ANNUAL

ENVIRONMENTAL REPORT

JANUARY 2013 TO DECEMBER 2013

| Licence Number: | W0270-01 |
|-----------------------|--|
| Licensee: | Miltown Composting Systems Ltd |
| Location of Activity: | Milltownmore |
| | Fethard |
| | Co. Tipperary |
| Attention: | Office of Environmental Enforcement |
| | EPA Regional Inspectorate Kilkenny |
| | Seville Lodge |
| | Callan Road |
| | Kilkenny |

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SECTION 1

INTRODUCTION

1.1 INTRODUCTION

The following is the Annual Environmental Report (AER) for the period January 2013 to December 2013 at Miltown Composting Ltd.

The company was granted an EPA Waste Licence No. W0270-01 on the 9th September 2010. This is the 2013 Annual Environmental Report of Miltown Composting Ltd and detailed within is a summary of all activities on-site during this period that has had an influence on the environmental performance of the company. Current guidance from the Agency requires that the AER is referenced per calendar year.

This AER reflects company's commitment to achieving objectives of a documented ongoing improvement programme at the site.

1.2 SITE DESCRIPTION

Site Location

The site is located in the townland of Milltownmore, approximately 6 km to the east of Fethard and 10 km to the south west of Cashel. The site is accessed by a private road off the Rosegreen to Fethard third class public road.

Layout

The site encompasses approximately 5.9 hectares. It is at an elevation of approximately 139m Ordnance Datum (OD) and slopes gently to the east from a high point in the west.

It is occupied by the three main composting buildings-Sheds 1, 2 and 3- paved open yards; weighbridge, office; canteen/changing room; storage shed; wetlands, biofilter and former cattle sheds. The base for a proposed lined slurry storage lagoon is located to the west of the cattle sheds and is currently used to store building materials. The area to the north of the shed is undeveloped and formerly used for animal grazing. The re is a series of constructed wetlands in the south west of the site. (See Appendix 1 – Site Layout Drawing)

Site History

The site was originally used for agricultural purposes. The cattle sheds and Shed 1 were originally constructed to house pigs, cattle, meat and bone meal and animal feed. In 2004 South Tipperary Council granted planning permission and a Waste Permit for composting (in-vessel and maturation) to be carried out in Shed 1.

In 2007 Miltown moved the maturation process to Sheds 2 and 3. In January 2008 there was a fire at the site, when the compost turner went on fire. The turner was destroyed and the fabric of Shed 3 was damaged. The Council issued a revised Waste Permit in May 2008 and this is valid until May 2013. In March 2009 the Council granted planning permission for the retention of the offices, canteen/changing room, underground leachate storage tanks, and weighbridge.

Operational & Waste Acceptance Hours

The normal operational hours are 06.00 to 18.00 Monday to Saturday. The facility will not normally open on Sundays. Materials are normally accepted between the hours of 08.00 and 18.00.

1.2.1 DESCRIPTION OF ACTIVITY

Overview

The facility is a composting plant that accepts a broad range of compostable materials including source segregated household kitchen waste; catering wastes; non-hazardous industrial and municipal waste water sludges and organic fines generated in the treatment of mixed municipal solid waste (MSW).

The treatment process, depending on the nature of the source material, can involve initial screening to remove contaminants, blending with bulking agents, composting in separate enclosed tunnels and open bays, maturation in windrows and post treatment to remove impurities.

Due to the modular lay-out, the tunnels/bays can be operated independently, which provides flexibility in treating the different organic waste streams. The finished product can, depending on quality, either be used for horticultural and agricultural purposes, or as landfill cover.

Site Layout/Buildings & Hardstanding

Waste reception, blending and in-vessel composting is carried out in Shed No 1, which occupies an area of 1,700 square meters (m2). Maturation is carried out in Sheds 2 and 3, which occupy 2,840 m₂.

The site office is a portacabin located at the north-west corner of Shed 1. A small canteen/changing room is located to the south west of Shed 1. There is an open fronted shed to the west of the canteen, which is used for the storage of green waste bulking materials. A Container located at the northern side of the canteen is used to store lubricating/hydraulic oil and the power washer.

The open yards to the east and west of Shed 1, south of Shed 2 and west of the cattle sheds are paved with concrete. The biofilter is located on the southern side of Shed 1 and is accessed by an unpaved road running along the southern side of Sheds 1 and 2.

Composting Process

Waste Reception Areas

In the reception area, the MSW fines may, depending on composition be shredded to enhance the composting process. The source segregated household and catering organic waste may be screened to remove contaminants. The wastewater treatment sludges are mixed with a bulking agent e.g. shredded green waste to improve porosity.

Thermophilic Stage

The materials are transferred from the reception area to the vessels using the telescopic loaders. The material placed in each of the vessels is assigned an individual batch number to allow performance monitoring during the treatment stages and ensure the maintenance of accurate records.

Five (5 No.) temperature probes are placed within the waste mass before the sheeting is placed over the top of the vessel. There is a computerised process control system, located in the site office, which records the temperature in each vessel to ensure that optimum composting conditions are maintained. In addition to the constant temperature monitoring, oxygen levels are monitored daily using a hand held probe. The moisture level is assessed either visually or using a hand held moisture meter. In order to comply with the Animal By-Products Regulations a 'two barrier' system is operated in the MSW/kitchen/catering waste processing area. The objective is to ensure a maximum particle size of 40mm and achieve a sustained temperature of 60°C over two separate 48 hour periods.

