WASTE RECOVERY SERVICES (FERMOY) LTD.

Licence No. W0107-01

ANNUAL ENVIRONMENTAL REPORT

2010

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1 INTRODUCTION

1.1 Reporting Period

The following is the annual report (AER) for the period January 2010 to December 2010 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 18th 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
		Tonnes	**Tonnes**	**Tonnes**	**Tonnes**

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
		Tonnes	**Tonnes**	**Tonnes**	**Tonnes**

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
		Tonnes	**Tonnes**	**Tonnes**	**Tonnes**

Table 1.5 Equipment in Timber Segregation & Shredding area

WASTE ACTIVITES

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)

Waste Type	Maximum Tonnes Per annum
Commercial	3000
Industrial	1700
Construction and Demolition	1800
Total	**6500**

Table 2.1 Waste types and quantities permitted by waste licence

The types of wastes received and dispatched at the site during 2010 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.

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2 SUMMARY OF RESULTS AND INTERPRETATION OF ENVIRONMENTAL DATA

Foul Water Monitoring

Foul water monitoring is carried out at one location (FW-1), which is shown on Figure 2.1. 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.

With the exception of pH, BOD and ammonia, all of the parameters complied with the ELVs set in the Licence. In Q1, the pH was marginally below the ELV set in the Licence. The pH, BOD and ammonia exceeded the ELVs in Q3. WRS carried out an investigation into the cause, but could not identify a source for the exceedance of the ELV.

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) on groundwater quality.

In Q1, 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. The copper level in O'Leary's well exceeded the IGV. Faecal coliforms were not detected and the total coliform levels were within the ranges previously detected. 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.

The chloride and total petroleum hydrocarbons (TPH) levels in BH-1 exceeded the IGVs, TPH was not previously detected at this location. The manganese levels in all wells, with the exception of O'Leary's exceeded the IGV. High levels of manganese have been detected in these wells previously. As the high levels occur in both up and down gradient wells it is probable that the manganese is naturally occurring in the groundwater in this area. The chloride levels in BH-1 while above the IGV were similar to the levels measured at this location in Q1 2008 and are not related to site activities, as this well is located up gradient of the facility.

In Q2, the pH levels in all wells, with the exception of O'Riordan's, were below the IGV range. The low pH is considered to be naturally occurring. Elevated potassium levels were detected in BH-1, Dunleas and O'Riordan's wells. The ammonia levels in BH-1, Coughlan's and O'Riordan's well exceeded the IGV. The copper level in O'Riordan's and O'Leary's well exceeded the IGV. The total coliform levels in all of the wells are within the ranges previously detected. Faecal coliforms were not detected in any of the wells.

In Q3, the pH levels in all wells were below the IGV range. Elevated potassium levels were detected in BH-1 and Dunlea's well. The ammonia levels in BH-1and Dulea's well exceeded the IGV, while the copper level in O'Riordan's and O'Leary's well exceeded the IGV. The total coliform levels in all of the wells are within the ranges previously detected. Faecal coliforms were detected in O'Riordan's well.

In Q4, the pH levels in all wells except, O'Riordan's well, were below the IGV range. Elevated potassium was detected in BH-1, O'Riordan's and Dunlea's wells. The ammonia levels in all wells exceeded the IGV, as did the copper level in O'Riordan's and O'Leary's wells and the zinc level in O'Leary's well. The total coliform levels in all of the wells were within the ranges previously detected. Faecal coliforms were detected at very low levels in Coughlan's well.

Percolation Testing

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

Dust

Dust monitoring was carried out on three occasions at the three monitoring points specified in the Licence. With the exception of Dust Point 2, the results were below the deposition limit. The deposition limit was exceeded at Dust Point 2 in the July/August and December monitoring events. The dust exceedances were due to woodchip loading which was carried out close to the dust gauge during the monitoring periods.

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.

3 REPORTED COMPLAINTS AND INCIDENTS

There have been no complaints received over the last 12 months from January 1st to December 31st 2010

2010 Reportable incidents

Date / Month / Period	Nature	Cause	Corrective Action
July to August	Exceedance of Dust ELV at dust monitoring point 2	The loading of Woodchip close to Monitoring Point	As stock piles reduce we can move the loading area for woodchip away from dust monitoring point
Quarter 3 Foul Water Monitoring	The pH, BOD and ammonia exceeded the Foul Water ELVs	Unknown	We carried out an investigation into the cause, but could not identify a source for the deterioration in foul water quality.
December	Exceedance of Dust ELV at dust monitoring point 2	This due to woodchip loading, which was carried out close to the Dust gauge during the monitoring period.	As stock piles reduce we can move the loading area for woodchip away from dust monitoring point

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 2010 – December 2010

Resource	**Consumption for Reporting Period '2010**	**Consumption for previous year '2009**	**Increase / Decrease (%)**
Site Management			
Electricity	31,316 Units	71,852 Units	40,536 Units (-56.42%)
Site Plant / Vehicles			
Diesel	210,167.75 litres	221,811.32 litres	11,643.57 litres (-5.25%)
Lubricants	3,680 litres	3,200 litres	480 litres (15%)

Note: There was a decrease in electricity usage due low welding and maintenance of plant & equipment.

Table 4.2 Available data on quantities of Energy and Resources used for January 2010 – December 2010

5 ENVIRONMENTAL OBJECTIVES & TARGETS FOR 2010

Project	Status
1. Dust Emissions / Monitoring	On going
2. Noise Emissions / Monitoring	On going
3. Ground Water / Monitoring	On going
4. Foul Water / Monitoring	On going
5. Install a security barrier	Postponed
6. Crush Stock Pile of Rubble (Concrete Blocks, Stones etc)	Completed

Table 5.1 Progress on Objectives for site improvement for 2010

6 ENVIRONMENTAL OBJECTIVES & TARGETS FOR 2011

Objective	Target	Responsibility	Timescale
Assess and reduce where possible all dust emissions.	Not to exceed 350 mg/m^2/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_{AEq} (30 minutes) during day time and not to exceed 45 db(a) L_{AEq} (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

Table 6.1 Objectives and Targets for 2011

7 NEW PROCEDURES PUT IN PLACE DURING 2010

No new procedures were put in place during 2010

8 MANAGEMENT AND STAFFING STRUCTURES

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.

