

**2011**

**Annual Environmental Report**

**For**

**Bergin Waste Disposal limited**

**Waste Licence no. W0163-01**

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<b>1.0 Reporting Period</b>	<b>4</b>
<b>2.0 Waste Activities Carried out at the Facility</b>	<b>4 - 5</b>
<b>3.0 Quantity &amp; Composition of Waste Recovered</b>	<b>6</b>
<b>4.0 Environmental Monitoring</b>	<b>7</b>
4.1. Dust Monitoring	7
4.2. Noise Monitoring	8
4.3. Surface Water & Surface Water Discharge Monitoring	9 - 10
4.4. Foul Water Monitoring	10
<b>5.0 Resource &amp; Energy Consumption</b>	<b>11</b>
<b>6.0 Developmental &amp; Infrastructural Works</b>	<b>12</b>
<b>7.0 Objectives &amp; Targets</b>	<b>13</b>
7.1. Progress Report of Objectives and Targets – progress of objectives & targets for 2011	13 - 14
7.2. Schedule of Objectives & Targets – schedule for forthcoming year (2012)	15
7.3. Environmental Management Programme – schedule for forthcoming year (2012)	16
<b>8.0 Environmental Incidents &amp; Complaints</b>	<b>17</b>
<b>9.0 Pollution Emission Register – Report for Previous year</b>	<b>17</b>
<b>10.0 Pollution Emission Register – Report for Current year</b>	<b>17</b>
<b>11.0 Other Information</b>	<b>17</b>
11.1. Tank & Pipeline Testing & Inspection Report	17
11.2. Financial Provision	17
11.3. Management & Staffing Structure	17
11.4. Programme for Public Information	17
11.5. Statement of measures in relation to prevention of environmental damage & remedial action	18

## **Tables**

Table 1: Quantity & Composition of Waste Recovered .....	6
Table 2: Dust Monitoring Results.....	7
Table 3: Noise Monitoring Results.....	8
Table 4: SW1 Surface Water Monitoring Results.....	9
Table 5: SW2 Surface Water Monitoring Results.....	9
Table 6: Surface Water Discharge Monitoring Results.....	10
Table 7: Foul Water Monitoring Results .....	10
Table 8: Energy Consumption .....	11
Table 9: Progress Report of Objectives & Targets .....	13
Table 10: Schedule of Objectives & Targets.....	15
Table 11: Environmental Management Programme .....	16

## **Appendices**

### **Appendix 1: Location of Monitoring Points**

### **Appendix 2: Noise Monitoring Results**

### **Appendix 3: Additional Information**

### **Appendix 4: PRTR Emission Data Information**

## **Introduction**

This Annual Environmental Report (AER) has been prepared in accordance with the requirements of condition 11.5 of Waste Licence no. W0163-01. Bergins were issued with a waste licence on 24<sup>th</sup> of May 2002 for the operation of their waste transfer facility in Ballaghaderreen Co. Roscommon. The facility is licensed to handle 19,700 tonnes of waste per annum. A Waste Licence Review Application was submitted to the EPA in 2011 requesting an increase to Maximum Tonnage Per Annum at the facility.

### **1.0 Reporting Period**

This report covers the time period from 1<sup>st</sup> of January 2011 to the 31<sup>st</sup> December 2011. This is the Ninth Annual Environmental Report (AER) for submission to the EPA. This report contains all the relevant information as detailed in Schedule F.

### **2.0 Waste Activities Carried out at the Facility**

Bergin Waste Disposal Ltd. is licensed to accept non-hazardous waste at its waste facility in Ballaghaderreen Co. Roscommon. Specific waste types acceptable at this facility include Metal, Paper, Cardboard, Plastic, Wood, Construction & Demolition Waste, Mixed Dry Recyclables & Mixed Municipal Waste... The total quantity of waste acceptable at the premises in the reporting period was 19,700 tonnes. The total quantity of waste accepted at the premises in the reporting period was 24,420. An application has been submitted to the EPA in relation to the tonnage. The principal activities carried out at the facility include:

#### **Metal (EWC 20 01 40)**

Mixed waste from Construction & Demolition/Commercial waste skips is tripped on to the floor of the waste transfer building. A grab is used to pick out large items such as metal, which are transferred into a forklift skip. This segregated metal waste is transferred by forklift from the Waste Transfer Building to a segregated loading bay which is located beside the Recyclables Storage Building when there is a sufficient amount of Metal it is loaded into an ejector trailer and transferred to Barna Waste Ltd. Recycling Depot, Co. Galway for further segregated, and transfer to a Metal Recycling Outlet.

#### **Paper (EWC 20 01 01)**

Paper is from Bergin Waste / civic amenity and casual customers over the weighbridge, shredded paper is from commercial companies. Paper is put in with the Mixed Dry Recyclables which are transferred to Barna Waste Ltd. Recycling Depot, Co. Galway for sorting on their picking line and then sent on to a recycling outlet.

#### **Cardboard (EWC 15 01 01)**

Cardboard packaging is collected from commercial outlets and Co. Councils civic amenity sites it is segregated on site to remove any contaminants. Cardboard is stored in the Recycling Shed prior to transfer to Barna Waste Ltd. Recycling Depot, Co. Galway for further segregation and transfer to a recycling outlet.

### **Plastic Packaging (EWC 15 01 02) & Plastics (EWC 20 01 39)**

Plastic packaging and plastics is collected from commercial outlets and civic amenity sites it is segregated in the waste transfer building. Three outlets have been utilised for plastics Barna Waste Ltd. Recycling Depot, Co. Galway, WRC Recycling, Scotland and Danelle Recycling, Co. Carlow.