The MSW fines as delivered typically have a particle size less than 40mm. Large items are manually removed before the materials are composted. Maintaining the temperature at 60°C for the two separate time periods is done by composting the same batch in two different vessels.

In the first vessel, or Barrier 1, the process usually takes one week. When completed, the material is removed to a second vessel-Barrier 2-where it is thoroughly mixed and again composted until the temperature requirements are met. To avoid cross contamination different buckets are used on the front end loader to move the materials into and out of the vessels.

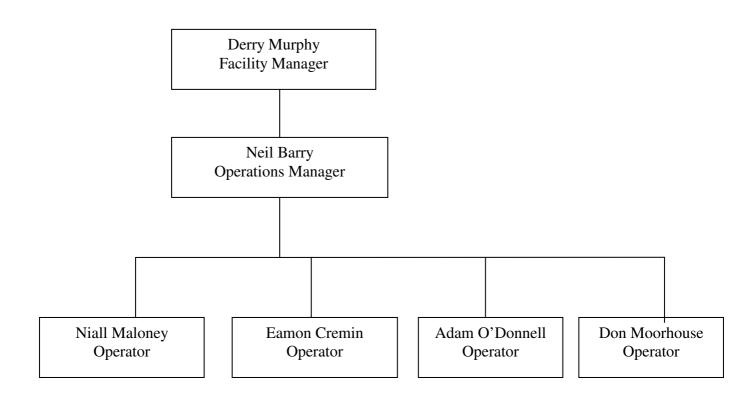
Mesophilic Stage

When the material has completed the thermophilic stage it is removed from the vessel and transferred to Sheds 2 and 3 where it is formed into windrows. Depending on the source of the materials it may be blended with shredded green waste to improve porosity. The windrows are formed using the telescopic loader and are turned as required using either the specialized turner or the loader.

Temperature, oxygen and moisture content are regularly monitored and moisture and the turning regime amended as required to ensure optimum conditions. The mesophilic stage can take up to 6 weeks.

When complete the compost may, depending on the nature of the source material, be screened to remove contaminants. These are stored on-site in a skip pending consignment to off-site disposal/treatment facilities.

1.2.2 Organisational Chart 2013



Section 2

DATA

WASTE MANAGEMENT 2.1

| TABLE 2.1.1 – ANNUAL WASTE INTAKE 2013 | | |
|--|----------|-------------|
| Waste Type | EWC Code | 2013 Intake |
| | | Tonnes |
| Brown bin waste (kitchen/garden) | 20 01 08 | 9506.56 |
| separately collected from households | 20 01 00 | 9500.50 |
| Waste from the mechanical treatment of | 19 12 07 | 905.76 |
| wood waste | 17 12 07 | 905.10 |
| Garden and park waste from municipal | 20 02 01 | 399.2 |
| sources | 20 02 01 | |
| Organic Fines | 19 12 12 | 8260.9 |
| Food processing - materials unsuitable for | 02 07 04 | 146.74 |
| consumption or processing | 02 07 04 | 140.74 |
| Food processing -wastes from washing | | |
| cleaning and mechanical reduction of raw | 02 07 01 | 70.68 |
| materials | | |

2.2 ENVIRONMENTAL MONITORING

2.2.1 Groundwater Results 2013

Table 2.2.1 / 2 – Groundwater Analysis Results 2013

| 2.2.1 GENERAL CHEMICAL ANALYSIS RESULTS | | | |
|---|-------|-------|-------|
| Parameter | GW1 | GW2 | GW3 |
| Chloride (mg/l) | 77 | 188.5 | 31.8 |
| Conductivity (uS/cm) | 589 | 794 | 289 |
| Nitrate (mg/l) | 2.04 | 0.82 | 10.39 |
| рН | 6.6 | 6.4 | 6.1 |
| Total Nitrogen (mg/l) | 2.8 | 1.2 | 9.8 |
| Ammonia (mg/l) | 0.044 | 0.207 | 0.033 |