9 PUBLIC INFORMATION PROGRAMME

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.

10 FINANCIAL PROVISION

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

APPENDIX I. 2010 MONITORING RESULTS

2010 Groundwater Monitoring results - BH-1

Parameter	Units	Q1	Q2	Q3	Q4	IGV
pH	pH units	5.8	5.8	5.7	5.8	6.5-9.5
Temperature	°C	7.1	14.5	-	5.8	25
Conductivity	mS/cm	0.735	506	0.549	0.484	1
Dissolved Oxygen	mg/l	5.56	10.36	8.5	4.58	-
Ammonia	mg/l	0.263	1.01	1.24	0.709	0.12
Iron	µg/l	42.6	73.8	308.6	124	200
Zinc	µg/l	138.2	11	25.4	<1	100
Copper	mg/l	0.023	0.004	0.004	<0.003	0.03
Potassium	mg/l	11.7	20.5	21.9	24.6	5
Sodium	mg/l	22	23.2	24.8	24.3	150
Total Coliforms	mpn / 100 ml	18	>2420	8,164	48	0
Faecal Coliforms	mpn / 100 ml	0	0	0	0	0
Chloride	mg/l	32.6	-	-	-	30
TON	mg/l	2.98	-	-	-	NAC
Sulphate	mg/l	186	-	-	-	200
Ortho-phosphate	mg/l	0.02	-	-	-	0.03
Barium	µg/l	92.9	-	-	-	100
Cadmium	µg/l	0.3	-	-	-	5
Chromium	µg/l	<1.0	-	-	-	30
Mercury	µg/l	<0.02	-	-	-	1
Manganese	µg/l	3594	-	-	-	50
Nickel	µg/l	12	-	-	-	20
Lead	µg/l	0.9	-	-	-	10
Boron	mg/l	0.08	-	-	-	1
Calcium	mg/l	103.2	-	-	-	200
Total Phosphorus	mg/l	0.04	-	-	-	NE
TPH	µg/l	31	<10	-	-	10
TOC	mg/l	4.9	-	-	-	NAC

2010 Groundwater Monitoring results - BH-3

Parameter	Units	Q1	Q2	Q3	Q4	IGV
pH	pH units	5.6	6.1	6	5.8	6.5-9.5
Temperature	°C	9.9	11.9	-	5.9	25
Conductivity	mS/cm	0.458	497	0.59	0.529	1
Dissolved Oxygen	mg/l	9.38	8.84	8.4	9.44	-
Ammonia	mg/l	0.012	0.017	0.024	0.371	0.12
Iron	µg/l	11.1	17.4	20.2	195	200
Zinc	µg/l	1.3	1.9	1.4	<1	100
Copper	mg/l	<0.003	<0.003	<0.003	<0.003	0.03
Potassium	mg/l	3.1	2	2	4.2	5
Sodium	mg/l	19.8	19.9	22.3	24.7	150
Total Coliforms	mpn / 100 ml	2	0	1,011	0	0
Faecal Coliforms	mpn / 100 ml	0	0	0	0	0
Chloride	mg/l	22.4	-	-	-	30
TON	mg/l	6.76	-	-	-	NAC
Sulphate	mg/l	92.7	-	-	-	200
Ortho-phosphate	mg/l	<0.009	-	-	-	0.03
Barium	µg/l	61.8	-	-	-	100
Cadmium	µg/l	<0.1	-	-	-	5
Chromium	µg/l	<1.0	-	-	-	30
Mercury	µg/l	<0.02	-	-	-	1
Manganese	µg/l	124.1	-	-	-	50
Nickel	µg/l	2.4	-	-	-	20
Lead	µg/l	<0.3	-	-	-	10
Boron	mg/l	0.02	-	-	-	1
Calcium	mg/l	62.9	-	-	-	200
Total Phosphorus	mg/l	<0.01	-	-	-	NE
TPH	µg/l	<10	<10	-	-	10
TOC	mg/l	3.8	-	-	-	NAC

2010 Groundwater Monitoring results - Dunlea

Parameter	Units	Q1	Q2	Q3	Q4	IGV
pH	pH units	5.6	5.9	5.7	5.8	6.5-9.5
Temperature	°C	11	10.9	-	5.8	25
Conductivity	mS/cm	0.483	664	0.759	0.688	1
Dissolved Oxygen	mg/l	7.18	4.31	3.1	4.05	-
Ammonia	mg/l	0.7	0.104	0.14	0.38	0.12
Iron	µg/l	96.6	8	<5	<5	200
Zinc	µg/l	6.2	6.6	9.2	17.5	100
Copper	mg/l	<0.003	0.003	0.005	<0.003	0.03
Potassium	mg/l	21	6.8	10.1	11.2	5
Sodium	mg/l	31.9	29.2	32.5	35	150
Total Coliforms	mpn / 100 ml	1	2	38	365	0
Faecal Coliforms	mpn / 100 ml	0	0	0	0	0
Chloride	mg/l	26.8	-	-	-	30
TON	mg/l	6.43	-	-	-	NAC
Sulphate	mg/l	84.6	-	-	-	200
Ortho-phosphate	mg/l	<0.009	-	-	-	0.03
Barium	µg/l	43	-	-	-	100
Cadmium	µg/l	0.3	-	-	-	5
Chromium	µg/l	14.7	-	-	-	30
Mercury	µg/l	<0.02	-	-	-	1
Manganese	µg/l	3630	-	-	-	50
Nickel	µg/l	16	-	-	-	20
Lead	µg/l	<0.3	-	-	-	10
Boron	mg/l	0.08	-	-	-	1
Calcium	mg/l	49.1	-	-	-	200
Total Phosphorus	mg/l	<0.01	-	-	-	NE
TPH	µg/l	<10	<10	-	-	10
TOC	mg/l	2.1	-	-	-	NAC