### **Wood (EWC 17 02 01)**

Timber from Commercial waste skips, and civic amenity sites are tripped onto the floor of the waste transfer building. This waste is segregated to remove any contaminants. Segregated wood is then loaded into the hopper of the Wood Shredder by the grab. Shredded wood is transferred by forklift directly into a 40ft trailer. Five outlets have been utilised for Shredded wood Barna Waste Ltd. Recycling Depot Co. Galway, Ballaghaderreen Landfill, Co. Roscommon, Farmers for bedding, Green Star, Kilconnell Landfill, Co. Galway and Derrinumera Landfill, Co. Mayo.

### **Construction & Demolition (C&D) Soil & Stone (EWC 17 05 04)**

Soil & Stone from Construction & Demolition/Commercial skips are segregated. The waste is then loaded into ejector trailers. Three outlets have been utilised for Soil & Stone, Ballaghaderreen Landfill, Co. Roscommon, Thomas Sampey, Co. Roscommon and Barna Waste Ltd. Recycling Depot Co. Galway the Soil & Stone is used as in-fill.

### **Mixed Municipal Waste (EWC 20 03 01)**

Mixed Municipal Waste and waste unsuitable for recycling is stored in the waste transfer facility prior to removal. Mixed municipal waste is loaded into waste ejector trailers, approximately twice a day. Six outlets have been utilised for Mixed Municipal Waste, Green Star, Kilconnell Landfill, Co. Galway, Derryclure Landfill Co. Offaly, Drehid Landfill, Co. Kildare, Derrinumera Landfill, Co. Mayo. Indaver Ireland, Duleek Incinerator, Co. Meath and Barna Waste Ltd. Co. Galway.

### **Mixed Dry Recyclables (EWC 20 01 99)**

Mixed dry recyclables are collected from Commercial/Domestic outlets and skips. This material is tripped onto the waste transfer floor and any contaminants are removed prior to loading into ejector trailer. Two outlets have been utilised for Mixed Dry Recyclables Barna Waste Ltd. Recycling Depot Co. Galway and Mulley's Co. Londford.

### **Biodegradable Waste (EWC 20 02 01)**

Biodegradable Waste from garden and park waste comes from amenity sites and casual customer over the weighbridge, this waste is shredded along with the wood. Five outlets have been utilised for Shredded wood Barna Waste Ltd. Recycling Depot Co. Galway, Ballaghaderreen Landfill, Co. Roscommon, Farmers for bedding, Green Star, Kilconnell Landfill, Co. Galway and Derrinumera Landfill, Co. Mayo.

### 3.0 Quantity & Composition of Waste Recovered

The following table details the total waste tonnage accepted at the facility in 2011. The table also details the end destination for recycled and disposed waste.

**Table 1: Quantity & Composition of Waste Recovered**

EWC	Description	In	Out	Destination
20 01 40	Metal	211	460	Barna Waste & Recycling Ltd. Headford Road, Co. Galway
20 01 01	Paper	114	97	Barna Waste & Recycling Ltd. Headford Road, Co. Galway
15 01 01	Cardboard	1137	958	Barna Waste & Recycling Ltd. Headford Road, Co. Galway
15 01 02	Plastic	273	242	Barna Waste & Recycling Ltd. Headford Road, Co. Galway
17 02 01	Shredded Wood	267	22	Ballaghaderreen Landfill, Ballaghaderreen, Co. Roscommon
			217	Barna Waste & Recycling Ltd. Headford Road, Co. Galway
			215	Green Star Kilconnell Landfill, Ballinasloe, Co. Galway
			180	Derrinnumera Landfill, Newport Road, Castlebar, Co. Mayo
			152	Farmers for bedding.
17 09 04	Skips	3704	1524	Barna Waste & Recycling Ltd. Headford Road, Co. Galway
			2178	Green Star Kilconnell Landfill, Ballinasloe, Co. Galway
17 05 04	Soil & Stones	0	22	Ballaghaderreen Landfill, Ballaghaderreen, Co. Roscommon
			302	Thomas Sampey, Fairymount, Co. Roscommon
			16	Barna Waste & Recycling Ltd. Headford Road, Co. Galway
17 01 07	Rubble	143	33	Thomas Sampey, Fairymount, Co. Roscommon
07 02 13	Rubber	59	18	WRC Recycling, Renfrewshire, Scotland.
			38	Danelle Recycling, Quinagh, Co. Carlow.
			4	Barna Waste & Recycling Ltd. Headford Road, Co. Galway
20 03 01	Mixed Municipal Waste	14203	475	Barna Waste & Recycling Ltd. Headford Road, Co. Galway
			1432	Drehid Landfill, Carbury, Naas, Co. Kildare
			765	Derrinnumera Landfill, Newport Road, Castlebar, Co. Mayo
			9870	Green Star Kilconnell Landfill, Ballinasloe, Co. Galway
			945	Derryclure Landfill, Tullamore, Co. Offaly.
20 01 99	Mixed Dry Recyclables	4510	3476	Barna Waste & Recycling Ltd. Headford Road, Co. Galway
			43	Mulledy's Ltd. Drumlisk, Co. Longford.
15 01 07	Glass	23	45	Barna Waste & Recycling Ltd. Headford Road, Co. Galway
17 08 02	Plaster Board	12	17	Joe Mc Loughlin Waste Disposal Ltd. Drumshanbo, Co. Leitrim
16 06 01	Batteries	2	2	Barna Waste & Recycling Ltd. Headford Road, Co. Galway
20 01 36	WEEE	2	32	Barna Waste & Recycling Ltd. Headford Road, Co. Galway
16 01 03	Tyres	8	32	Barna Waste & Recycling Ltd. Headford Road, Co. Galway
20 02 01	Biodegradable	121	48	Barna Waste & Recycling Ltd. Headford Road, Co. Galway
20 01 08	Biodegradable (Food)	41	29	Barna Waste & Recycling Ltd. Headford Road, Co. Galway
20 01 10	Clothes	0.88	0.88	Textile Recycling Ltd. Tallaght, Dublin 24