| TABLE 2.2.2 - VOC ANALYSIS USEPA 524.2 | | | |
|--|------|------|-------|
| VOC's (µg/l) | GW1 | GW2 | GW3 |
| Dichlorodifluoromethane | <10 | <10 | <10 |
| Chloromethane | <0.5 | <0.5 | <0.5 |
| Vinyl chloride | <0.5 | <0.5 | <0.5 |
| Bromomethane | <0.5 | <0.5 | <0.5 |
| Chloroethane | <0.5 | <0.5 | <0.5 |
| Trichlorofluoromethane | <0.5 | <0.5 | <0.5 |
| 1,1-Dichloroethene | <0.5 | <0.5 | <0.5 |
| Dichloromethane | <0.5 | <0.5 | <0.5 |
| trans-1,2-Dichloroethene | <0.5 | <0.5 | <0.5 |
| 1,1-Dichloroethane | <0.5 | <0.5 | <0.5 |
| 2,2-Dichloropropane | <0.5 | <0.5 | <0.5 |
| cis-1,2-Dichloroethene | <0.5 | <0.5 | <0.5 |
| Bromochloromethane | <0.5 | <0.5 | < 0.5 |
| Chloroform | <1 | <1 | <1 |
| 1,1,1-Trichloroethane | <0.5 | <0.5 | <0.5 |
| Carbon Tetrachloride | <0.5 | <0.5 | <0.5 |
| 1,1-Dichloropropene | <0.5 | <0.5 | <0.5 |
| Benzene | <0.1 | <0.1 | <0.1 |
| 1,2-Dichloroethane | <0.1 | <0.1 | <0.1 |
| Trichloroethene | <0.1 | <0.1 | <0.1 |
| 1,2-Dichloropropane | <0.5 | <0.5 | <0.5 |
| Dibromomethane | <0.5 | <0.5 | <0.5 |
| Bromodichloromethane | <2.0 | <2.0 | <2.0 |
| Toluene | <0.5 | <0.5 | 11.2 |
| 1,1,2-Trichloroethane | <2.0 | <2.0 | <2.0 |

| TABLE 2.2.2 - VOC | ANALYSIS USE | EPA 524.2 (CONT | (INUED) |
|------------------------------|--------------|-----------------|---------|
| VOC's (µg/l) | GW1 | GW2 | GW3 |
| 1,1,1,2-Tetrachloroethane | <2.0 | <2.0 | <2.0 |
| m,p-Xylene | < 0.5 | <0.5 | < 0.5 |
| Styrene | <2.0 | <2.0 | <2.0 |
| Isopropylbenzene | < 0.5 | <0.5 | < 0.5 |
| Propylbenzene | <0.5 | <0.5 | <0.5 |
| 2-Chlorotoluene | <0.5 | <0.5 | <0.5 |
| 4-Chlorotoluene | <0.5 | <0.5 | <0.5 |
| 1,2,4-Trimethylbenzene | <0.5 | <0.5 | < 0.5 |
| P - Isopropyltoluene | <0.5 | <0.5 | <0.5 |
| 1,4-Dichlorobenzene | < 0.5 | <0.5 | < 0.5 |
| 1,2-Dichlorobenzene | < 0.5 | <0.5 | < 0.5 |
| Naphthalene | <2.0 | <2.0 | <2.0 |
| 1,3-Dichloropropane | <0.5 | <0.5 | <0.5 |
| cis-1,3-Dichloropropene | <2.0 | <2.0 | <2.0 |
| trans-1,3-Dichloropropene | <2.0 | <2.0 | <2.0 |
| Dibromochloromethane | <1.0 | <1.0 | <1.0 |
| Chlorobenzene | < 0.5 | <0.5 | < 0.5 |
| Ethyl Benzene | < 0.5 | <0.5 | < 0.5 |
| o-Xylene | < 0.5 | <0.5 | < 0.5 |
| Bromoform | <1.0 | <1.0 | <1.0 |
| 1,2,3-Trichloropropane | <2.0 | <2.0 | <2.0 |
| Bromobenzene | <0.5 | <0.5 | < 0.5 |
| Tert-Butylbenzene | <0.5 | <0.5 | <0.5 |
| Sec-Butylbenzene | <0.5 | <0.5 | < 0.5 |
| 1,3,5-Trimethylbenzene | <0.5 | <0.5 | <0.5 |
| 1,2- Dibromo-3-chloropropane | <2.0 | <2.0 | <2.0 |
| Hexachlorobutadiene | <5.0 | <5.0 | <5.0 |
| 1,2,3-Trichlorobenzene | <0.5 | <0.5 | <0.5 |
| 1,3-Dichlorobenzene | <0.5 | <0.5 | <0.5 |
| Tetrachloroethene | <0.1 | <0.1 | <0.1 |
| n-butylbenzene | <0.5 | <0.5 | <0.5 |
| Acetone | <2 | <2 | <2 |
| Methyl Iodide | <0.5 | <0.5 | <0.5 |
| Carbon disulphide | <0.5 | <0.5 | <0.5 |
| Allyl Chloride | <0.5 | <0.5 | <0.5 |
| Nitrobenzene | <0.5 | <0.5 | <0.5 |
| Propanenitrile | <10 | <10 | <10 |
| MtBE | <0.5 | <0.5 | <0.5 |
| 2 Butanone | <5 | <5 | <5 |
| 2 Hexanone | <1 | <1 | <1 |
| Hexacloroethane | <5 | <5 | <5 |
| 1,2,4-Trichlorobenzene | <0.5 | <0.5 | <0.5 |

2.2.2 Dust Monitoring 2013

| TABLE 2.2.3 - DUST RESULTS 2013 | | | |
|---------------------------------|------------------------------------|------------------------------------|----------------------------|
| Month | D1 (mg/m ² /day) | D2 (mg/m ² /day) | D3 mg/m ² /day) |
| June | 88 | 94 | 24 |
| September | 88 | 71 | 71 |
| November | 29 | 59 | 76 |