2010 Groundwater Monitoring results - Coughlan

Parameter	Units	Q1	Q2	Q3	Q4	IGV
pH	pH units	5.2	5.2	5	5.2	6.5-9.5
Temperature	°C	10.5	12.1	-	5.4	25
Conductivity	mS/cm	0.148	152	0.136	0.148	1
Dissolved Oxygen	mg/l	6.45	6.49	5.2	6.31	-
Ammonia	mg/l	<0.007	0.013	0.019	0.221	0.12
Iron	µg/l	12.9	<5	<5	<5	200
Zinc	µg/l	14.1	6.1	7.1	6.6	100
Copper	mg/l	0.005	<0.003	0.004	<0.003	0.03
Potassium	mg/l	0.7	0.7	0.7	1	5
Sodium	mg/l	8	8.9	8.9	10.5	150
Total Coliforms	mpn / 100 ml	2	2	14	1	0
Faecal Coliforms	mpn / 100 ml	0	0	0	1	0
Chloride	mg/l	13.7	-	-	-	30
TON	mg/l	7	-	-	-	NAC
Sulphate	mg/l	9.4	-	-	-	200
Ortho-phosphate	mg/l	<0.009	-	-	-	0.03
Barium	µg/l	19.6	-	-	-	100
Cadmium	µg/l	<0.1	-	-	-	5
Chromium	µg/l	<1.0	-	-	-	30
Mercury	µg/l	<0.02	-	-	-	1
Manganese	µg/l	90.5	-	-	-	50
Nickel	µg/l	4.5	-	-	-	20
Lead	µg/l	0.5	-	-	-	10
Boron	mg/l	0.07	-	-	-	1
Calcium	mg/l	12	-	-	-	200
Total Phosphorus	mg/l	<0.01	-	-	-	NE
TPH	µg/l	<10	35	-	-	10
TOC	mg/l	1.6	-	-	-	NAC

2010 Groundwater Monitoring results - O'Riordan

Parameter	Units	Q1	Q2	Q3	Q4	IGV
pH	pH units	8.8	8.8	5.3	7.1	6.5-9.5
Temperature	°C	9.7	12.5	-	6.8	25
Conductivity	mS/cm	0.426	449	0.127	0.302	1
Dissolved Oxygen	mg/l	4.26	5.36	3.6	6.75	-
Ammonia	mg/l	0.064	0.163	0.113	0.302	0.12
Iron	µg/l	37.1	52.9	<5	<5	200
Zinc	µg/l	13.6	38.2	80.3	56.1	100
Copper	mg/l	0.019	0.051	0.139	0.131	0.03
Potassium	mg/l	114.1	130.4	2.1	105	5
Sodium	mg/l	13.7	14	13.8	15	150
Total Coliforms	mpn / 100 ml	2	58	41	0	0
Faecal Coliforms	mpn / 100 ml	0	0	32	0	0
Chloride	mg/l	11.8	-	-	-	30
TON	mg/l	3.71	-	-	-	NAC
Sulphate	mg/l	21.1	-	-	-	200
Ortho-phosphate	mg/l	<0.009	-	-	-	0.03
Barium	µg/l	26.5	-	-	-	100
Cadmium	µg/l	<0.1	-	-	-	5
Chromium	µg/l	<1.0	-	-	-	30
Mercury	µg/l	<0.02	-	-	-	1
Manganese	µg/l	665.5	-	-	-	50
Nickel	µg/l	6.7	-	-	-	20
Lead	µg/l	1	-	-	-	10
Boron	mg/l	0.15	-	-	-	1
Calcium	mg/l	4.3	-	-	-	200
Total Phosphorus	mg/l	0.013	-	-	-	NE
TPH	µg/l	<10	<10	-	-	10
TOC	mg/l	0.9	-	-	-	NAC

2010 Groundwater Monitoring results - O'Leary

Parameter	Units	Q1	Q2	Q3	Q4	IGV
pH	pH units	5.7	5.7	5.5	5.6	6.5-9.5
Temperature	°C	10.5	11.8	-	5.9	25
Conductivity	mS/cm	0.102	101	0.097	0.101	1
Dissolved Oxygen	mg/l	7.8	7.94	7.4	8.28	-
Ammonia	mg/l	<0.007	0.034	0.011	0.183	0.12
Iron	µg/l	57.1	26.1	40.5	31	200
Zinc	µg/l	26.7	32.7	29.4	118	100
Copper	mg/l	0.024	0.042	0.031	0.034	0.03
Potassium	mg/l	2.6	0.7	0.9	1	5
Sodium	mg/l	8.6	8.6	8.2	10	150
Total Coliforms	mpn / 100 ml	8	248	>201	261	0
Faecal Coliforms	mpn / 100 ml	0	0	0	0	0
Chloride	mg/l	10.7	-	-	-	30
TON	mg/l	4.48	-	-	-	NAC
Sulphate	mg/l	2.91	-	-	-	200
Ortho-phosphate	mg/l	0.022	-	-	-	0.03
Barium	µg/l	17.7	-	-	-	100
Cadmium	µg/l	<0.1	-	-	-	5
Chromium	µg/l	<1.0	-	-	-	30
Mercury	µg/l	<0.02	-	-	-	1
Manganese	µg/l	14	-	-	-	50
Nickel	µg/l	1.8	-	-	-	20
Lead	µg/l	1.3	-	-	-	10
Boron	mg/l	<0.02	-	-	-	1
Calcium	mg/l	4.6	-	-	-	200
Total Phosphorus	mg/l	0.023	-	-	-	NE
TPH	µg/l	<10	<10	-	-	10
TOC	mg/l	0.4	-	-	-	NAC

Percolation Area Monitoring Results 2010 - PW-1

Parameter	Units	Q1	Q2	Q3	Q4	Trigger Level
BOD	mg/l	<1	<1	<6	<2	25
Total Suspended Solids	mg/l	<5	<5	<5	<5	35
Mineral Oils	mg/l	<0.01	<0.001	<0.01	<0.01	5

Foul Water Monitoring Results 2010 - FW-1

Parameter	Units	Q1	Q2	Q3	Q4	Emission Limit
pH	pH units	5.5	6.8	4.6	6.5	6 – 10
Temperature	°C	4.2	13.5		1.3	42
BOD	mg/l	>2,444	360	9,590	1,618	3,000
COD	mg/l	5,120	1,757	12,167	1,485	-
Detergents	mg/l	<0.1	<0.1	1.22	<0.21	-
Oils, fats & greases	mg/l	12	95	30	4	100
Ammonia	mg/l N	63.8	57.4	170.3	49.8	100
Total Suspended Solids	mg/l	415	110	143	72	2,000