<b>TOTAL</b>	<b>24830</b>	<b>23976</b>
<b>Recycling Tonnage</b>		8224
<b>Disposal Tonnage</b>		15752
<b>Recycling Rate</b>		33%

The total quantity of waste recycled in this reporting period was 8224 Tonnes, out of a total tonnage of 24830 managed at the premises. This means that a recycling rate of 33% was achieved at the facility in the period from 1<sup>st</sup> January 2011 to the 31<sup>st</sup> December 2011.

## 4.0 Environmental Monitoring

Monitoring of Dust, Noise, Surface Water, Surface Water Discharge and Foul Water were carried out at the facility in 2011. Copy of Noise monitoring report is included in the appendices of this report. A plan detailing the monitoring locations at the site is included in Appendix 1.

### 4.1 Dust Monitoring

#### Monitoring Locations

Three dust monitoring gauges (D1, D2 & D3) previously installed at the facility were utilised for dust monitoring. The location of these gauges is illustrated in the Monitoring Points Location Plan located in Appendix 1.

#### Methodology

Dust monitoring is carried out at the site three times per year, twice during the period May to September. Dust monitoring has been carried out in accordance with Schedule D2 by Complete Laboratory Solutions. Bergerhoff gauges were utilised as specified in the German Institute VD1 2119 Measurement of Dustfall using the Bergerhoff (standard) method.

#### Results

The results of Dust Monitoring for 2011 are outlined below:

**Table 2: Dust monitoring results**

<b>Monitoring Point</b>	<b>Licence Limit (mg/m<sup>2</sup>/day)</b>	<b>Round 1 July 2011 (mg/m<sup>2</sup>/day)</b>	<b>Round 2 August 2011 (mg/m<sup>2</sup>/day)</b>	<b>Round 3 September 2011 (mg/m<sup>2</sup>/day)</b>
D1	350	164	155	133
D2	350	202	122	65
D3	350	60	95	246

#### Round 1

Dust gauges were erected for 30 days in the month of July. The highest Level of Dust was recorded at D2 (202mg/m<sup>2</sup>/day) this was below the Licence Limit value of 350 mg/m<sup>2</sup>/day.

#### Round 2

Dust gauges were erected for 30 days in the month of August. The highest Level of Dust was recorded at D1 (155 mg/m<sup>2</sup>/day) this was below the Licence Limit value of 350 mg/m<sup>2</sup>/day.

#### Round 3

Dust gauges were erected for 30 days in the month of September. The highest Level of Dust was recorded at D3 (246 mg/m<sup>2</sup>/day) this was below the Licence Limit value of 350 mg/m<sup>2</sup>/day.

The dust monitoring results indicate that dust levels at Bergin Waste Transfer Facility, are within the licence limits and therefore not likely to cause nuisance.

## 4.2 Noise Monitoring

### Monitoring Locations

Noise monitoring was carried out at 4 Noise locations, namely N1, N5, N6, and N7. The location of monitoring points is included in Appendix 1. N1 is an onsite monitoring points: N5, N6, and N7 are defined as noise sensitive locations, and are located at various points outside the site.

### Methodology

Noise assessment was carried out by Raymond Murphy, of Emerald Environmental Services, on the 12<sup>th</sup> October 2011; monitoring technique was based on methodologies as outlined in “ISO 1996, Acoustics – Description and Measurement of Environmental Noise”. Noise Monitoring was carried out in line with the requirement of D4 of Schedule D of waste licence W0163-01

Noise levels were recorded using a Bruel and Kjaer 2238 integrating sound level meter.

Noise monitoring was carried out at the 4 location as identified on the monitoring point map found in Appendix 1. The following measurements was carried out:

A Waste Licence Review Application was submitted to the EPA in 2011 requesting an increase to Maximum Tonnage Per Annum at the facility.

- Daytime Broadband measurements were 30 minute intervals, in the set range 30 – 90dB

### Results

The results in Table 3 below demonstrate that noise levels at the facility are within EPA day time limits. It can be determined that the operation of the waste transfer facility is not having any substantial negative effect on the nearest sensitive receptors. Although one of the measurements made were above the contractual limits of 55.0dB, this was an on-site measurement. At any of the off-site measurement locations, the waste transfer facility could only be heard on one occasion and this was only for a period of 30 seconds. Copy of Noise survey is attached in Appendix 2.

**Table 3: Noise Monitoring Results**

<b>Monitoring Point</b>	<b>Sampling Interval (minutes)</b>	<b>L<sub>Aeq</sub></b>	<b>L<sub>10</sub></b>	<b>L<sub>90</sub></b>
N1	30	63.1	67.2	43.2
N5	30	48.5	50.1	40.6
N6	30	57.5	57.1	42.6
N7	30	47.6	50.5	41.5



### 4.3 Surface Water Monitoring

#### Monitoring Location

Surface Water emissions from the site are analysed Quarterly for all parameters. There are three licence emission points to Surface Water SW1, SW2, & SD1. Grab samples are taken from 2 monitoring points SW1 (upstream of facility) and SW2 (downstream of facility). SD1 sample is taken at the discharge release point (the stream that flows along the boundary of the site).