2.2.3 Biofilter Monitoring 2013

| TABLE 2.2.4 MONITORING RESU | ULTS FROM THE BIOFILTER 26/03/13 |
|--|----------------------------------|
| Parameter | Result |
| % Moisture 74.1 | |
| pH | 6.9 |
| Ammonia (mg/kg) | 219 |
| Total Viable Counts @ 30°C (Solid) cfu/g | 1.8 x 10 ⁶ |

| TABLE 2.2.5MONITORING RESULTS FROM THE BIOFILTER 27/09/13 | |
|---|--------------------|
| Parameter | Result |
| % Moisture 75.4 | |
| pH | 7.2 |
| Ammonia (mg/kg) | 167.15 |
| Total Viable Counts @ 30°C (Solid) cfu/g | $>3 \times 10^{6}$ |

| TABLE 2.2.6BIOFILTER INLET EMISSION LEVELS 26/03/13 | | |
|---|-----------------------------|-----------------------------|
| Parameter | Inlet 1 Concentration (ppm) | Inlet 2 Concentration (ppm) |
| Hydrogen Sulphide | <0.2 | <0.2 |
| Ammonia | 20 | 15 |
| Mercaptans | 0.5 | <0.5 |
| Amines | Negative | Negative |

| TABLE 2.2.7BIOFILTER OUTLET EMISSION LEVELS 26/03/13 | |
|--|---------------------------|
| Parameter | Inlet Concentration (ppm) |
| Hydrogen Sulphide | <0.2 |
| Ammonia | <5 |
| Mercaptan | <0.5 |
| Amines | Negative |

| TABLE 2.2.8BIOFILTER INLET EMISSION LEVELS 27/09/13 | | |
|---|-----------------------------|-----------------------------|
| Parameter | Inlet 1 Concentration (ppm) | Inlet 2 Concentration (ppm) |
| Hydrogen Sulphide | <0.2 | <0.2 |
| Ammonia | 10 | 20 |
| Mercaptans | 0.5 | <0.5 |
| Amines | Negative | Negative |

| TABLE 2.2.9BIOFILTER OUTLET EMISSION LEVELS 27/09/13 | |
|--|---------------------------|
| Parameter | Inlet Concentration (ppm) |
| Hydrogen Sulphide | <0.2 |
| Ammonia | <5 |
| Mercaptan | <0.5 |
| Amines | Negative |

2.2.4 PM10 Monitoring 2013

| TABLE 2.2.10RESULTS OF PM10 MONITORING 2013 | | | | | | |
|---|--|--------------------|-----------------------------|--|--|--|
| Sampling Location | Date | Weight Gain (g) | Concentration $(\mu g/m^3)$ | | | |
| Location 1 | $18^{\text{th}} / 19^{\text{th}}$ June | <0.001 | < 0.1 | | | |
| Location 1 | 10 th / 11 th December | <0.001 | < 0.1 | | | |

2.2.5 Odour Monitoring 2013

| TABLE 2.2.11 METEOROLOGICAL CONDITIONS Q1 - Q4 | | | | | |
|--|------------------|----------|---------------------|-----------|--|
| Parameter | Quarterly Result | | | | |
| Wind speed (km/hr) | 10-12 | 4-6 | 3-5 | 10-15 | |
| Wind direction | Easterly | Westerly | South - easterly | Southerly | |

| TABLE 2.2.12ODOUR SAMPLING RESULTS Q1 2013 | | | | | |
|--|----------------------|---------------------------------------|--|--|--|
| Locations | On site observations | Results | | | |
| OD 01 | | | | | |
| 350 meters downwind | No distinct odour | $52 \text{ ou}_{\text{E}}/\text{m}^3$ | | | |
| of compost yard | | | | | |
| OD 02 | No distinct odour | $57 \text{ ou}_{\text{F}}/\text{m}^3$ | | | |
| At Sensitive Receptor | no disunct odour | J∕ Ou _E /III | | | |

| TABLE 2.2.13 CHEMICAL ANALYSIS Q1 2013 | | | | | |
|--|------|----|------|----------|--|
| SampleHydrogen SulphideAmmoniaMercaptenAmines | | | | | |
| OD 01 | <0.2 | <5 | <0.5 | Negative | |
| OD 02 | <0.2 | <5 | <0.5 | Negative | |

| TABLE 2.2.14ODOUR SAMPLING RESULTS Q2 2013 | | | | | |
|--|----------------------|--|--|--|--|
| Locations | On site observations | Results | | | |
| OD 01 | No distinct odour | $45ou_F/m^3$ | | | |
| At Sensitive Receptor | | 450u _E /III | | | |
| OD 02 | | | | | |
| 250 meters downwind | Slight sweet odour | $144 \text{ ou}_{\text{E}}/\text{m}^3$ | | | |
| of compost yard | | | | | |

| TABLE 2.2.15 CHEMICAL ANALYSIS Q2 2013 | | | | | |
|--|------|----|------|----------|--|
| SampleHydrogen SulphideAmmoniaMercaptenAmines | | | | | |
| OD 01 | <0.2 | <5 | <0.5 | Negative | |
| OD 02 | <0.2 | <5 | <0.5 | Negative | |

| TABLE 2.2.16 ODOUR SAMPLING RESULTS Q3 2013 | | | | | |
|---|----------------------|-------------------------------------|--|--|--|
| Locations | On site observations | Results | | | |
| OD 01 | Slight sweet odour | 391 ou _F /m ³ | | | |
| At biofilter unit | Slight sweet bubu | 591 Ou _E /III | | | |
| OD 02 | | | | | |
| 250 meters downwind | No distinct odour | 91 ou_E/m^3 | | | |
| of compost yard | | | | | |

