

**WASTE RECOVERY SERVICES (FERMOY) LTD.**

**Licence No. W0107-01**

**ANNUAL ENVIRONMENTAL REPORT**

**2011**

Prepared By: Adrian Dunlea.

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## 1 INTRODUCTION

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### 1.1 Reporting Period

The following is the annual report (AER) for the period January 2011 to December 2011 for the Waste Transfer/Recycling Facility operated by Waste Recovery Services (Fermoy) Ltd. (WRS) at Cullenagh, Fermoy, Co Cork. The contents of this report are as specified in Schedule F of Waste licence W0107-01 granted on 18<sup>th</sup> of April 2002.

### 1.2 Waste Activities carried out at the facility

Waste Recovery Services (Fermoy) Ltd. are licenced by the Environmental Protection Agency to carry out waste activities in the operation of a non-hazardous waste transfer station. The facility is licensed to accept non hazardous waste (commercial, industrial and construction and demolition waste). Hazardous or liquid wastes are not accepted at this facility.

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Environmental Protection Agency (the Agency) under Section 40(1) of the said Act granted Waste Licence W107-01 to Waste Recovery Services (Fermoy) Limited to carry on the waste activities listed below at Cullenagh, Fermoy, Co. Cork subject to conditions contained in the licence. These activities are as specified in the third and fourth schedules of the Waste management Act, 1996 (see Tables 1.1 and 1.2).

#### **Third Schedule**

##### **Class 12. Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.**

This activity is limited to the transfer of non-recoverable waste into jumbo skips for transfer to landfill.

##### **Class 13. Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.**

This activity is limited to the temporary storage of non-recoverable wastes prior to dispatch to landfill.

**Table 1.1 Licensed Waste Recovery Activities, in accordance with the Third Schedule of the Waste Management Act 1996**

**Fourth Schedule****Class 3. Recycling or reclamation of metals and metal compounds:**

This activity is limited to the recovery and temporary storage of metal waste separated from waste accepted at the facility.

**Class 4. Recycling or reclamation of other inorganic materials:**

This activity is limited to the recovery and temporary storage of timber waste and of construction and demolition wastes accepted at the facility.

**Class 13. Storage of waste intended for submission to any activity referred to in a Preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced:**

This activity is limited to the storage of materials on site prior to recovery at the facility or removal to a recovery facility off-site

**Table 1.2 Licensed Waste Disposal Activities, in accordance with the Fourth Schedule of the Waste Management Act 1996**

**1.3 Site Infrastructure & Development****1.3.1 Site Infrastructure**

The waste management facility comprises a site office, weighbridge, process sheds, workshop and temporary storage areas as well as a waste water and storm water management system. The operations section of the site is separated into 3 sections:

1. Waste transfer area.
2. Construction & Demolition area.
3. Timber Segregation & Shredding area.

**1.3.2 Waste Handling & Processing Capacity**

As outlined the site is divided into 3 No. Sections, with the processing capacity each of the 3 No. sections outlined in Tables 1.3, 1.4 and 1.5 below.

**1.4 Waste Transfer Area:**

Equipment Type	Equipment Use	Rate of Tonnes Per Hour	Daily Tonnage Capacity - 10 Hour Day >>	Weekly Processing Capacity - 6 Days a Week	Annual Processing Capacity 51 Weeks
Ejector Trailer / Walking Floor, Komatsu - 13 Tonne Excavator, New Holland Skid Steer S160	Loading & Sorting Waste, Transport of Waste Materials	20	200	1,200.00	61,200.00
		<b>Tonnes</b>	<b>Tonnes</b>	<b>Tonnes</b>	<b>Tonnes</b>

**Table 1.3 Equipment in Waste Transfer Area****1.5 Construction & Demolition Area:**

Equipment Type	Equipment Use	Rate of Tonnes Per Hour	Daily Tonnage Capacity - 10 Hour Day >>	Weekly Processing Capacity - 6 Days a Week	Annual Processing Capacity 51 Weeks
Extec – Finger Screener & LJH – Mobile Picking Station, Manitou Telescopic loader, Tipper Lorries	Screening Waste, Sorting & Segregating Waste. Loading & Sorting Waste. Transport of Waste Materials	40.00	400.00	2,400.00	122,400.00
		<b>Tonnes</b>	<b>Tonnes</b>	<b>Tonnes</b>	<b>Tonnes</b>

**Table 1.4 Equipment in Construction & Demolition Area****1.6 Timber Segregation & Shredding Area:**

Equipment Type	Equipment Use	Rate of Tonnes Per Hour	Daily Tonnage Capacity - 10 Hour Day >>	Weekly Processing Capacity - 6 Days a Week	Annual Processing Capacity 51 Weeks
2 Wood Shredders, One 14 Tonne Loader & 13 Tonne Excavator, Walking Floor.	Shredding, Loading Wood & Woodchip	20	240	1,440.00	73,440.00
		<b>Tonnes</b>	<b>Tonnes</b>	<b>Tonnes</b>	<b>Tonnes</b>

**Table 1.5 Equipment in Timber Segregation & Shredding area**

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**WASTE ACTIVITIES**

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The waste categories and quantities which can be accepted at the Facility are outlined in Schedule A (Table 2) of the waste licence (See Table 2.1)

<b>Waste Type</b>	<b>Maximum Tonnes Per annum</b>
Commercial	3000
Industrial	1700
Construction and Demolition	1800
<b>Total</b>	<b>6500</b>

**Table 2.1 Waste types and quantities permitted by waste licence**

The types of wastes received and dispatched at the site during 2011 are outlined in Table 2.2.

