS:

1. Create specific **Aerobic In-Vessel Composting Category**
2. **Alarm and critical gas continuous monitoring** (License Clause 11)

Compliance

- i. MultiRae 5 gas monitor installed
- ii. Reads Ammonia, H₂S, Oxygen, Methane and LEL (“Lower Explosion Limit” for combustible gases) detection.
- iii. This mobile unit that is capable of continuous logging

Implementation of this device is as follows:

- Use as both fixed monitor in strategic locations and, from time to time, to determine various levels of gasses within the plant and machines for both operational and safety evaluations.
- Logs will be compiled Monthly in graph form.
- Raw data will be saved in files (USB /back up discs)
- Will be activated during daily hours of operation while employees are present.
- Charge over night
- This monitor is useful as a critical use device (e.g. checks before an employee would enter a vessel, with product, for inspection) or as an ongoing, more passive device generally to log trends mostly respecting Ammonia levels.

Request / Results: This Monitor Fulfills License Requirements – NO change to Clause 11 required

3. Storage of final product

Given the Unique RBD process producing a near mature compost with low moisture levels (See tests in “Appendix A”) and no issues regarding run off from the site, visibly apparent even after heavy rains, indicate that it is safe and acceptable to store this product outside. This was discussed as a possible change to the License.

Enviroclean has consistently given test results on our 24h process that give a dry, ready to pile compost that can safely be stored outside (Solvita “6”). Several of the Original License requirements just don’t apply to the RBD In-Vessel process

License Notice of Alteration

Storing processed product outside.

Enviroclean has considerably more data, experience and information to support this aspect of the operation presently.

The following provides the best and most pertinent information in support of this Notice of Alteration.

- | | | |
|------|--|-------------------|
| i. | Maturity and Moisture Levels of stored Compost (CQA Tests) | See: APPENDIX “A” |
| ii. | Picture of site after a rain | See: APPENDIX “B” |
| iii. | Maturity after 24 hours A&L Lab tests | See: APPENDIX “C” |
| iv. | Proposed Solvita Test | See: APPENDIX “D” |

Request / Results: A retaining ditch and bank has been installed around property. A weekly Solvita test is being performed on weekly blended product as per the Draft License Proposal, clause: 33

4. Type, Scope and Delivery of Product To Be Received

Compliance Comment: Clause 35 “The Licensee shall only accept food waste and meat waste at the Development in sealed containers, and shall process meat waste within 12 hours of receiving it.”

License Notice of Alteration

- **Enviroclean has processed all levels of ORGANIC MATERIAL** and demonstrated via tests **overseen by Manitoba Conservation e.g. Detailed Test reports have been submitted**, particularly regarding sludge material from “a company” (several loads) from their ----- plant and “another company (multiple loads) from their ----- Plant.
- **Superior Quality Compost was produced** and extensive double tests were run. CQA and particular attention to the Fecal Coliform and Salmonella tests were performed on top of the CQA full tests that include these as well.
- **Truck clean out material of wood shavings and manure** was also included in several of these tests as submitted to Manitoba Conservation.
- These expensive and extensive tests were not only to demonstrate Enviroclean’s ability to **efficiently and safely handle these products** but with the **key purpose to provide Manitoba Conservation with the solid data** to demonstrate that the **RBD In-Vessel process is very capable to handle all these products**, even within the Morden Industrial area.
- Meat waste consisting of trimmings from dead animals has also been demonstrated, indeed these machines were designed for that very purpose.
- **The above reports are available upon request**

Request / Results: Enviroclean requests that the DAF Sludge also be included in the License: as per Draft Proposal Clause: 34

5. RECORD KEEPING AND REPORTING REQUIREMENTS

Clause 39 a,b (Also: Clause 40,41,42). Are tests required and only possible in a “windrow” composting facility.

Compliance

39. a), b)

Explanation:

The RBD process provides a real-time “BATCH” temperature for approximately 2t of process material each batch. The RBD process is fundamentally reliant upon rapidly reaching Thermophilic bacterial breakdown to achieve the quality and maturity that is proven “down stream” with the final tests suggested below.