Dust Results 2010

Sample Location	July/Aug	Aug/Sept	December	Emission Limit
	mg/m^2/day	mg/m^2/day	mg/m^2/day	(mg/m^2/day)
Dust Point 1	177	248	45	350
Dust Point 2	459	268	905	350
Dust Point 3	121	94	63	350

APPENDIX II. 2010 PRTR

Environmental Protection Agency

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.12

REFERENCE YEAR	2010

1. FACILITY IDENTIFICATION

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

Waste or IPPC Classes of Activity

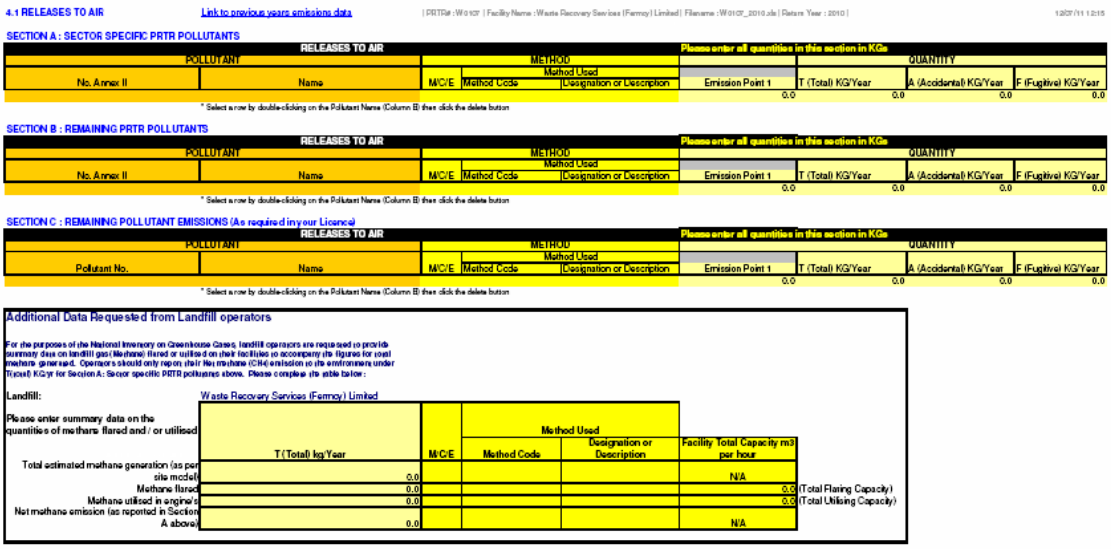
No.	class_name
4.3	Recycling or reclamation of metals and metal compounds.
3.12	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
3.13	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary 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	
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	025-31055
AER Returns Contact Mobile Phone Number	087-6957666
AER Returns Contact Fax Number	025-31526
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?	
Have you been granted an exemption ?	
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	



4.1 RELEASES TO AIR — Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
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 AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
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 AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
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

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 Traced) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below :

Landfill: Waste Recovery Services (Fermoy) Limited

Please enter summary data on the quantities of methane flared and / or utilised	T (Total) kg/Year	M/C/E	Method Used: Method Code	Method Used: Designation or Description	Facility Total Capacity m3 per hour	
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	

4.2 RELEASES TO WATERS

Link to previous years emissions data | PRTR# : W0107 | Facility Name : Waste Recovery Services (Fermoy) L

Data on ambient monitoring of storm/surface water or groundwater

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO WATERS				
POLLUTANT				
			Method Used	
No. Annex II	Name	M/C/E	Method Code	Designation or Description

* 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				
POLLUTANT				
			Method Used	
No. Annex II	Name	M/C/E	Method Code	Designation or Description

* 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				
POLLUTANT				
			Method Used	
Pollutant No.	Name	M/C/E	Method Code	Designation or Description

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

4.3 RELEASES TO WASTEWATER OR SEWER

Link to previous years emissions data | PRTR# : W0107 | Facility Name : Waste Recovery Services (Fermoy) Limited | Filename : W0107_2

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			
			Method Used					
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 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			
			Method Used					
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
238	Ammonia (as N)	C	PER	Calc from the volume of wastewater removed in 2010 and laboratory results	4.654735	4.654735	0.0	0.0
303	BOD	C	PER	Calc from the volume of wastewater removed in 2010 and laboratory results	191.0992	191.0992	0.0	0.0
306	COD	C	PER	Calc from the volume of wastewater removed in 2010 and laboratory results	279.9796	279.9796	0.0	0.0
314	Fats, Oils and Greases	C	PER	Calc from the volume of wastewater removed in 2010 and laboratory results	1.922993	1.922993	0.0	0.0
308	Detergents (as MBAS)	C	PER	Calc from the volume of wastewater removed in 2010 and laboratory results	0.066555	0.066555	0.0	0.0
240	Suspended Solids	C	PER	Calc from the volume of wastewater removed in 2010 and laboratory results	10.09231	10.09231	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 R

SECTION A : PRTR POLLUTANTS

RELEASES TO LAND			
POLLUTANT			METHO
No. Annex II	Name	M/C/E	Meth Method Code

* 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			
POLLUTANT			METHO
Pollutant No.	Name	M/C/E	Meth Method Code

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

ecovery Services (Fermoy) Limited | Filename : W0107_2010.xls | Return Year : 2010 | 12/07/11 12:15

Please enter all quantities in this section in KGs			
D		QUANTITY	
iod Used			
Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
	0.0	0.0	0.0

Please enter all quantities in this section in KGs			
D		QUANTITY	
iod Used			
Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
	0.0	0.0	0.0

8. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

Please enter all quantities on this sheet in Tonnes

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used: M/C/E	Method Used: Method Used	Location of Treatment	Haz Waste: Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste: Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License/Permit No and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
Within the Country	02 01 04	No	3.8	waste plastics (except packaging)	R3	M	Weighed	Offsite in Ireland	MF Recycling Ltd,Register No. [illegible] Permit No. [illegible]	Former Ford Premises,Centre Park Road & Marina Walk,Cork,,Ireland		
Within the Country	03 01 05	No	10.02	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04	R3	M	Weighed	Offsite in Ireland	GD Recycling,WFP-TS-[illegible]	Ballydoe,Ballypatrick,Clonmel,Co. Tipperary,Ireland		
Within the Country	15 01 01	No	20.4	paper and cardboard packaging	R3	M	Weighed	Offsite in Ireland	Glenamore Cartons,WFP-CK-[illegible]	Ballygriffin,Castletownroche,Co. Cork,,Ireland		
Within the Country	15 01 01	No	62.18	paper and cardboard packaging	R3	M	Weighed	Offsite in Ireland	Glentown Enterprises Ltd.,WFP-CD-[illegible]	Sandfieldcourt Industrial Estate,Glanmire,Co. Cork,,Ireland		
Within the Country	15 01 01	No	289.05	paper and cardboard packaging	R3	M	Weighed	Offsite in Ireland	Greenstar Environmental Services,W0[illegible]	Forge Hill,Kinsale Road,Cork,,Ireland		
Within the Country	15 01 02	No	14.28	plastic packaging	R3	M	Weighed	Offsite in Ireland	Glenamore Cartons,WFP-CK-[illegible]	Ballygriffin,Castletownroche,Co. Cork,,Ireland		
Within the Country	15 01 02	No	8.68	plastic packaging	R3	M	Weighed	Offsite in Ireland	Leinster Environmentals,WP [illegible]	Clermont Park,Haggardstown,Dundalk,Co. Louth,Ireland		
Within the Country	15 01 02	No	18.8	plastic packaging	R3	M	Weighed	Offsite in Ireland	Polymer Recovery Ltd.,WFP-LS-[illegible]	Portarlington Industrial Estate,East Canal Road,Portarlington ,Co. Laois,Ireland		
Within the Country	15 01 02	No	22.66	plastic packaging	R3	M	Weighed	Offsite in Ireland	Greenstar Environmental Services,W0[illegible]	Forge Hill,Kinsale Road,Cork,,Ireland		
Within the Country	15 01 02	No	34.16	plastic packaging	R3	M	Weighed	Offsite in Ireland	MF Recycling Ltd,Register No. [illegible] Permit No. [illegible]	Former Ford Premises,Centre Park Road & Marina Walk,Cork,,Ireland		
Within the Country	16 02 13	Yes	0.02	discarded equipment containing hazardous components (15) other than those mentioned in 16 02 09 to 16 02 12	R4	M	Weighed	Offsite in Ireland	KMK Metals Recycling,W0[illegible]	Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	KMK Metals Recovery,W0[illegible],Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland
Within the Country	16 06 01	Yes	2.18	lead batteries	R4	M	Weighed	Offsite in Ireland	Bailey Recycling Ltd.,WRTM[illegible]	Ballyduff ,Thurles,Co. Tipperary,,Ireland	Battery Recycling Ltd.,WRTM[illegible],Ballyduff,Thurles,Co. Tipperary,,Ireland	Ballyduff,Thurles,Co. Tipperary,,Ireland
Within the Country	16 06 01	Yes	0.88	lead batteries	R4	M	Weighed	Offsite in Ireland	Enva Ireland,W0[illegible]	Clonminam Industrial Estate,Portlaoise,Co. Laois,,Ireland	Enva Ireland,W0[illegible],Clonminam Industrial Estate,Portlaoise,Co. Laois,,Ireland	Clonminam Industrial Estate,Portlaoise,Co. Laois,,Ireland
Within the Country	17 04 01	No	0.48	copper, bronze, brass	R4	M	Weighed	Offsite in Ireland	Bailey Recycling Ltd.,WRTM[illegible]	Ballyduff ,Thurles,Co. Tipperary,,Ireland		
Within the Country	17 04 02	No	2.18	aluminium	R4	M	Weighed	Offsite in Ireland	Pouladuff Dismantlers Cork Ltd,WFP-CK-[illegible]	Forge Hill,Pouladuff Road,Cork,,Ireland		
Within the Country	17 04 11	No	0.64	cables other than those mentioned in 17 04 10	R4	M	Weighed	Offsite in Ireland	Bailey Recycling Ltd.,WRTM[illegible]	Ballyduff ,Thurles,Co. Tipperary,,Ireland		
Within the Country	17 05 04	No	222.86	soil and stones other than those mentioned in 17 05 03	R5	M	Weighed	Offsite in Ireland	David Cuthke Plant Hire,WFP-CK-[illegible]	Ballymaneagh,Rathcormac,Co. Cork,,Ireland		
Within the Country	17 05 04	No	4867.28	soil and stones other than those mentioned in 17 05 03	R5	M	Weighed	Offsite in Ireland	Lotus Civil Engineering,CK (S) [illegible]	Scartbarry,Watergrasshill,Co. Cork,,Ireland		
Within the Country	17 08 02	No	16.04	gypsum-based construction materials other than those mentioned in 17 08 01	R5	M	Weighed	Offsite in Ireland	Panda Waste Services,W0[illegible]	Rathdrinagh,Beauparc,Navan,Co. Meath,Ireland		
Within the Country	19 12 07	No	2423.8	wood other than that mentioned in 19 12 06	R3	M	Weighed	Offsite in Ireland	Smartloc Ltd.,CK (S) [illegible]	Lissarda,Co. Cork,,,Ireland		
Within the Country	19 12 07	No	314.18	wood other than that mentioned in 19 12 06	R3	M	Weighed	Offsite in Ireland	Eras Eco Ltd,W0[illegible]	Foxhole,Youghal,Co. Cork,,Ireland		
Within the Country	19 12 07	No	344.84	wood other than that mentioned in 19 12 06	R3	M	Weighed	Offsite in Ireland	Finsa Forest Products,P[illegible]	Scariff,Co. Clare,,,Ireland		
Within the Country	19 12 07	No	680.48	wood other than that mentioned in 19 12 06	R3	M	Weighed	Offsite in Ireland	Medite Europe Ltd.,P[illegible]	Redmondstown,Clonmel,Co. Tipperary,,Ireland		
Within the Country	19 12 12	No	1460.8	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	D1	M	Weighed	Offsite in Ireland	Laois County Council - Kyletalesha Landfill,W0[illegible]	Clonsoughey,Kyletalesha,Co. Laois,,Ireland		
Within the Country	19 12 12	No	2147.3	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	D1	M	Weighed	Offsite in Ireland	Wicklow County Council,W0[illegible]	Rampere,Co. Wicklow,,,Ireland		
Within the Country	19 12 12	No	6641.4	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R3	M	Weighed	Offsite in Ireland	Greyhound Recycling & Recovery Ltd,W0[illegible]	Crag Avenue,Clondalkin Industrial Estate,Clondalkin ,Dublin 22,Ireland		
Within the Country	20 01 39	No	21.08	plastics	R3	M	Weighed	Offsite in Ireland	Polymer Recovery Ltd.,WFP-LS-[illegible]	Portarlington Industrial Estate,East Canal Road,Portarlington ,Co. Laois,Ireland		
Within the Country	20 01 39	No	2.46	plastics	R3	M	Weighed	Offsite in Ireland	MF Plastics (Bernard O'Brien),CK (S) [illegible]	Ballinvinnig,Waterfall,Co. Cork,,Ireland		
Within the Country	20 01 39	No	21.68	plastics	R3	M	Weighed	Offsite in Ireland	MF Recycling Ltd,Register No. [illegible] Permit No. [illegible]	Former Ford Premises,Centre Park Road & Marina Walk,Cork,,Ireland		
Within the Country	20 01 40	No	14.48	metals	R4	M	Weighed	Offsite in Ireland	Bailey Recycling Ltd.,WRTM[illegible]	Ballyduff ,Thurles,Co. Tipperary,,Ireland		
Within the Country	20 01 40	No	272.46	metals	R4	M	Weighed	Offsite in Ireland	Cork Metal Co. Ltd.,CK (S) [illegible]	Dublin Hill,Cork,,,Ireland		
Within the Country	**20 01 40**	**No**	**287.84**	**metals**	**R4**	**M**	**Weighed**	**Offsite in Ireland**	Hammond Lane Metal Co.,WFP-CK-[illegible]	Ringaskiddy,Co. Cork,,,Ireland		
Within the Country	20 01 40	No	0.8	metals	R4	M	Weighed	Offsite in Ireland	Pouladuff Dismantlers Cork Ltd,WFP-CK-[illegible]	Forge Hill,Pouladuff Road,Cork,,Ireland		
Within the Country	20 03 01	No	420.68	mixed municipal waste	R3	M	Weighed	Offsite in Ireland	Panda Waste Services,W0[illegible]	Rathdrinagh,Beauparc,Navan,Co. Meath,Ireland		