This information is commercially sensitive. If you require further details please contact Adrian Dunlea of Waste Recovery Services on 025-31055 with your name, company name, address and email and telephone numbers and we will respond to all queries within 14 Days.

This information is commercially sensitive. If you require further details please contact Adrian Dunlea of Waste Recovery Services on 025-31055 with your name, company name, address and email and telephone numbers and we will respond to all queries within 14 Days.

**Table 2.2 Wastes Received and Dispatched from the 1st January – 31st December 2011**



**1.7 Waste recovered at the site**

This information is commercially sensitive. If you require further details please contact Adrian Dunlea of Waste Recovery Services on 025-31055 with your name, company name, address and email and telephone numbers and we will respond to all queries within 14 Days.

## **2 SUMMARY OF RESULTS AND INTERPRETATION OF ENVIRONMENTAL DATA**

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### **Foul Water Monitoring**

Foul water monitoring is carried out at one location (FW-1). FW-1 is at the foul water holding tank that contains water from the process shed. The holding tank is emptied regularly and the contents sent to the Fermoy Waste Water Treatment Plant. All of the parameters complied with the ELVs set in the Licence.

### **Groundwater Monitoring**

Groundwater monitoring was carried out quarterly at five monitoring wells. Wells BH-1 and BH-3 are within the facility, while the other wells (Dunlea, O’Riordan, O’Leary and Coughlan) are at private residences in the vicinity of the facility. It is likely that BH-3 and O’Leary’s are either upgradient of the facility or not in the same catchment. BH-1, Dunlea’s and O’Riordan’s are down gradient and Coughlan’s is possibly side downgradient of the facility.

The Licence does not set ELVs or Trigger Levels for groundwater. For comparative purposes, the attached tables include the EPA Interim Guideline Values (IGVs) and the Threshold Values (TV) for groundwater quality introduced by the European Communities Environmental Objectives (Groundwater) Regulations 2010 S.I. No. 9 of 2010.

The IGV levels represent typical background or unpolluted conditions; however levels higher than the IGV can occur naturally, depending on the local geological and hydrogeological conditions. While the TVs are more appropriate for large scale abstraction wells used for potable supply, they can be used to assess the significance of contamination where present in groundwater. Because not all parameters monitored have been assigned TVs, the relevant IGV continue to be used for comparative purposes.

The pH levels in all wells, with the exception of O’Riordan’s, were below the IGV range. The low pH is naturally occurring. The ammonia and potassium levels in BH-1, Dunlea’s and O’Riordan’s well exceeded the IGV, but at Dunlea’s were below the TV on all occasions. The manganese level in BH-1, Dunlea’s and Coughlan’s wells exceeded the IGV. The sulphate levels in BH-3 and Dunlea’s wells exceeded the TIV. The high level of potassium in O’Riordan’s well is attributed to the use of potassium carbonate to neutralise the naturally occurring acidic groundwater, which also accounts for the normal pH in this sample.

Faecal coliforms were detected in Dunlea’s well on three occasions, in Coughlan’s and O’Riordan’s well on two occasions and once in BH-3. The total coliform levels were within the ranges previously detected.

In October 2011 a preliminary assessment was carried out on the ammonia and bacteria levels detected in a number of the groundwater monitoring wells. The available data did not allow a definitive identification of the sources of the ammonia and coliforms identified in BH-1 and Dunlea's well. The assessment identified that the groundwater sampling technique used to collect samples for bacterial analysis from taps at the private residence was not best practice, as the sampling taps were not sterilised before the sample was collected. The review also established that the well head at Dunlea's well was not adequately protected and that there was also the potential for septic tanks to impact the groundwater in a number of the wells. The following recommendations were made:-

1. The locations of the septic tanks and percolation areas at O'Leary's, Coughlan's and O'Riordan's should be identified in relation to the position of their respective supply wells. Details of the well construction should also be obtained from the owners, if this is available;
2. The exact location of the septic tank and the associated percolation area to the north of BH-1 should be established to allow an assessment of its potential to impact on the groundwater in this area;
3. Dunlea's well head should be enclosed to prevent entry of contaminants from the ground surface;
4. The sampling methodology should be amended to include for the sterilisation of the sampling points (taps) before samples are collected for bacterial analysis

### **Percolation Testing**

The discharge to the percolation area is monitored quarterly for BOD, suspended solids and mineral. The monitoring confirmed that, with the exception of the TSS on one occasion, the emission complied with the ELVs .

### **Dust**

Dust monitoring was carried out on three occasions at the three monitoring points specified in the Licence. The monitoring was conducted in July-August; August-September and December. The results were all below the deposition limit set in the Licence.

### **Noise**

Noise monitoring was carried out annually at the monitoring points specified in the Licence. The noise levels complied with the ELV set in the Licence.

## **2.1 Review of nuisance controls**

Nuisance controls are reviewed on weekly bases.

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### 3 REPORTED COMPLAINTS AND INCIDENTS

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There have been no complaints received over the last 12 months from January 1<sup>st</sup> to December 31<sup>st</sup> 2011

#### 2011 Reportable incidents

Date / Month / Period	Nature	Cause	Corrective Action
August	Exceedance of the Trigger Level for Suspended Solids at the Percolation area (P-1).	The reason for this exceedance was unknown but unlikely to have been related to site activities, as there is no discharge to the percolation area. The trigger level has not been exceeded at this location previously.	As the monitoring location is within the facility boundary and does not affect any sensitive locations, no corrective actions were required.