#### Methodology

Surface water sampling was undertaken by submerging the sample container in the stream, in a manner so as to prevent sediment disturbance. Surface Water Discharge sample is taken at the surface water discharge release point. Samples are collected by the EURO Environmental Services Consultant for analysis.

#### Results

The results for all three monitoring points are outlined in the three tables below.

The waste licence limits for surface water monitoring stipulates an emission limit value for mineral Oils 5 mg/L, and all water samples taken to date, are in compliance with this limit.

Condition 6.3 of the waste licence specifies trigger levels of 25mg/L for BOD Concentration and 35mg/L for Suspended Solids Concentration at monitoring point SD1, and all water samples taken to date, are in compliance with the limits.

The other parameters are compared to the Maximum Admissible Concentrations (MAC) for surface waters as outlined in the Surface Water Directive 75/440/EEC. All analysed parameters for SW-1, SW-2 & SD1 are below the MAC values for A1, A2 and A3 waters.

All surface water results were within the limits specified in the waste licence.

**Table 4: SW 1 Surface Water Monitoring Results**

Parameter	pH	BOD mg/L	Suspended Solids mg/L	Mineral Oils mg/L
<b>Licence Limit</b>				<b>5</b>
17.01.11	7.5	<2	<2	<0.0025
12.05.11	7.7	<2	<2	<0.0025
11.08.11	7.6	2	16	0.01097
02.12.11	7.5	3	2	0

**Table 5: SW 2 Surface Water Monitoring Results**

Parameter	pH	BOD mg/L	Suspended Solids mg/L	Mineral Oils mg/L
<b>Licence Limit</b>				<b>5</b>
17.01.11	7.5	<2	5	<0.0025
12.05.11	7.7	2	<2	<0.0025
11.08.11	7.6	<2	15	0.03769
02.12.11	7.4	3	3	0.0025

**Table 6: SD1 Surface Water Discharge Monitoring Results**

Parameter	pH	BOD mg/L	Suspended Solids mg/L	Mineral Oils mg/L
<b>Licence Limit</b>				<b>5</b>
<b>Trigger Levels</b>		<b>25mg/L</b>	<b>35mg/L</b>	
17.01.11	7.4	<2	<2	<0.0025
12.05.11	7.7	<2	2	<0.0025
11.08.11	7.5	2	<2	<0.0025
02.12.11	7.3	18	26	<0.0025

#### 4.4 Foul Water Monitoring

##### Monitoring Location

Emissions from Foul Water are analysis quarterly. There is one Licence Emission Point FW 1. Emission Point FW 1 is located (beside the entrance of waste transfer station).

##### Methodology

Grad samples are taken from the Foul Water Discharge Location Point.

Samples are collected by the EURO Environmental Services Consultant for analysis.

The results are outlined in the table below. All parameters analysed were within the Limits specified in the waste licence.

**Table 7: FW1 Foul Water Monitoring Results**

Parameter	pH	COD mg/L	BOD mg/L	Suspended Solids mg/L	Total Phosphates (P) mg/L	Temperature Celsius
<b>Licence Limit</b>	<b>6-8</b>	<b>500</b>	<b>350</b>	<b>300</b>	<b>2</b>	<b>Ambient</b>
17.01.11	7.4	24	<2	<2	N/D	4.8
12.05.11	7.4	9	<2	<2	<0.051	12.5
11.08.11	7.5	13	<2	3	0.037	14.4
02.12.11	7.1	15	<2	5	0.035	8.8

N/D: - No data was supplied by the Lab for Total Phosphates, they omitted Total Phosphates from there tests.

## 5.0 Resource Use & Energy Consumption

Energy consumption at the facility for the year 2011 is shown in Table 8. Diesel, Engine oil and Hydraulic Fluid usage was determined by examining invoices from the suppliers. Total electricity usage was determined and estimated by examining the bills for the reporting period.

The results are outlined in the table below.

**Table 8: Energy Consumption**

<b>Resource</b>	<b>Time Period</b>	<b>Quantity</b>	<b>Units</b>
Diesel	Jan – Dec 2011	24000	Litres
Engine Oil	Jan – Dec 2011	1000	Litres
Hydraulic Fluid	Jan – Dec 2011	1000	Litres
Electricity	Jan – Dec 2011	10664	kWh

## **6.0 Development and Infrastructural Works**

### **Infrastructure Work carried out at Bergin Waste Disposal in 2011 included the**

- Modifications to the facility drainage at SD1 Discharge Point.

### **Infrastructure Work planned for 2012**

- It is proposed that the 'open' section of the existing waste transfer building will be extended and weathered in accordance with Planning Permission Reference 06/1501.
- The gully at the open end of the waste transfer building to be amended to drain to the foul water.

### **Development works carried out at Bergin Waste Disposal in 2011 included the**

- Completion of erection of perimeter fencing on the north-eastern side of the site.
- Access to monitoring point SW2 improved.
- Completed lean-to adjacent to the existing waste transfer building.
- Granted a Technical Amendment to operator the wood shredder outdoors.

### **Development work planned for 2012**

- Provide an impermeable hard standing surface in all areas where waste activity takes place.
- It is proposed for the development of a civic amenity site and storage building for the handling and baling of recyclables in the yard area to the north east of the site in accordance with Planning Permission Reference 08/732.
- Apply to the Agency for a Technical Amendment to allow C&D waste to be processed outdoors.
- Installation of a mobile screen & trommel for the processing of C&D Waste.
- Work is in progress to create an internal Database System unique to Barna Waste.