| TABLE 2.2.17 CHEMICAL ANALYSIS Q3 2013 | | | | | | |
|--|--|----|------|----------|--|--|
| Sample | SampleHydrogen SulphideAmmoniaMercaptenAmines | | | | | |
| OD 01 | <0.2 | <5 | <0.5 | Negative | | |
| OD 02 | | | | | | |

| TABLE 2.2.18 ODOUR SAMPLING RESULTS Q4 2013 | | | | | |
|---|----------------------|--|--|--|--|
| Locations | On site observations | Results | | | |
| OD 01 | Slight compost odour | $425 \text{ ou}_{\text{F}}/\text{m}^3$ | | | |
| At biofilter unit | onghe compose odour | 125 Oug/III | | | |
| OD 02 | | | | | |
| 250 meters downwind | No distinct odour | $85 \text{ ou}_{\text{E}}/\text{m}^3$ | | | |
| of compost yard | | | | | |

| TABLE 2.2.19 CHEMICAL ANALYSIS Q4 2013 | | | | | |
|---|------|----|------|----------|--|
| SampleHydrogen SulphideAmmoniaMercaptenAmines | | | | | |
| OD 01 | <0.2 | <5 | <0.5 | Negative | |
| OD 02 <0.2 <5 <0.5 Negative | | | | | |

2.2.6 Noise Monitoring 2013

| TABLE 2.2.20 DAY-TIME NOISE MEASUREMENT RESULTS | | | | | | |
|---|--------------------|-----------------------------|-----------------------|-----------------------|-----------------------|-----------------------------|
| Location | Measurement No. | Measurement Period (min) | L _{eq} dB(A) | L ₁₀ dB(A) | L ₉₀ dB(A) | L _{F Max} dB(A) |
| NSL | 1 | 30 | 56 | 45 | 36 | 78 |
| NSL | 2 | 30 | 44 | 40 | 34 | 60 |
| NSL | 3 | 30 | 48 | 45 | 38 | 61 |
| N2 | 1 | 30 | 65 | 57 | 45 | 87 |
| N2 | 2 | 30 | 59 | 57 | 42 | 74 |
| N2 | 3 | 30 | 58 | 56 | 43 | 74 |

| 2.2.7 | Surface | Water | 2013 |
|-------|---------|-------|------|
|-------|---------|-------|------|

| Table 2.2.21 - Surface water Results 2013 for SW1 | | | | | |
|---|--|------|------|--|--|
| Sample ID | Sample IDBOD (mg/l)Suspended Solids (mg/l)Ammonia (mg/l) | | | | |
| SW1 27/07/13 | 70 | 137 | 8.23 | | |
| SW1 18/12/13 | 25.1 | 23.2 | 4.22 | | |

2.2.8 Non-Compliances 2013

| Table 2.2.23 Details of Reported Non-compliance 2013 – Water | | | | | |
|---|--|--|--|--|--|
| Date Non-compliance Cause Corrective Action | | | | | |
| No Non-compliances reported in 2013 | | | | | |

no non-compliances reported in 2013.

| Table 2.2.24 Details of Non-compliance 2013 – Air | | | | | |
|---|--|--|--|--|--|
| Date Non-Compliance Failure Details / Cause Corrective Action | | | | | |
| No Non-compliances reported in 2013. | | | | | |

| Table 2.2. | Table 2.2.25 Details of Non-compliance 2013 – General Audit | | | |
|------------|---|---|--|--|
| Date | Non-Compliance | Corrective Action | | |
| 14/3/13 | Off-site preclearance and characterisation of waste | SOP MC01 WASTE Acceptance and characterisation procedure revised 11/04/2013 to ensure that off-site pre-clearance and characterisation records are maintained | | |
| 14/3/13 | waste acceptance procedure | Waste acceptance revised 11/04/2013 to ensure that all sludges and other non-municipal waste types are appropriately analysed and characterised prior to acceptance on-site for treatment | | |

2.3 **RESOURCE USAGE**

The summary details of energy and water usage at the plant for the period January 2013 to December 2013 is detailed in Table 2.31 below.

| Resources | Quantities |
|---------------------------|--------------|
| Diesel | 67913 L |
| Electricity | 224750 Kw/Hr |
| Hydraulic, Transmission & | 3660 L |
| Engine Oil | 2000 2 |
| Detergent | 20 |
| Grease | 16kg |
| Anti Freeze | 100 |

2.4 ENVIRONMENTAL INCIDENTS AND COMPLAINTS

2.4.1 There were no incidents to report for the period January 2013 to Dec 2013.

| Incident | Date / Time | Location | Persons Contacted | Corrective Actions |
|----------|-------------|----------|----------------------|-----------------------|
| | | | | |

2.4.2 There were no complaints to report for the period January 2013 to Dec 2013.

2.5 ENVIRONMENTAL SPENDING

The itemised spend on environmental issues at Miltown Composting Limited is listed below.

| <u>January 2013 – December 2013</u> | <u>€</u> |
|-------------------------------------|-----------|
| EPA fees | 9750.96 |
| Waste Licence Management | 35205 |
| Capital Spending (Env Improvements) | 140000 |
| Total Spending | 184955.96 |

2.6 ENVIRONMNETAL TRAINING

See Attachment 4 for details of environmental training for 2013

Environmental Management Programme for 2014.