#### 4 RESOURCE AND ENERGY CONSUMPTION

The main resources consumed at the facility during the reporting period were electricity, diesel, and lubricants. A summary of the significant resources consumed is tabulated below (See Table 4.1 and Table 4.2) with a summary of the principal resource consumption.

Area of Use	Purpose	Principal Resource Consumed
Site Plant/Vehicles	Placement and processing of Waste	Diesel, Lubricants
Offices and Sheds	Management of Yard and The facility management	Electricity and Water

**Table 4.1 Principal areas of energy and resources usage January 2011 – December 2011**

Resource	Consumption for Reporting Period '2011	Consumption for previous year '2010	Increase / Decrease (%)
<i>Site Management</i>			
Electricity	29,073 Units	31,316 Units	Units (-7.2%)
<i>Site Plant / Vehicles</i>			
Diesel	185,455.87 litres	210,167.75 litres	Litres (-11.8%)
Lubricants	1,974 litres	3,680 litres	Litres (-38.3%)

**Table 4.2 Available data on quantities of Energy and Resources used for  
January 2011 – December 2011**

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**5 ENVIRONMENTAL OBJECTIVES & TARGETS FOR 2011**

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<b>Project</b>	<b>Status</b>
1. Dust Emissions / Monitoring	On going
2. Noise Emissions / Monitoring	On going
3. Ground Water / Monitoring	On going
4. Foul Water / Monitoring	On going

**Table 5.1 Progress on Objectives for site improvement for 2011**

## 6 ENVIRONMENTAL OBJECTIVES & TARGETS FOR 2012

Objective	Target	Responsibility	Timescale
Assess and reduce where possible all dust emissions.	Not to exceed 350 mg/m <sup>2</sup> /day in order to reduce the possibility of causing dust deposition nuisance beyond site boundary.	Adrian Dunlea	Ongoing
Assess and reduce where possible all site noise emissions.	Not to exceed 55 db(a) L <sub>Aeq</sub> (30 minutes) during day time and not to exceed 45 db(a) L <sub>Aeq</sub> (30 minutes) during night at noise monitoring locations in order to reduce the possibility of causing noise nuisance at noise sensitive locations beyond the site boundary.	Adrian Dunlea	Ongoing
Assess and monitoring groundwater quality at the site and in the immediate vicinity of the site	No pollution of groundwater due to site activities.	Adrian Dunlea	Ongoing
Assess and monitoring waste water emissions from the site.	Compliance with emission limits as required by schedule C4 of W0107-01.	Adrian Dunlea	Ongoing
Submit an application for a waste licence review	To increase the amount of waste that can be accepted on site	Adrian Dunlea	April 2012

**Table 6.1 Objectives and Targets for 2011**

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## 7 NEW PROCEDURES PUT IN PLACE DURING 2011

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No new procedures were put in place during 2011

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## 8 MANAGEMENT AND STAFFING STRUCTURES

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The management and staffing structures in place at WRS (see Figure 7.1) ensures clear communication of environmental policy and responsibility for environmental management on-site. A critical part of this management system is the provision of health and safety and environmental training to all staff members to ensure that all staff members from management to operatives are aware of their responsibilities and best practice to ensure the firm meets its environmental obligations.

Position	Name
General Manager	John Dunlea
Facility Manager / Site Manager / Environmental Manager	Adrian Dunlea
Deputy Facility Manager / Administration / Logistics	Shane Dunlea
Logistics	Ronan Dunlea

**Table 8.1 Management and staffing structures at Waste Recovery Services (Fermoy) Ltd.**

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## 9 PUBLIC INFORMATION PROGRAMME

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WRS have developed and implemented a communications procedure as part of the site EMS. In accordance with condition 2.4 of the waste licence, this procedure ensures that members of the public can obtain relevant information, at all reasonable times, concerning the environmental performance of the facility.

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## 10 FINANCIAL PROVISION

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An environmental liabilities risk assessment and site closure report have been prepared and submitted to the Agency. These reports contain proposals for financial provision which have been agreed by the Agency.

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Adrian Dunlea

Environmental Manager

**Waste Recovery Services (Fermoy) Ltd**

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## **APPENDIX I. 2011 MONITORING RESULTS**