## 7.0 Objectives & Targets

### 7.1 Progress report on 2011 Objectives & Targets

Table 9: Progress Report of Objectives and Targets for 2011

Objectives and Targets	Responsibility	Completion Targets	Status
<b>Recycling &amp; Waste Management</b> – Recycle 37% of all waste received in 2011. Review recycling and disposal tonnages on a monthly basis and identify methods to increase rates, if possible.	Facility Manager Operations Manager	Ongoing	We did not reach our projected target of 37% for recycling waste received in 2011, we achieved 33%, we are looking at ways to improve on this e.g. the installation of a mobile screen & trommel to process our C&D Waste to improve the quality standard of the product which will improve our recycling options
<b>Environmental Management System</b> – Review current EMS system and maintain as necessary to ensure ongoing compliance with the site Waste Licence. Ensuring all departments' processes and procedures are included in the company EMS system, and it is updated as necessary with any changes to work practices.	Facility Manager	Ongoing	The Environmental Management System is reviewed throughout the year to ensure on going compliance with licence. A procedure for the Residuals Management of the site was implement in 2011.
<b>Health &amp; Safety</b> – Review all staff training records regularly to identify training requirements. Identify any training requirements and liaise with the Health & Safety Manager to organize training where needed.	Health & Safety Manager Facility Manager Operations Manager	Ongoing	Staff training records were reviewed and the following training has taken place. <ul style="list-style-type: none"> <li>• Fire drill</li> <li>• Manual Handling</li> </ul>
<b>Infrastructure</b> – Develop a plan for the full redevelopment of the site paying special attention to improving infrastructure, storage areas and site security.	Managing Director Operations Manager Facility Manager	Immediate	We are working with Tobin Consulting Engineers on the infrastructure of the site.
Carry out integrity testing on pipelines and bunds.			Integrity testing on pipelines and bund has been carried out.
Carry out full review of site drainage network and implement necessary improvements.			We have carried out a full review of the site drainage network and are in the process of

			implementing necessary improvements.
<b>Emissions Monitoring</b> – Review monitoring reports records’ and report to the Agency in accordantly with Schedule E. Ensure emission control measures are maintained to the highest possible standards throughout the year to ensure compliance with emission limits.	Facility Manager Operation Manager	Ongoing	All emission reports have been submitted to the agency as per Schedule E, all Emission were within the licence limits in 2011.
<b>Nuisance Management</b> - Continue the process of assigning a member of staff to litter duty as part of continue improvement in this area, and continue to use the dust abatement measures, to minimize and eliminate any potential dust nuisances.	Facility Manager Operation Manager	Ongoing	We have continued with the process of a member of staff assigned to litter duty which has resulted in improvement in litter control on the site. We have continued with the dust abatement measures and our dust results reflex the measure are working well. We will continue to operate and control the site to minimise any potential nuisances.
<b>Housekeeping</b> – Improve housekeeping around the site by keeping all items moving and not allowing stockpiles to accumulate, clear the site of all redundant materials e.g. end-of life vehicles & skips.	Facility Manager Operation Manager	Immediate	We still have a lot of improving to do in relation to stockpiling. We put in place a monthly checklist of materials on site; this list was sent up to Galway to the transport manager, the material was being moved and we had it under control, but then it stop. We are working on a method to deal with the accumulation of materials on site. We need to resolve this problem as soon as possible. End-of-life vehicles and disused skips need to be removed off site to a suitable recovery facility.

7.2 Table 10: Schedule of Objectives and Targets for 2012

<b>Ref. no.</b>	<b>Licence Cond. no.</b>	<b>Objectives</b>	<b>Targets</b>
1		Recycling & Waste Management	Review Recycling rates and set revised targets on an annual basis. Upgrade waste/recycling infrastructures on site to increase site capacity in line with waste intakes/processing requirements.
2	2	Environmental Management System	Continue the review and development of the EMS system.
3		Health & Safety	Review all staff training records regularly to identify training requirements, ensure all staff are trained in and aware of the Waste Licence requirements.
4	3	Infrastructure	Review infrastructure plans regularly, and ensure all work is carried out as planned.
5	3	Site Development	Improve Waste Processing Capability & Capacity.
6	6	Emissions Monitoring	Maintain the Emissions Monitoring Programme and Report any exceedances of emission levels to the EPA.
7	7	Nuisance Management	Ensure any nuisances on site are eliminated or controlled effectively.
8		Housekeeping	Ensure housekeeping is kept to the required standard of an EPA Licensed Facility.