Review of Objectives and Targets for the period January to December 2013

Tables EMP 1.1 to 1.5 reviews the Objectives and Targets set for 2013. A number of the listed Objectives and their subsequent targets are cyclical as the company attempts to achieve continuous environmental improvement.

Tables EMP 2.1 to 2.5 set out the Objectives and Targets for 2014. A number of the listed Objectives and their subsequent targets are cyclical as the company attempts to achieve continuous environmental improvement.

MILTOWN COMPOSTING LTD

ENVIRONMENTAL OBJECTIVES AND TARGETS 2014

| Item No | OBJECTIVE | TARGET | RESPONSIBLE PERSON |
|------------|--------------------------------------|---|---------------------------|
| 1 | Water Management | Maintain checklist for alarms and daily records Assess possibility of covering for final unroofed yard Investigate options for fire water retention facility | D.Murphy |
| 2 | Energy Management | Carry out Energy Audit. Investigate potential for Anaerobic Digestion (AD) Plant. Study possibility of installing a CHP plant in conjunction with AD plant. | D.Murphy |
| 3 | E.M.S | Maintain EMS documentation. Update procedures to reflect operational and control change. Maintain EMP by means of Bi-annual assessment. | D.Murphy |
| 4 | Licence Management | Prepare proposal for and finalise Hydrogeological Study. Assess nuisance control procedures and practices. Undertake all environmental monitoring as per licence. | D.Murphy |
| 5 | Incoming waste / Finished product | Investigate new waste types for inclusion in compost process Research new sustainable outlets for the finished products | D.Murphy |

Water Pollution Prevention

| Objective | Target | Target Date | 2013 Review | Person Responsible |
|----------------------------|---|-----------------|-------------|--------------------|
| Water Pollution Prevention | Maintain checklist for alarms and daily records | Continuous 2013 | Complete | Derry Murphy |
| | Assess SW1 following installation of cover. | Q2 2013 | Complete | Derry Murphy |
| | Upgrade SW1 sampling point and associated piping. | Q2 2013 | Complete | Derry Murphy |

Energy management

| Objective | Target | Target Date | 2013 Review | Person Responsible |
|-------------------|---|-------------|--------------------------------------|--------------------|
| Energy Management | Carry out Energy Audit | June 2013 | Not Complete Postponed until 2014 | Derry Murphy - OCM |
| | Investigate potential for Anaerobic Digestion (AD) Plant. | 2014 | Not due until 2014 | Derry Murphy |
| | Study possibility of installing a CHP plant in conjunction with AD plant. | 2016 | Not due until 2016 | Derry Murphy |

Water Pollution Prevention

| Objective | Target | Target Date | 2013 Review | Person Responsible |
|-----------|--|-----------------|--|--------------------|
| E.M.S | Maintain EMS documentation. | 2013 | Complete | Derry Murphy |
| | Update procedures to reflect operational and control change. | March 2013 | 17/04/2013 new procedure -SOPMC10 'oil interceptor maintenance procedure' 3 SOP's updated 9/5/13 | Derry Murphy |
| | Maintain EMP by means of Bi-annual assessment. | June / Dec 2013 | Complete | Derry Murphy |

Licence Management

| Objective | Target | Target Date | 2013 Review | Person Responsible |
|--------------------|---|-----------------|---|--------------------|
| Licence Management | Prepare proposal for and finalise Hydrogeological Study. | May 2013 | New proposal due 2014 | Derry Murphy |
| | Assess nuisance control procedures and practices. | Continuous 2013 | Pest control now undertaken every 6 weeks | Derry Murphy |
| | Undertake all environmental monitoring as per licence. | 2013 | Complete | Matrix Env |

Miltown Composting Ltd.

Incoming waste / Finished product

| Objective | Target | Target Date | 2013 Review | Person Responsible |
|---------------------------|--|-------------|---|--------------------|
| Incoming waste / Finished | Investigate new waste types for inclusion in compost process | 2013 | Complete Organic fines added May 2013 | Derry Murphy |
| product | Research new sustainable outlets for the finished products | 2013 | Complete | Derry Murphy |

Water Pollution Prevention

| Objective | Target | Target Date | Method |
|---|--|-----------------|--|
| Maintain checklist for alarms and daily records | | Continuous 2014 | Fill in the daily checklist and site alarms |
| Water Pollution Prevention | Assess possibility of covering for final unroofed yard | Q3 2014 | Investigate the costings and planning requirements of covering the final unroofed yard |
| | Investigate options for fire water retention facility | Q3/4 2014 | Investigate possible locations for fire water retention facility. |

Energy Management

| Objective | Target | Target Date | Method |
|-------------------|---|-------------|--|
| | Carry out Energy Audit | Q2 2014 | Undertake Energy Audit as per EPA requirements. |
| Energy Management | Investigate potential for Anaerobic Digestion (AD) Plant. | 2014 | Carry out a review of AD plants and the feasibility of installing a plant at the Milltown Compost Site |
| | Study possibility of installing a CHP plant in conjunction with AD plant. | 2016 | Further to the review of the AD plant a further review of a CHP plant to be carried out. |