## Quarter 1 Ground Water Results

Parameter	Units	BH-1	BH-3	Dunlea	Coughlan	O'Riordan	O'Leary	IGV
pH	pH units	5.6	5.8	5.7	5.2	ns	5.5	6.5-9.5
Temperature	°C	11.0	10.2	10.5	13.1	ns	11.5	25
Conductivity	mS/cm	0.489	0.561	0.707	0.137	ns	0.102	1.000
Dissolved Oxygen	mg/l	3.1	9.1	3.0	5.1	ns	8.4	-
Ammonia	mg/l	0.734	0.020	0.151	<0.007	ns	<0.007	0.12
Iron	µg/l	534.9	60.6	71.9	13.8	ns	17.2	200
Zinc	µg/l	36.7	1.6	40.5	105.5	ns	56.9	100
Copper	mg/l	<0.03	<0.03	0.011	0.039	ns	0.047	0.03
Potassium	mg/l	21.5	2.9	10.1	0.7	ns	0.8	5
Sodium	mg/l	25.2	26.3	44.8	8.7	ns	8.8	150
Total Coliforms	mpn / 100 ml	196	21	5	22	ns	5	0
Faecal Coliforms	mpn / 100 ml	0	0	0	0	ns	0	0
Chloride	mg/l	29.4	27.0	48.0	12.7	ns	16.0	30
TON	mg/l	4.03	5.87	2.32	6.45	ns	5.1	NAC
Sulphate	mg/l	133	188	215	10.1	ns	1.6	200
Ortho-phosphate	mg/l	0.014	<0.009	0.041	0.013	ns	0.017	0.03
Barium	µg/l	39.7	54.5	93.8	13.3	ns	11.5	100
Cadmium	µg/l	0.7	0.3	0.5	0.2	ns	<0.1	5
Chromium	µg/l	<1	<1	<1	<1	ns	<1	30
Mercury	µg/l	<0.02	0.04	0.08	0.08	ns	0.04	1
Manganese	µg/l	4130	132	4294	79.4	ns	12.5	50
Nickel	µg/l	3.3	1.9	11.4	5.3	ns	1.9	20
Lead	µg/l	0.9	0.4	0.2	4.9	ns	2.4	10
Boron	mg/l	0.09	0.03	0.09	0.06	ns	<0.02	1
Calcium	mg/l	46.3	74.0	92.9	10.9	ns	5.0	200
Total Phosphorus	mg/l	0.07	0.03	0.065	0.016	ns	0.05	NE
TPH	µg/l	<10	<10	<10	<10	ns	<10	10
TOC	mg/l	3.5	1.8	3.8	1.7	ns	0.4	NAC
Magnesium	mg/l	12.1	14.5	22.7	2.7	ns	3.0	50

NAC – No Abnormal Change

NE – Not Established

NS – Not Sampled

## Quarter 2 Ground Water Results

Parameter	Units	BH-1	BH-3	Dunlea	Coughlan	O’Riordan	O’Leary	IGV
pH	pH units	6.1	6.3	5.8	5.2	7.4	5.6	6.5-9.5
Temperature	°C	12.2	12.1	11.3	12.6	13.5	11.7	25
Conductivity	mS/cm	0.511	0.740	0.814	0.129	0.599	0.116	1.000
Dissolved Oxygen	mg/l	3.4	9.0	3.0	6.7	6.3	9.4	-
Ammonia	mg/l	0.755	0.009	0.140	0.010	0.179	<0.007	0.12
Iron	µg/l	537.0	54.3	37.1	<20.0	<20.0	29.2	200
Zinc	µg/l	8.2	2.4	30.0	10.2	209.2	54.1	100
Copper	mg/l	<0.003	<0.003	0.009	0.004	0.319	0.034	0.03
Potassium	mg/l	26.1	3.6	10.7	0.7	59.4	0.9	5
Sodium	mg/l	29.0	34.5	39.4	8.9	15.9	9.0	150
Total Coliforms	mpn / 100 ml	27	0	>201	8	11	21	0
Faecal Coliforms	mpn / 100 ml	0	0	1	0	0	0	0
Chloride	mg/l	#	#	#	#	11.2	#	30
TON	mg/l	#	#	#	#	3.878	#	NAC
Sulphate	mg/l	#	#	#	#	17.4	#	200
Ortho-phosphate	mg/l	#	#	#	#	0.012	#	0.03
Barium	µg/l	#	#	#	#	25.7	#	100
Cadmium	µg/l	#	#	#	#	0.3	#	5
Chromium	µg/l	#	#	#	#	<1.0	#	30
Mercury	µg/l	#	#	#	#	0.12	#	1
Manganese	µg/l	#	#	#	#	965.8	#	50
Nickel	µg/l	#	#	#	#	10.9	#	20
Lead	µg/l	#	#	#	#	2.9	#	10
Boron	mg/l	#	#	#	#	0.15	#	1
Calcium	mg/l	#	#	#	#	4.5	#	200
Total Phosphorus	mg/l	#	#	#	#	0.14	#	NE
TPH	µg/l	<10	47	#	#	<10	#	10
TOC	mg/l	#	#	#	#	1.44	#	NAC
Magnesium	mg/l	#	#	#	#	2.8	#	50

NAC – No Abnormal Change

NE – Not Established

# - Not required – Annual analysis was carried out in Q1 2011

### Quarter 3 Ground Water Results

Parameter	Units	BH-1	BH-3	Dunlea	Coughlan	O’Riordan	O’Leary	IGV
pH	pH units	5.7	5.9	5.8	5.1	7.6	5.6	6.5-9.5
Temperature	°C	11.4	12.2	11.3	12.3	12.1	12.2	25
Conductivity	mS/cm	0.573	0.797	0.747	0.123	0.616	0.096	1.000
Dissolved Oxygen	mg/l	3.1	8.9	3.1	5.0	6.6	8.4	-
Ammonia	mg/l	0.833	0.027	0.133	<0.007	0.264	0.044	0.12
Iron	µg/l	84.7	27.9	<20	<20	<20	484.3	200
Zinc	µg/l	7.5	2.5	21.9	6.1	28.1	32.1	100
Copper	mg/l	<0.003	<0.003	0.005	<0.003	0.039	0.025	0.03
Potassium	mg/l	21.4	2.2	8.8	0.6	163.5	0.7	5
Sodium	mg/l	27.2	29.6	38.7	9.4	15.3	7.9	150
Total Coliforms	mpn / 100 ml	3	0	435	3	66	199	0
Faecal Coliforms	mpn / 100 ml	0	0	2	1	3	0	0