### 7.3 Environmental Management Programme for 2012

Table 11: Environmental Management Programme

Objectives and Targets	Responsibility	Completion Targets	Status
<b>Recycling &amp; Waste Management</b> – Recycle 34 % of all waste received in 2012. Install a Screen & Trommel for the processing of C&D Waste to improve the Quality Standard of the product which will improve our recycling options.	<b>Facility Manager Operation Manager</b>	Ongoing	
<b>Environmental Management System</b> – Review current EMS ensure all departments` process and procedures are included in the company EMS System, and that it is updated as necessary with any changes to work practices.	<b>Facility Manager</b>	Ongoing	
<b>Health &amp; Safety</b> – Review all staff training records regularly to identify training requirements. Review and update the Emergency Response Procedure as necessary ensure any updates are communicated to staff as part of environmental training, liaise with the Health & Safety Manager to organize training where needed.	<b>Facility Manager Health &amp; Safety Manager Operation Manager</b>	Ongoing	
<b>Infrastructure</b> – It is proposed to extend the existing waste transfer building in accordance with Planning Permission Reference 06/1501. The gully at the open end of the waste transfer building is to be amended to drain to the foul water.	<b>Managing Director Operation Manager Facility Manager</b>	Immediate	
<b>Site Development</b> – It is proposed to provide an impermeable hardstanding surface in all area where waste activity takes place. It is proposed for the development of a civic amenity site and storage building in accordance with Planning Permission Reference 08/732. It is proposed to install a Screen & Trommel for the processing of C&D Waste. Work is in progress to create an internal Database System unique to Barna Waste.	<b>Managing Director Operation Manager</b>	Immediate	
<b>Emission Monitoring</b> – Review monitoring reports records and report to the Agency in accordance with Schedule E. Ensure emission control measures are maintained to the highest possible standards throughout the year to ensure compliance with emission limits.	<b>Facility Manager Operation Manager</b>	Ongoing	
<b>Nuisance Management</b> – Review monitoring reports accordingly and report to the Agency in accordance with Schedule E. Continue to operate and control the site ensuring any potential nuisances are noted, and corrective action is initiated.	<b>Facility Manager Operation Manager</b>	Ongoing	
<b>Housekeeping</b> – Provide a method to deal with the accumulation of materials on site, clear the site of all redundant materials e.g. end-of life vehicles & skips.	<b>Facility Manager Operation Manager</b>	Immediate	



## **8.0 Environmental Incidents & Complaints**

We had no environmental incidents or complaints recorded by Bergin Waste Disposal Ltd. at the site in 2011.

## **9.0 Pollution Emission Register – Report for Previous year**

Our facility Pollution Emission Main Economic Activity is Treatment and Disposal of Non-Hazardous Waste. Our PRTR Class Activity Number: - 50.1, Activity Name: - General. NACE Code:-3821. There were no Environmental Pollution Emission incidents or complaints for Bergin Waste Disposal Ltd at the site in 2011.

## **10.0 Pollution Emission Register – Report for Current year**

Maintain Pollution Emissions Activity and report any exceedances, incident or complaints to the EPA.

## **11.0. Other Information**

### **11.1. Tank & Pipeline Testing & Inspection Report**

In accordance with Condition 3.12.5 and 3.14.3 of our waste licence the integrity and water tightness of all the bunds and underground pipes and tanks and their resistance to penetration by water or other materials carried or stored therein shall be tested at least once every three years and reported to the agency, this work was carried out in 2011 everything passed the test and no remedial or corrective action work is needed.

### **11.2. Financial Provision**

“A value for the bond needed for the site aftercare / remediation is currently being discussed with the EPA with a view to having it put in place by the bank as soon as possible in 2012”

### **11.3. Management & Staffing Structure**

Bergin Waste Disposal Ltd is under the Management of John Langan who has worked in the waste business for 14 years, Facility Manager is Ann Clarke. The Facility Manager completed the FAS Waste Management Course in 2007.

### **11.4. Programme for Public Information**

A Communications Programme (Procedure No. P6) has been prepared and details when and how members of the public can obtain information in relation to the facility. A copy of this procedure is attached in Appendix 3.

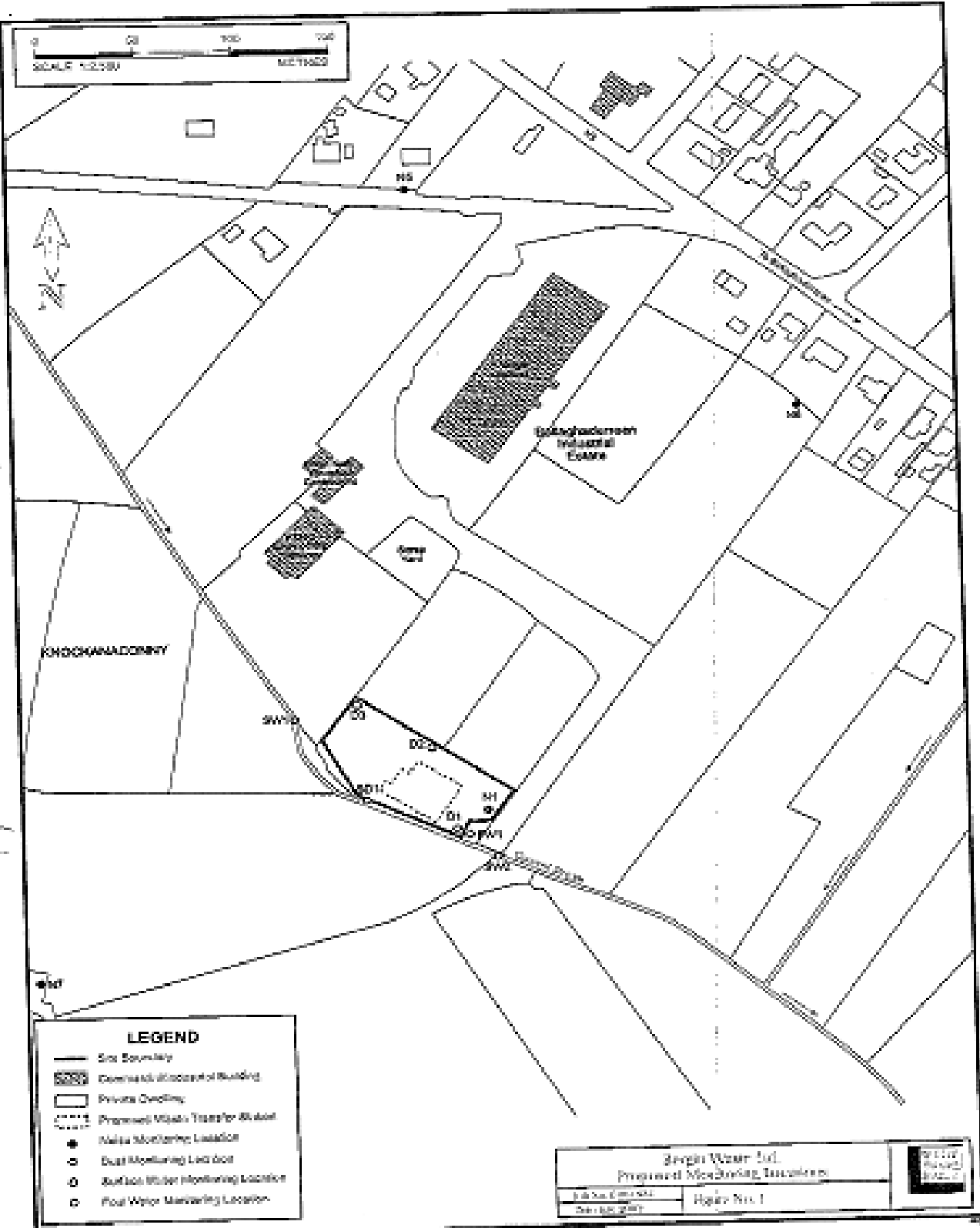
## **11.5 Statement of measures in relation to prevention of Environmental Damage & Remedial Action**