Link to previous years waste data
Link to previous years waste summary data & percentage change

APPENDIX III. 2010 NOISE MONITORING REPORT

DixonBrosnan

environmental consultants

dixonbrosnan.com

Project

2010 annual environmental noise survey at
Waste Recovery Services, Cullenagh, Fermoy, Co. Cork
EPA waste licence W0107-01

Client

Waste Recovery Services

Project no	No pages	Client reference	©DixonBrosnan 2010
10006	8	W0107-01	v031210

DixonBrosnan Shronagreehy Kealkil Bantry Co Cork
Tel 086 813 1195 | damian@dixonbrosnan.com | www.dixonbrosnan.com

Report no	Date	Edit	Prepared by	Chkd
10006.1.1	22.12.10	Release 1	Damian Brosnan	CD

1 Introduction

1.1 DixonBrosnan Environmental Consultants were instructed by Waste Recovery Services (WRS) to carry out the 2010 annual environmental noise survey at their waste management facility at Cullenagh, Fermoy, Co. Cork. The survey is a requirement of waste licence W0107-01 issued by the Environmental Protection Agency in respect of the facility. Several noise conditions included in waste licence W0107-01 are presented in **appendix 1**.

1.2 The noise survey was carried out on Wednesday 15.12.10 during daytime hours while facility operations were in progress. As the facility operates during daytime hours only, a night-time survey was not undertaken. Monitoring was conducted at two measurement locations specified in licence W0107-01 as shown in **appendix 2**. Survey methodology, equipment specifications and weather conditions are outlined in **appendix 3**.

1.3 During the survey, noise emissions arose from several sources at the WRS facility as follows:

- Three tracked excavators in continuous use in main yard.
- Telescopic loader in occasional use around site.
- Truck movements around site, particularly through entrance and weighbridge area.

2 Results & analysis

2.1 Noise data recorded are presented in **appendix 4**. $L_{Aeq\ 30\ min}$ levels recorded at MP1 and MP2 were 54 and 55 dB respectively. These levels were dominated by intermittent passing road traffic. The contribution arising from the WRS facility was estimated at 29 dB at MP1 and 39 dB at MP2. These contributions are significantly lower than the 55 dB daytime noise limit specified in waste licence W0107-01.

2.2 No audible tones or impulses were detected at either station, and thus facility emissions complied with condition 6.4 of the licence. Frequency analysis detected a tone in the 63 Hz band at MP1 (see frequency spectra in **appendix 5**), traced to a single vehicle movement at the site entrance. However the tone was not of audible significance, and therefore did not constitute a breach of condition 6.4.

2.3 Overall, **noise levels recorded were satisfactory**.

6.4. There shall be no clearly audible tonal component or impulsive component in the noise emissions from the activity at the noise sensitive locations.

C.1 Noise Emissions: (Measured at the monitoring points indicated in Table D.1.1).