#### Quarter 4 Ground Water Results

Parameter	Units	BH-1	BH-3	Dunlea	Coughlan	O'Riordan	O'Leary	GTV	IGV
pH	pH units	5.6	5.1	5.9	5.5	7.2	5.8	-	6.5-9.5
Temperature	°C	9.8	10.3	9.2	9.5	7.6	8.7	-	25
Conductivity	mS/cm	0.428	0.793	0.858	0.134	0.597	0.111	1.875	1.000
Dissolved Oxygen	mg/l	3.8	9.6	3.5	7.1	4.3	8.3	-	-
Ammonia	mg/l	0.208	0.019	0.139	0.011	0.117	0.014	0.175	0.12
Iron	µg/l	513.5	<20	<20	<20	<20	249.3	-	200
Zinc	µg/l	6.9	2.7	10.3	19.6	32.2	23.7	-	100
Copper	mg/l	<0.003	<0.003	0.006	0.008	0.038	0.020	1.5	0.03
Potassium	mg/l	16.5	6.4	13.1	1.0	173.8	1.0	-	5
Sodium	mg/l	16.9	54.5	40.6	9.0	14.5	8.5	150	150
Total Coliforms	mpn / 100 ml	202	8	202	66	34	202	-	0
Faecal Coliforms	mpn / 100 ml	0	1	2	4	5	0	-	0

NAC – No Abnormal Change

NE – Not Established

### Percolation Area Monitoring Results 2011

Parameter	Units	Q1	Q2	Q3	Q4	Trigger Level
BOD	mg/l	<1	<1	<1	<1	25
Total Suspended Solids	mg/l	<5	41	<5	<5	35
Mineral Oils	mg/l	<0.01	0.11	<0.01	<0.01	5

### Foul Water Monitoring Results 2011

Parameter	Units	Q1	Q2	Q3	Q4	Emission Limit
pH	pH units	7.5	7.7	7.9	7.9	6 – 10
Temperature	°C	10.6	10.6	15.6	9	42
BOD	mg/l	99	7.0	24	ND	3,000
COD	mg/l	325	161.0	176	335	-
Detergents	mg/l	0.34	<0.21	0.45	0.67	-
Oils, fats & greases	mg/l	<4	<4	<4	<4.0	100
Ammonia	mg/l N	15.187	16.2	4.949	27.56	100
Total Suspended Solids	mg/l	60	11	17	66	2,000

### Dust Results 2011

Sample Location	July/Aug mg/m <sup>2</sup> /day	Aug/Sept mg/m <sup>2</sup> /day	December mg/m <sup>2</sup> /day	Emission Limit (mg/m <sup>2</sup> /day)
Dust Point 1	82	102	200	350
Dust Point 2	73	66	72	350
Dust Point 3	105	40	88	350

**APPENDIX II. 2011 PRTR**



Environmental Protection Agency

| PRTR# : W0107 | Facility Name : Waste Recovery Services (Fermoy) Limited |  
 Filename : w0107\_2011 Completed.xls | Return Year : 2011 |

[Guidance to completing the PRTR workbook](#)

# AER Returns Workbook

Version 1.1.13

<b>REFERENCE YEAR</b>	2011
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## 1. FACILITY IDENTIFICATION

Parent Company Name	Waste Recovery Services (Fermoy) Limited
Facility Name	Waste Recovery Services (Fermoy) Limited
PRTR Identification Number	W0107
Licence Number	W0107-01

### Waste or IPPC Classes of Activity

No.	class name
4.3	Recycling or reclamation of metals and metal compounds.
3.12	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
3.13	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.
4.13	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.
4.4	Recycling or reclamation of other inorganic materials.
Address 1	Cullenagh
Address 2	Fermoy
Address 3	County Cork
Address 4	
	Cork
Country	Ireland
Coordinates of Location	-8.30669 52.1138
River Basin District	IESW
NACE Code	3832
Main Economic Activity	Recovery of sorted materials
AER Returns Contact Name	Adrian Dunlea
AER Returns Contact Email Address	a.dunlea@wrs.ie
AER Returns Contact Position	Environmental Manager
AER Returns Contact Telephone Number	025-31 055
AER Returns Contact Mobile Phone Number	087-6957668
AER Returns Contact Fax Number	025-31 528
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	0
User Feedback/Comments	
Web Address	

## 2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
50.1	General
50.1	General

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

Is it applicable?	No
-------------------	----



**SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS**

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
No. Annex II	Name	M/C/E	Method Used		Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description				
						0.0	0.0	0.0

\* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

**SECTION B : REMAINING PRTR POLLUTANTS**

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
No. Annex II	Name	M/C/E	Method Used		Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description				
						0.0	0.0	0.0

\* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

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

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
Pollutant No.	Name	M/C/E	Method Used		Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description				
						0.0	0.0	0.0

\* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

**Additional Data Requested from Landfill operators**

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T (total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill: Waste Recovery Services (Famoy) Limited

Please enter summary data on the quantities of methane flared and/ or utilised	T (Total) kg/Year	M/C/E	Method Used		Facility Total Capacity m3 per hour
			Method Code	Designation or Description	
Total estimated methane generation (as per site model)	0.0				N/A
Methane flared	0.0				0.0 (Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0 (Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0				N/A

**SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS**

Data on ambient monitoring of storm surface water or groundwater, conducted as part of your license requirements, should NOT be submitted under AER / PRTR Reporting as it

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT		Method Used			QUANTITY			
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

\* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

**SECTION B : REMAINING PRTR POLLUTANTS**

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT		Method Used			QUANTITY			
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

\* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

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

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT		Method Used			QUANTITY			
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

\* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

## SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
No. Annex II	Name	M/CE	Method Used		Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description				
					0.0	0.0	0.0	0.0

\* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

## SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
Pollutant No.	Name	M/CE	Method Used		Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description				
238	Ammonia (as N)	C	PER	Calc from the volume of wastewater removed in 2011 and laboratory results	0.98	0.98	0.0	0.0
303	BOD	C	PER	Calc from the volume of wastewater removed in 2011 and laboratory results	2.65	2.65	0.0	0.0
306	COD	C	PER	Calc from the volume of wastewater removed in 2011 and laboratory results	13.68	13.68	0.0	0.0
314	Fats, Oils and Greases	C	PER	Calc from the volume of wastewater removed in 2011 and laboratory results	0.4	0.4	0.0	0.0
308	Detergents (as MBAS)	C	PER	Calc from the volume of wastewater removed in 2011 and laboratory results	0.025	0.025	0.0	0.0
240	Suspended Solids	C	PER	Calc from the volume of wastewater removed in 2011 and laboratory results	2.28	2.28	0.0	0.0

\* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.4 RELEASES TO LAND

[Link to previous years emissions data](#)

| PRTR# : W0107 | Facility Name : Waste Recovery Services (Ferry) Limited | Filename : w0107\_2011\_Compiled.xls | Return Year : 2011 |

04/07/12 17:10

SECTION A : PRTR POLLUTANTS

RELEASES TO LAND					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
No. Annex II	Name	MVE	Method Used		Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	
			Method Code	Designation or Description				
						0.0	0.0	0.0

\* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO LAND					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
Pollutant No.	Name	MVE	Method Used		Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	
			Method Code	Designation or Description				
						0.0	0.0	0.0

\* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Please enter all quantities on this sheet in Tonnes

Waste

ation  
Site  
(Y)

This information is commercially sensitive. If you require further details please contact Adrian Dunlea of Waste Recovery Services on 025-31055 with your name, company name, address and email and telephone numbers and we will respond to all queries within 14 Days.

This information is commercially sensitive. If you require further details please contact Adrian Dunlea of Waste Recovery Services on 025-31055 with your name, company name, address and email and telephone numbers and we will respond to all queries within 14 Days.

## **APPENDIX III - Noise Monitoring Report for 2011**



**ANNUAL NOISE MONITORING REPORT  
2011**

**FOR**

**WASTE RECOVERY SERVICES LTD  
CULLENAGH  
FERMOY  
CO. CORK**

**Waste Licence Reference no.  
W0107-1**

**October 2011**





# ANNUAL NOISE MONITORING REPORT 2011

## WASTE RECOVERY SERVICES LTD CULLENAGH FERMOY CO. CORK

### Revision Status of This Document

Rev. Nr.	Description of Changes	Prepared by:	Reviewed by:	Approved by:	Date:
0	Issue to Client	PL			19.10.11

**Client:** Waste Recovery Services Ltd.

**Keywords:** Waste Licence Ref: W0170-1, compliance environmental noise monitoring.

**Abstract:** This report presents the 2011 noise monitoring results for Waste Recovery Services (WRS) Ltd. Cullenagh, Fermoy, Co. Cork in response to the noise compliance limits specified in the sites waste facility licence.

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## 1 INTRODUCTION

Enviroglan Ltd was commissioned by Waste Recovery Services (WRS) Ltd to undertake the 2011 noise monitoring survey to assess compliance with the site's waste licence reference no. W0107-1. The waste licence contains specific conditions in relation to noise, namely condition 6.4 which states that; *There shall be no clearly audible tonal component or impulsive component in the noise emissions from the activity at the noise sensitive locations.*

The emissions limits for noise are set out in Schedule C Emission Limits of the waste licence. The noise emission limits are set in Table C.1 of the waste licence. The limits are Daytime 55 dB(A)  $L_{Aeq}$  and at night 45 dB(A)  $L_{Aeq}$ . The facility does not operate at night, hence only day time monitoring was conducted.

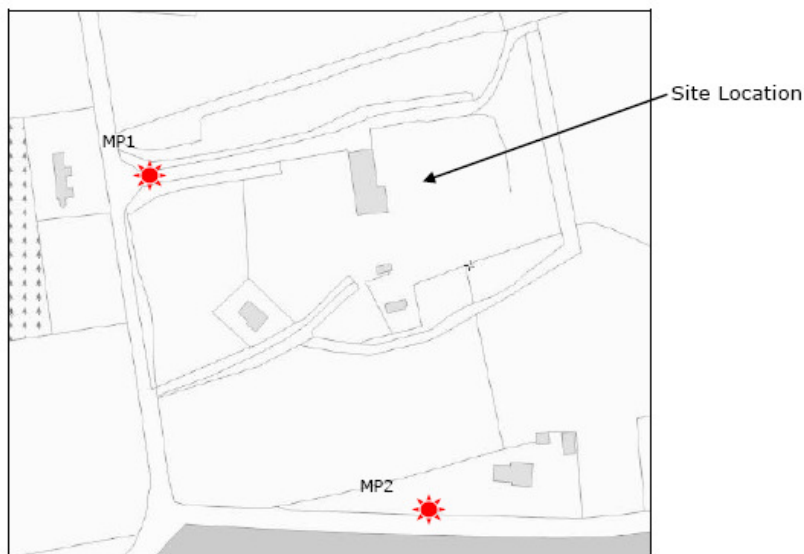
The monitoring locations are outlined in Schedule D of the waste licence and are given here in Table 1.1.