Environmental Management System

| Objective | Target | Target Date | Method |
|-----------|--|-----------------|---|
| | Maintain EMS documentation. | Q2 2014 | Review all EMS procedures |
| E.M.S | Update procedures to reflect operational and control change. | Continuous 2014 | Continuous review of procedures to reflect any changes which occur in terms of site operations or processes. |
| | Maintain EMP by means of Bi- annual assessment. | June / Dec 2014 | Assess biannually to ensure targets are achieved. |

Licence Management

| Objective | Target | Target Date | Method |
|--------------------|---|-----------------|---|
| | Prepare proposal for and finalise Hydrogeological Study. | 2014 | Prepare and submit a proposal detailing the methodology for a hydrogeological study. |
| Licence Management | Assess nuisance control procedures and practices. | Continuous 2014 | Review procedures. Ensure 6 weekly visits of nuisance control company occurs. |
| | Undertake all environmental monitoring as per licence. | 2014 | 1 x Noise Survey 2 x Odour Assessment 12 x Dust Monitoring 2 x Biofilter Analysis 1 x Bioaerosol Study 1 x PM10 Survey |

Incoming waste / Finished product

| Objective | Target | Target Date | Method |
|---------------------------|--|-------------|---|
| Incoming waste / Finished | Investigate new waste types for inclusion in compost process | Continuous | Continue to investigate new waste streams for inclusion in the compost process |
| product | Research new sustainable outlets for the finished products | Continuous | Prepare marketing campaign to source sustainable outlets for the finished product |

Appendix 1

PRTR Scans

Sheet : Facility ID Activities



Environmental Protection Agency

AER Returns Workbook

31/3/2014 15:50

| PRTR# : W0270 | Facility Name : Miltown Composting Systems Limited | Filename W0270_2013 xls | Return Year : 2013 |

Guidance to completing the PRTR workbook

AER Returns Workbook

REFERENCE YEAR 2013

1. FACILITY IDENTIFICATION

| Parent Company Name | Miltown Composting Systems Limited |
|----------------------------|------------------------------------|
| Facility Name | Miltown Composting Systems Limited |
| PRTR Identification Number | W0270 |
| Licence Number | W0270-01 |

Waste or IPPC Classes of Activity

| No. | ciass_name |
|-----|---|
| | Recycling or reclamation of organic substances which are not used |
| | as solvents (including composting and other biological |
| 4.2 | transformation processes). |

| Address 1 | Miltownmore |
|---|------------------------------|
| Address 2 | Fethard |
| Address 3 | County Tipperary |
| Address 4 | |
| | |
| | Tipperary |
| Country | Ireland |
| Coordinates of Location | -7.76889 52.45236 |
| River Basin District | IESE |
| NACE Code | 3832 |
| Main Economic Activity | Recovery of sorted materials |
| AER Returns Contact Name | Derry Murphy |
| AER Returns Contact Email Address | derry@miltowncomposting_ie |
| AER Returns Contact Position | Site manager |
| AER Returns Contact Telephone Number | 0874125625 |
| AER Returns Contact Mobile Phone Number | |
| AER Returns Contact Fax Number | |
| Production Volume | 0.0 |
| Production Volume Units | |
| Number of Installations | 0 |
| Number of Operating Hours in Year | 0 |
| Number of Employees | 6 |
| User Feedback/Comments | |
| | |
| | |
| Web Address | |

2. PRTR CLASS ACTIVITIES

| Activity Number | Activity Name |
|-----------------|---------------|
| 50.1 | General |

3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

| lsi | t applicable? | | and the second second |
|---------------------------------------|--|------------------------|-----------------------|
| Have you been granted an | | | |
| If applicable which activity class ap | | A second second second | |
| Schedule 2 of the n | Sector and the second sector sec | | |

| PRTR# : W0270 | Facility Name : Miltown Composting Systems Limited | Filename : W0270_2013.xls | Return Year : 2013 | Page 1 of 2

Sheet : Facility ID Activities

AER Returns Workbook

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| Is the reduction scheme compliance route being used ? | |
|---|---|
| 4. WASTE IMPORTED/ACCEPTED ONTO SITE | Guidance on waste imported/accepted onto site |
| Do you import/accept waste onto your site for on- site treatment (either recovery or disposal activities) ? | |

| PRTR# : W0270 | Facility Name : Miltown Composting Systems Limited | Filename : W0270_2013.xls | Return Year : 2013 | Page 2 of 2

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AER Returns Workbook

31/3/2014 15:51

4.1 RELEASES TO AIR

1 PRTMM - VACEVR (Facility Nume. Millions Composing Steames United (Florence). VACEVE_2013 M (Return Yele). 2013.

| | RELEASES TO AIR | | Please enter all quantities in this section in KGs | in KGs |
|------------|-----------------|--|--|--|
| | POLLUTANT | METHOD | | QUANTITY |
| No Annevil | Name | M/C/E Method Code Destanation or Description | Emission Point 1 T (Total) KG/ | Method Used Method |
| | | | 0.0 | 0.0 0.0 |

| TION B : REMAINING PRTR POLLUTATIS POLLUTANT POLLUTANT MILLARS 10 AIR | METHOD and | Please onles all quantities in the section in KGs. QLANTITY Descrition Emission Point 1 Tr Troisi) KQYess A Accidentia's KGYess / F (Fugitive) KGYess |
|--|---|---|
| • Select a row by double-clicking on the Pollutant ! | | 0.0 0.0 |