Day dB(A) L_{Aeq}(30 minutes)	Night dB(A) L_{Aeq}(30 minutes)
55	45

Table D.1.1 Noise, groundwater, foul water and dust monitoring locations

Noise Stations	Groundwater Stations	Foul Water Stations	
MP1[Note1]	GW1 (Borehole of John Dunlea)	FW1[Note1]	
MP2[Note1]	GW2[Note1]		
	GW3[Note1]		
	Private wells (Condition 9.4.4)		
	P1 (Emissions to percolation area)[Note1]		

D.3 Noise

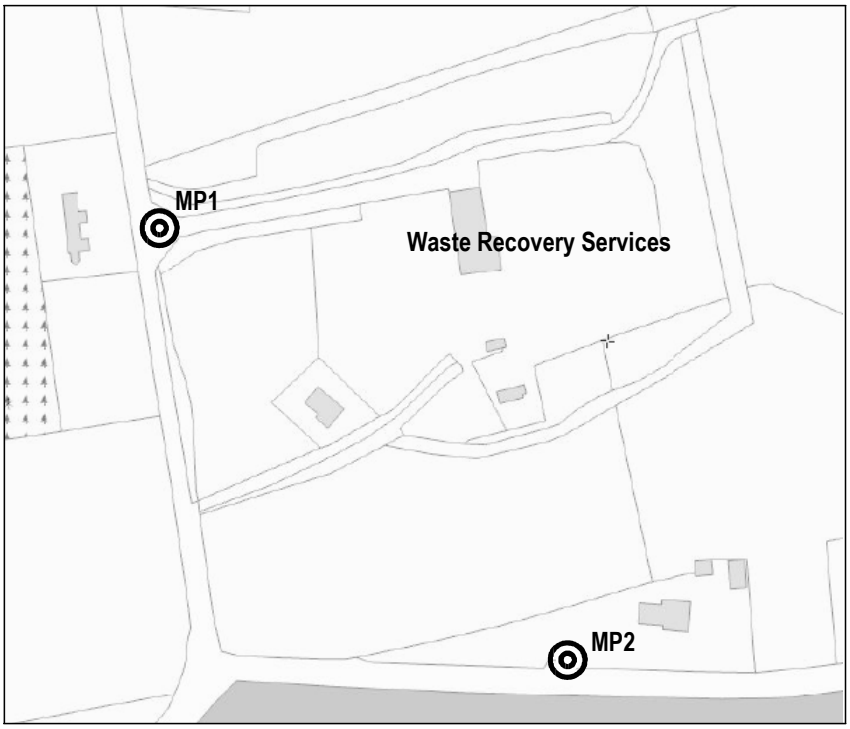
Table D.3.1 Noise Monitoring Frequency and Technique

Parameter	Monitoring Frequency	Analysis Method/Technique
$L(A)_{EQ}$ [30 minutes]	Annual	Standard[Note 1]
$L(A)_{10}$ [30 minutes]	Annual	Standard[Note 1]
$L(A)_{90}$ [30 minutes]	Annual	Standard[Note 1]
Frequency Analysis(1/3 Octave band analysis)	Annual	Standard[Note 1]

Note 1: "International Standards Organisation. ISO 1996. Acoustics - description and Measurement of Environmental noise. Parts 1, 2 and 3."

MP1: At Waste Recovery Services facility entrance.

MP2: At entrance to detached dwelling S of facility.



Appendix 3: Survey details

Survey	Project ref.	10006
	Purpose	2010 annual waste licence compliance survey
	Locations	Waste Recovery Services Fermoy MP1 MP2
	Comment	Facility operating
Event	Date	15.12.10
	Day	Wednesday
	Time	1350-1530
Operator	On behalf of DixonBrosnan	Damian Brosnan
Conditions	Cloud cover	100 %
	Precipitation	0 mm
	Temperature	6 ^{0}C
Wind	Direction	N
	Speed	0-1 m/s
	Measurement	Anemo anemometer 2 m above ground level
Sound level meter	Instrument	Bruel & Kjaer Type 2250
	Instrument serial no.	2506594
	Microphone serial no.	2529531
	Application	BZ7224 Version 2.5
	Bandwidth	Broadband
	Max input level	141.16 dB
	Broadband weightings	Time: Fast Frequency: AC
	Spectrum weightings	Time: Fast Frequency: Z
	Windscreen correction	UA-1650
	Sound Field correction	Free-field
	UKAS calibration	09.12.09
	UKAS calibration certificate	Available on request
Onsite calibration	Time	15/12/2010 13:57:19
	Calibration type	External
	Sensitivity	47.71 mV/Pa
	Post measurement check	93.9 dB
Onsite calibrator	Instrument	Bruel & Kjaer Type 4231
	Instrument serial no.	2342544
	UKAS calibration	13.10.10
	UKAS calibration certificate	Available on request
Methodology	Standard	ISO 1996 Acoustics: Description and measurement of environmental noise - Part 1 (2003) & Part 2 (2007)
	Exceptions	-
	Intervals	30 min