License Notice of Alteration

- A. Each batch temperature shall be recorded.
- B. A CQA final blended test, 4 per annum.
- C. A sample from each batch shall be collected and combined with all batches for a given week. Every week the blended batches shall be run through a “Solvita” test on site. See “Appendix D
- D. Clauses 40,41 and 42 should be satisfied and need to be referenced to the changes to 39 a) and b) above, 3 a) iii, and 3 a) iv and 5 A, B and C

Appendix "A" & "C"

CQA Tests Emphasis Maturity & Moisture

Processed	Waste Type	Tested	Maturity	Moisture
April 14 th 2020	Food & Green Waste	Apr 21 st 2020	6	28%
April 1 st 2016	DAF Sludge & shavings	April 26 th 2016	8	12.39%
March 18 th 2016	DAF Sludge	April 26 th 2020	7	33.78%

Appendix "B"



Appendix "D"



Use under Fluorescent Light

Visual Color Key for Low Level CO₂ Probe

see test manual for instructions

Control Color ▼



SOLVITA #1 Blue-Gray	SOLVITA #2 Gray-Green	SOLVITA #3 Green	SOLVITA #4 Green-Yellow	SOLVITA #5 Yellow
<p>VERY LOW SOIL ACTIVITY</p> <p>Associated with dry sandy soils, and little or no organic matter.</p>	<p>MODERATELY LOW SOIL ACTIVITY</p> <p>Soil is marginal in terms of biological activity and organic matter</p>	<p>MEDIUM SOIL ACTIVITY</p> <p>Soil is in a moderately balanced condition and has been receiving organic matter additions.</p>	<p>IDEAL SOIL ACTIVITY</p> <p>Soil is well supplied with organic matter and has an active population of micro-organisms</p>	<p>UNUSUALLY HIGH SOIL ACTIVITY</p> <p>High / excessive organic matter additions</p>
<p>APPROXIMATE LEVEL OF CO₂- RESPIRATION — ppm / week</p>				
<p>< 300 mg. CO₂/kg/wk.</p>	<p>400 (300 - 500)</p>	<p>750 (500 - 1,000)</p>	<p>1,500 (1,000 - 2,000)</p>	<p>> 2,000 mg. CO₂/kg/wk.</p>
<p>Approximate quantity of nitrogen (N) release per year (average climate)</p>				
<p>< 15 lbs/acre</p>	<p>20 lbs/acre</p>	<p>40 lbs/acre</p>	<p>75 lbs/acre</p>	<p>> 100 lbs/acre</p>

Solvita® Maturity Index	STAGE OF THE COMPOSTING PROCESS	MAJOR CLASS	Approximate Equivalencies ¹			
			Dewar	CO ₂ -C Rate	O ₂ Rate	
8	Inactive, highly matured compost, very well aged, possibly over-aged, like soil; no limitations for usage	FINISHED COMPOST	V	1	< 3	
7	Well matured, aged compost, cured; few limitations for usage			2	5	
6	Curing; aeration requirement reduced; compost ready for piling; significantly reduced management requirements	<i>Curing</i>		4	11	
5	Compost is moving past the active phase of decomposition and ready for curing; reduced need for intensive handling	ACTIVE COMPOST	IV	6	16	
4	Compost in medium or moderately active stage of decomposition; needs on-going management			III	8	21
3	Active compost; fresh ingredients, requires intensive oversight and management			II	10	27
2	Very active, putrescible fresh compost; high-respiration rate; requires very intensive aeration and/or turning	RAW COMPOST	I	12	32	
1	Fresh, raw compost; typical of new mixes; extremely high rate of decomposition; putrescible or very odorous material			> 15	> 40	

¹ Interpretations provided by Woods End Research

Column 1: Dewar Self Heating test using standard Dewar Flask, grades as per interpretation (see TMECC Method 05.08-D)

Column 2: CO₂ Rate is the total mg CO₂-C evolved per g (OM) per day at 34°C (see TMECC Method 05.08-B)

Column 3: O₂ Respiration Rate (SOUR) as mg O₂ consumed per g (OM) per day (calculated from Column 2)