**Table 1.1: Noise Monitoring Locations**

Station	Designation
MP1	At Waste Recovery Services facility entrance.
MP2	At entrance to detached dwelling South of facility.

Figure 1.1 shows the location of the monitoring points with regards to the site.

**Figure 1.1: Noise Monitoring Locations**



## **2 NOISE MONITORING**

### **2.1 Equipment and Measurement Conditions**

Daytime noise monitoring was conducted on the 7 October 2011 between the hours of 12:00 pm and 14:30 pm.

Night-time monitoring was not carried out as the site does not operate and there are no noise sources emitting from the site during night-time hours.

#### **2.1.1 Equipment Detail**

The noise surveys were carried out using a Bruel and Kjaer 2250 Type 1 sound level. The instrument was calibrated prior to commencing each survey using the recommended calibration procedure and a Bruel and Kjaer calibrator.

#### **2.1.2 Monitoring Requirements**

Measurements were conducted with the microphone orientated in the free field to compensate for disturbance caused by the physical presence of the microphone and was directed towards the site operations. The meter was mounted on a tripod at 1.5 m above ground level.

Thirty minute noise measurements were undertaken at two locations. All measurements were taken in accordance with ISO 1996 (Description and Measurement of Environmental Noise) and in accordance with the EPA's 'Guidance Note for Noise in Relation to Scheduled Activities', Second Edition, 2006.

#### **2.1.3 Weather Conditions**

The average wind speed was less than 5 m/s and the weather conditions were mild and sunny.

## 2.2 Measurement Units and Standards

The use of the a-weighted decibels (dB(A)) as the basic unit for general environmental and traffic noise is widely accepted and it has been demonstrated that noise levels in dB(A) from a wide range of sources adequately represent loudness.

In order to understand the terms used below, some definitions of the terms used are outlined as follows:

- L<sub>A10</sub>** Refers to those noise levels in the top 10 percentile of the sampling interval; it is the level which is exceeded for 10 % of the measurement period. It is used to determine the intermittent high noise level features of locally generated noise and usually gives an indicator of the level of traffic.
- L<sub>A90</sub>** Refers to those noise levels in the lower 90 percentile of the sampling interval. It is the level which is exceeded for 90 % of the measurement period. It will therefore exclude the intermittent features of traffic and is used to estimate background noise.
- L<sub>Aeq</sub>** The average level recorded over the sampling period. The closer the L<sub>Aeq</sub> value is to either the L<sub>A10</sub> or L<sub>A90</sub> value indicates the relative impact of the intermittent sources and their contribution to the L<sub>Aeq</sub> value.

## 2.3 Noise Monitoring Locations and Noise Sources

Monitoring was conducted at two locations. Noise monitoring locations are shown in Figure 1.

**MP1** is located adjacent to the site entrance. Sources of noise at this location are intermittent traffic, dog barking at the house across the road from the site entrance. It should be noted that at the time of the survey, the road was closed to general traffic, but was open for local access. This was due to the road being re-surfaced at the time.

Bird song was also noted during the noise survey.

**MP2** is located south of the site at the entrance to a detached house. The dominant noise sources at this location during the noise monitoring event were vehicles travelling on the loose chippings which had recently been laid. Again this section of road was closed, but opens for local access.

Bird song was also noted. Grass cutting at the adjacent Fermoy Golf Club, and golfers playing golf was also noted as a noise source during the monitoring event.

### 3 RESULTS

#### 3.1 Daytime Noise Measurements 7 October 2011

Results of the daytime noise monitoring conducted on the 7 October 2011 are summarised in Table 3.1.

#### 3.2 Frequency Analysis

Abridged one-third octave band data for the sampling locations are shown in 3.2. The daytime one third octave band spectra are presented in Figures 3.1 to 3.2.

Table 3.1: Daytime Noise Data 7<sup>th</sup> October 2011

Location	Time	Monitoring Data dB(A)		
		L <sub>Aeq</sub>	L <sub>A90</sub>	L <sub>A10</sub>
N1	11:52 - 12:23	45.9	37.0	45.8
N2	14:26 - 15:02	53.8	35.2	47.4

Table 3.2: Abridged Daytime One-third Octave Band Data 7<sup>th</sup> October 2011

Location	Octave Band Data (Hz)								
	31.5	63	125	250	500	1k	2k	4k	8k
N1	14.7	18.6	24.0	28.7	34.3	39.0	32.1	27.5	22.8
N2	---	19.9	29.5	36.7	41.9	46.4	39.8	38.4	33.1

## 4 DISCUSSION

### 4.1 Noise Emission Compliance

The waste licence stipulates noise emissions resulting from activities at the facility should not exceed 55 dB(A)  $L_{Aeq}$  during daytime hours (08:00 to 20:00 hrs). Table 4.1 summarises the  $L_{Aeq}$  data and the daytime limit.