All activities carried out at the facility are under taken in a manner so as not to cause Environmental Pollution. Specific measures include:

- Monitoring of Emissions
- Weekly inspections of facility
- Control of waste contractors
- Spraying with water to remove Dust nuisances
- Removal of wind blow litter
- Processing of waste indoors with the exception of the wood shredder, to prevent, litter, dust, odour and noise nuisance

# **Appendix 1**

## **Location of Monitoring Points**



0 25 50 75 100 125  
SCALE: 1:2500 METERS



KHOOGHARADOMBY

Bhatnagar Industrial Estate

**LEGEND**

- Site Boundary
- ▨ Downward Slope of Building
- Private Dwelling
- Promised Main Transfer Road
- Noise Monitoring Location
- Dust Monitoring Location
- Surface Water Monitoring Location
- Flood Water Monitoring Location

Geeta Water Ltd.  
Promised Monitoring Locations

Scale: 1:2500	Map No. 1
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## **Appendix 2**

### **Noise Monitoring Results**



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**Noise Monitoring- Barna Waste-Roscommon**

**12<sup>th</sup> October 2011**

Report for:

Mr Campbell Finnie  
Barna Waste  
Headford Road  
Carrowbrowne  
Galway

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Main Contributor:  
Raymond Murphy  
BSc MEnvSc

---

**Emerald Environmental Services**  
Unit D1  
M4 Business Park  
Celbridge  
Co Kildare

Tel: 00353 1 6275656  
[info@emeraldenvironmental.ie](mailto:info@emeraldenvironmental.ie)  
[www.emeraldenvironmental.ie](http://www.emeraldenvironmental.ie)

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## **1. Introduction**

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### **1.1 Scope of Works**

Emerald Environmental Services were commissioned by Barna Waste to conduct a noise survey at the Ballaghaderreen Waste Transfer Facility in Ballaghaderreen Industrial Estate, Co. Roscommon. This site operates under licence WL163-01 as issued by the Environmental Protection Agency.

The purpose of the monitoring was to establish the noise levels being produced by the operation of the waste transfer facility and whether these noise levels recorded comply with the contractual specification limits for the site. The limits imposed on the operation of the facility are  $LA_{eq}55dB(A)$  for day-time measurements.

The day-time noise measurements must be taken between 08.00am and 22.00pm.

The noise measurements were made at four different locations, one at the main gate, one near the northern boundary, one near the north-eastern boundary and one nearest to the north-western boundary. The final three locations are at the nearest sensitive receptors which are residential.

At each location, the monitoring was carried out for a period of thirty minutes for day-time measurement.

The facility was fully operational during the period of monitoring.

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## 2. Noise

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### 2.1 Noise Terminology

The ratio between the quietest audible sound and the loudest audible sound is calculated at one million to one in terms of the actual change in sound pressure. Because of such a wide range in these terms, a scale based on a logarithmic basis is used when measuring noise. The scale that is used ranges from 0 to 140 decibels (dB). This corresponds to the intensity of the sound pressure level. A human's ear has the ability to recognise a particular sound depending on the pitch or frequencies found at the source. Microphones cannot differentiate noise in the same way as the ear, so to overcome this, the noise meter will apply a correction factor to correspond more closely to the frequency response of the ear. This correction factor is called "A weighting". Measurements using this factor are referred to as dB(A). This is internationally accepted and has been found to correspond well with people's subjective reaction to noise.

Noise levels will vary over time depending on noise generating activities. The following indices are used to take account of these variations:

- SPL is the instantaneous sound pressure level; it is a measure of the noise level at a particular point in space. The SPL of a noise source will vary with distance from the noise source.
- SWL is the instantaneous sound power level; it is a measure of the sound energy produced by a noise source.
- $L_{Aeq, T}$  is the equivalent continuous sound level and is the sound level of a steady sound having the same energy as a fluctuating sound over the same period. It is possible to consider this level as the ambient noise encompassing all noise at a given time.  $L_{Aeq, T}$  is considered the best general purpose index for environmental noise.
- $L_{A90, T}$  index represents the noise level exceeded for 90 percent of the measurement period and is used to indicate quieter times during the measurement period. This is taken as the background noise level.
- $L_{A10, T}$  index represents the noise level exceeded for 10 percent of the measurement.



## 2.2 Noise Monitoring

Noise monitoring was conducted at noise monitoring locations identified below, between 15.50pm on Wednesday 12<sup>th</sup> October 2011 and 18.30pm on Wednesday 12<sup>th</sup> October 2011.