SECTION C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

| Bici-EA31 5, TO ARE Please enter all quantities in this section in KGs | POLLUTANT METHOD POLLUTANT | Nerris More Wend Gate Method Caste Designing Emission Point 1 (Trate), Kolfvear A (Acidemical Yeolfvear Colfvear | Narragen alle de la companya | Padace a court of device interview on the Biblin fract Name (Celtume B) theore direct the dislette Builters |
|---|----------------------------|--|--|---|
| | | Pattutant Ne. | (j) 00 | |

Additional Data Requested from Landfill operators

| for the purposes of the National Inventory on Greenho Tared or utilised on their facilities to accompany the fig initiasion to the environment under (toda) KGlyr for St | For the purposes of the National Inventory on Oreenboure Gases, landfill operators are requested to provide summary data on landfill gas (Mehnen) faused or dilitace on their featilities in accompany the figures for total methane generated. Operators around only sports the Nat methane (H4) emission to the environment under T(total) KG/r for section A: Sector specific PFTR politants above. Please complete the table below: | | | | | |
|--|---|-------|-------------|-------------------------------|--|--|
| inter summary data on the ss of methane flared and / or | Mitown Compositing Systems Limited | | Mathr | of lised | | |
| | T (Total) be/Vear | MICIE | Method Code | Designation or Desoription | Facility Total Capacity m3 per hour | |
| Total estimated methane generation (as per | | - | | | NIA | |
| Methane fiered | | | | | 0.0 | (Total Flaring Capacity) (Total Utiliaing Capacity) |
| Methane utilised in engine/s Net methane emission (as reported in Section A above) | | | | | NIA | frankalan Bright Bright |

| PRTR# : W0270 | Facility Name : Miltown Compositing Systems Limited | Filename : W0270_2013.xis | Return Year : 2013 |

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AER Returns Workbook

Sheet : Treatment Transfers of Waste

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

Nome and License / Permit No. and Address of Final Resovers / Actual Address of Final Desimetion Inspose (HAZZARDOUS WAGTE (HAZZARDOUS WAGTE ONLY) Officient in related Co. W074-03 Co. Caryshene Bonohil Co. Officient Co. W074-03 Toperary.".instand Limenck CoCo Contactions Contractional Relythin Co. Limenic Officient Landfill, W0017-04 K.".holand Letterbane, Annyalla, Castlebl aney, Co. Monaghan, Ireland Hat Viene and Leneration Room and Leneration Room Nazi Late Viene No Nazi Late Viene No Nazi Late Viene No Nazi Late Anna Na Nazi Late Anna Na Nazi Record Daped Ballymount Cross,",",Tallaght,",",Ireland Menaghan CoCo Stotsh Offsite in Ireland Corner landfill, W020-03 Nurendale T/A Panda Offsite in Ireland Vaste W039-02 Location of Treatment Waste Treatment Operation MC/E Method Used Method Used Weighed Weighed Weighed Weighed R10 M ¥ × N R10 R10 50 non-composted fraction of municipal and 4679.7 atmilar wastes non-composted fraction of municipal and 157.78 similar wastes Description of Waste non-composited fraction of municipal and 1707.76 similar wastes quantities on this sheet in Tonne 2.56 mixed municipal wsste a row by double-clubbon the Document Quantity (Tonnes per Year) Hazardous NG No 9N Ne European Waste Code Within the Country 19 05 01 Within the Country 18 05 01 Within the Gauntry 20 03 01 Within the Country 19 05 01 Transfer Destination

| PRTR# : W0270 | Facility Name : Miltown Composting Systems Limited | Filename : W0270_2013.xis | Return Year : 2013 |

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Appendix 2 Environmental Training Records MILLTOWN COMPOSTING SYSTEMS LTD Issue Date: 16 July 2010 Safety Statement Prepared by: NRGE LTD



Final Version

Page: 31

| Task/Work Practice | Specific Training Provided (In-House/Outside Agency/Date) | Name of Employee |
|--|---|--|
| 0,1 hlorcoptor maint Procedure | Konne In House by Facility Manager (OM) 25/4/13 | Night I - J |
| Uptake of back till 3 Changes Hypone broader hostings when you have be backles traceably 2 backles traceably 2 backles to softwark on a | al Marager Our) | Cannon CREMIN Null Moloney Neil Barry. |
| No week through all the operating procedures sopmcol > sopmcol | in House (DM) | Fancoa Chemin Niall Moloney Neil Barry |
| HACCP Foundation 23/9/2013 | Professor Stophyalier CAMDEN BRI | DERRY MURPHY |
| Ve work through all the SOPS - SOPricor -> SOPri 30/9/2013 | in House By Facility Monager Longithat | Don Moore House |
| | | |