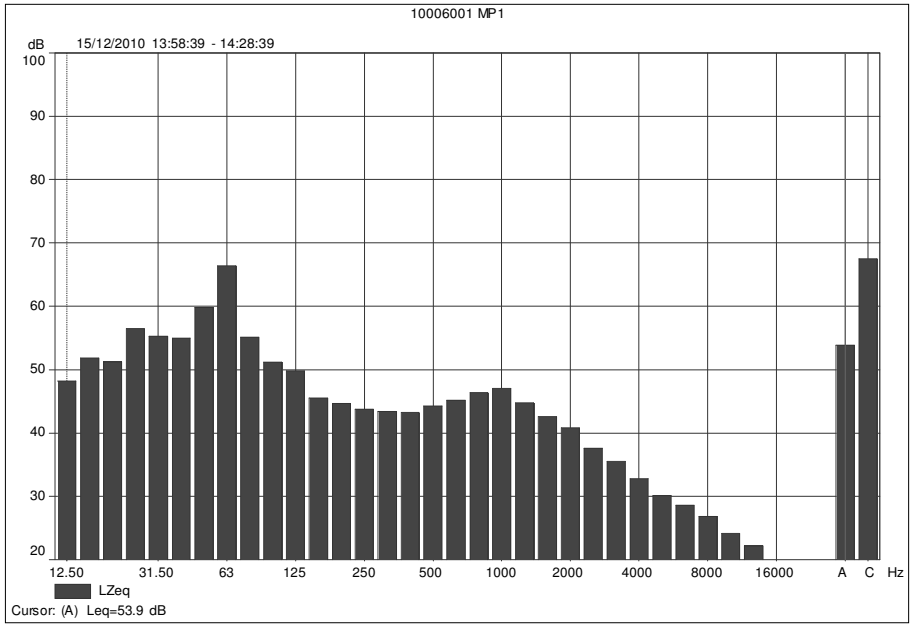
Appendix 4: Noise data

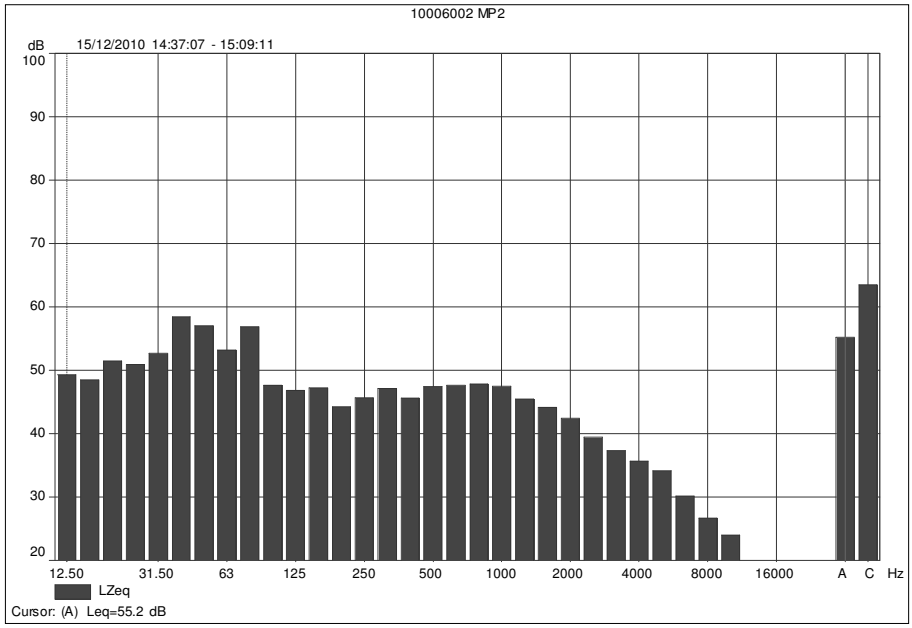
Survey date: 15.12.10

Station	Time	$L_{Aeq\ 30\ min}$ dB	$L_{AF10\ 30\ min}$ dB	$L_{AF90\ 30\ min}$ dB	Specific level* dB	Noise audible
MP1	1358-1428	54	53	28	29	Prior to 1405, no facility emissions audible apart from several car movements through entrance 1358-1404. From 1405, onsite plant slightly audible. Intermittent passing road traffic dominant when present. During lulls, distant road traffic and dog barking to N faintly audible. Bird song/calls and aircraft.
MP2	1437-1509	55	49	39	39	Pause x2 to allow adjacent vehicle movements through dwelling gateway. Excavators at facility continuously audible clearly. No other site emissions audible. Sporadic local traffic dominant when present. Bird song/calls and aircraft. Voices audible on occasion from golf course across road.

*Specific level: Sound pressure level contribution considered attributable to facility, determined using real time assessment, field notes, time history profiles, statistical analysis, frequency spectra, near field correction if applicable, and other parameters.

Appendix 5: Frequency spectra





Appendix : Glossary

Ambient	Total noise environment at a location, including all sounds present.
A-weighting	Weighting or adjustment applied to sound level to approximate non-linear frequency response of human ear. Denoted by suffix A in parameters such as $L_{Aeq\,T}$, $L_{AF10\,T}$, etc.
Background level	$L_{AF90\,T}$. A-weighted sound pressure level of residual noise exceeded for 90 % of time interval T.
Decibel	Shortened to dB. Unit of noise measurement scale. Based on logarithmic scale so cannot be simply added or subtracted. 3 dB difference is smallest change perceptible to human ear. 10 dB difference is perceived as doubling or halving of sound level. **Throughout this report noise levels are presented as decibels relative to 20 µPa**. Examples of decibel levels are as follows: 20 dB: very quiet room; 30-35 dB: night-time rural environment; 55-65 dB: conversation; 80 dB: busy pub; 100 dB: nightclub.
Fast response	0.125 seconds response time of sound level meter to changing noise levels. Denoted by suffix F in parameters such as $L_{AF10\,T}$, $L_{AF90\,T}$, etc.
Free field	Noise environment away from all surfaces other than ground ie. outside near field.
Frequency	Number of cycles per second of a sound or vibration wave. Low frequency noise may be perceived as hum, while whine represents higher frequency. Range of human hearing approaches 20-20,000 Hertz.
Hertz	Shortened to Hz. Unit of frequency measurement.
Impulse	Noise which is of short duration, typically less than one second, sound pressure level of which is significantly higher than background.
Interval	Time period T over which noise monitoring is conducted. Denoted by T in $L_{Aeq\,T}$, $L_{AF90\,T}$, etc.
$L_{Aeq\,T}$	Equivalent continuous sound level during interval T, effectively representing average A-weighted noise level.
L_{AF}	Sound pressure level averaged over one second, and changing each second in fluctuating noise environment.
$L_{AF10\,T}$	Sound pressure level exceeded for 10% of interval T, usually used to quantify traffic noise.
$L_{AF90\,T}$	Sound pressure level exceeded for 90% of interval T, usually used to quantify background noise. May also be used to describe noise level from continuous steady or almost-steady source, particularly where local noise environment fluctuates.
$L_{Req\,T}$	Rating noise level, derived from $L_{Aeq\,T}$ plus specified adjustments for tonal and impulsive characteristics.
Near field	Noise levels recorded near walls or other surfaces, artificially increased due to reflections. Levels near walls may be increased by up to 3 dB, and up to 6 dB near corners. Free field conditions may be achieved by maintaining separation distance of at least 3.5 m from walls.
Noise sensitive location	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity which for its proper enjoyment requires absence of noise at nuisance levels.
1/3 octave band	Frequency spectrum may be divided into octave bands. Upper limit of each octave is twice lower limit. Each octave may be subdivided into thirds, allowing greater analysis of tones.
Residual level	Noise level remaining when specific source is absent or does not contribute to ambient.
Specific level	Sound pressure level contribution arising from specific noise source, measured directly or by estimation or calculation.
Tone	Character of noise caused by dominance of one or more frequencies which may result in increased noise nuisance.
Z-weighting	Standard weighting applied by sound level meters to represent linear scale.