**Table 4.1: Daytime Noise  $L_{Aeq}$  Data**

Location	Time	$L_{Aeq}$ , dB(A)	Daytime $L_{Aeq}$ Limit, dB(A)
MP1	7 October 2011 11:52 - 12:23	45.9	55
MP2	7 October 2011 14:26 - 15:02	53.8	55

The measurements taken at MP1 and MP2 comply with the daytime limit of 55dB (A).

### 4.2 Tonal Compliance

ISO standard 1996 - 2 2007 "Description, measurement and assessment of environmental noise -- Part 2: Determination of environmental noise levels", provides one-third octave band survey assessment procedures to be used to verify the presence of audible tones. If the level difference between the two adjacent bands is 15 dB or more in the 25 - 125 Hz (low) frequency bands, 8 dB or more in the 160 - 400 Hz (medium) bands or 5 dB or more in the 500 - 10,000 Hz (high) bands, then a tone is present.

Impulsive noise is characterised by almost instantaneous sounds such as bangs or clatters.

Based on the EPA's 2006 guidance, the preferred penalty rating methodology requires a tonal or impulsive penalty of 5 dB(A) to noises containing;

- A distinguishable, discrete continuous note
- Distinct impulses irregular enough to attract attention
- A 5 dB(A) difference in adjacent centre bands
- A tone is clearly audible.

**No tonal components were audible or identified in the one-third octave band data for all locations monitored during the noise survey.**

Figure 4.1: Frequency Analysis for MP1, 7 October 2011

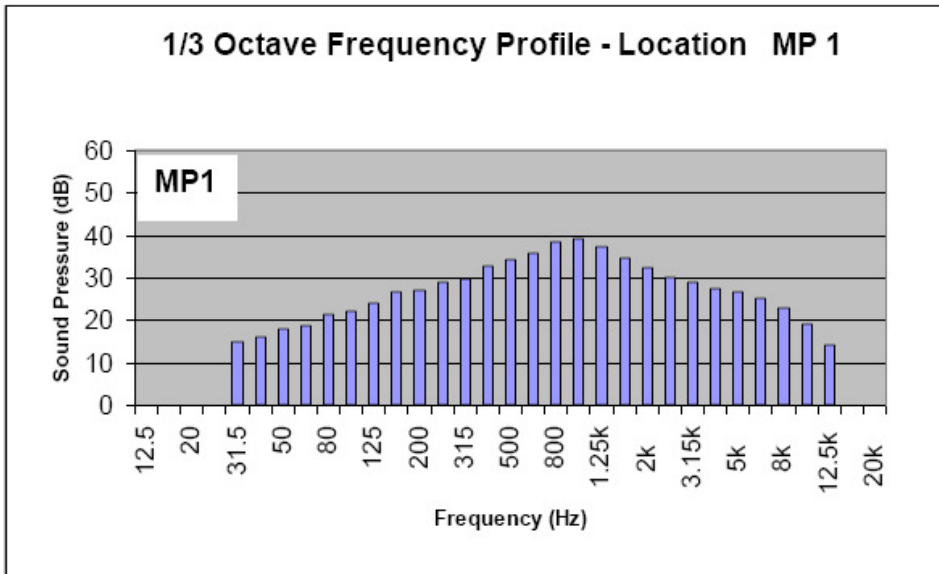
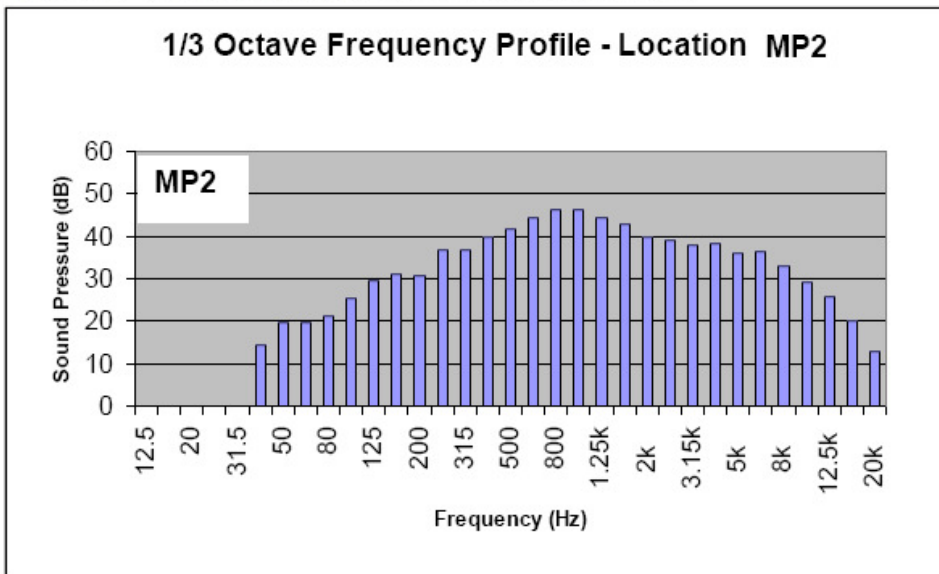


Figure 4.2: Frequency Analysis for MP2, 7 October 2011





## 5 CONCLUSIONS

Noise monitoring conducted at the facility showed that the measurements taken were within the allowable limits of 55 dB(A). It is recommended that noise monitoring continue to be conducted in accordance with waste licence W0107-1.