Day-time measurements were made between 08.00am and 20.00pm.

Attended noise level measurements were conducted at each of the locations for a period of thirty minutes for day-time measurements.

Noise levels were recorded using a Bruel and Kjaer 2238 integrating sound level meter. Calibration levels were checked at the start of monitoring at each site and at the end of monitoring at each site, with no significant drift in calibration recorded.

Throughout the monitoring period, the microphone was situated 1.5m above ground level and the monitoring technique was based on methodologies as outlined in ISO 1996 Acoustics – *Description and measurement of environmental noise*.

Weather conditions during the day-time period were dry with a temperature of 15°C and a north-westerly wind of 1.2 m/s<sup>-1</sup> for the period.

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### 3. Results

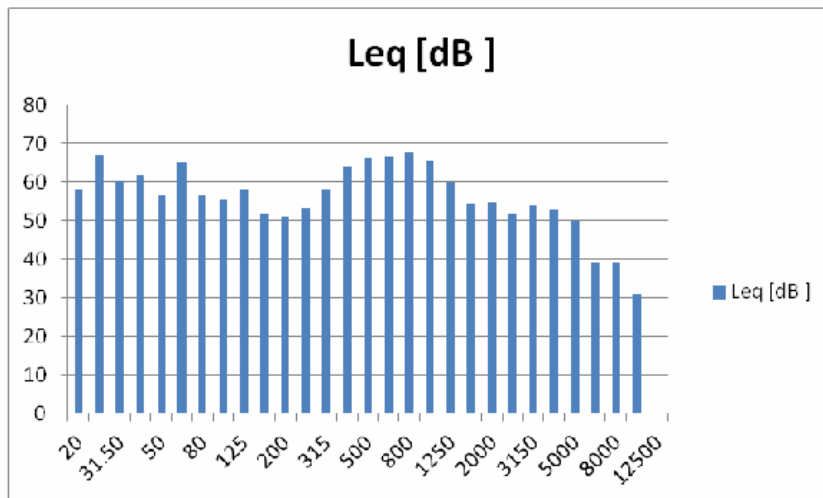
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The measurements made are presented in the following tables:

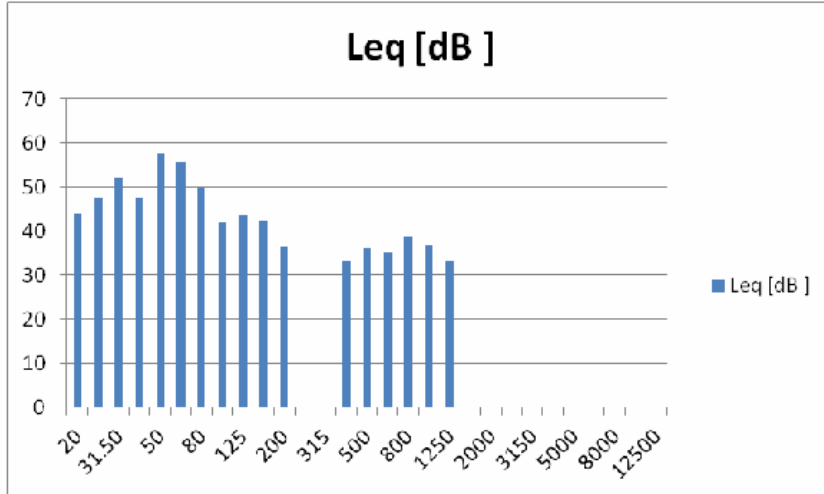
#### 3.1 Day-time

NM location	Time	Location	12 <sup>th</sup> October 2011	12 <sup>th</sup> October 2011	12 <sup>th</sup> October 2011
			LA <sub>eq</sub> (30)dB(A)	LA <sub>90</sub> (30)dB(A)	LA <sub>10</sub> (30)dB(A)
N1	15.52pm	Inside Main Gate	63.1	43.2	67.2
N7	16.39pm	Residence to North	48.5	40.6	50.1
N5	17.29pm	Residence to Northeast	57.5	42.6	57.1
N6	18.13pm	Residence to Northwest	47.6	41.5	50.5

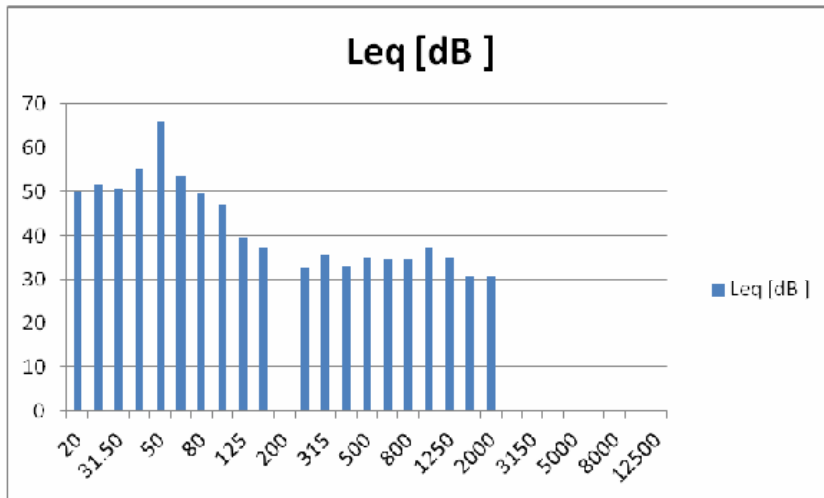
#### N1-Frequency Analysis



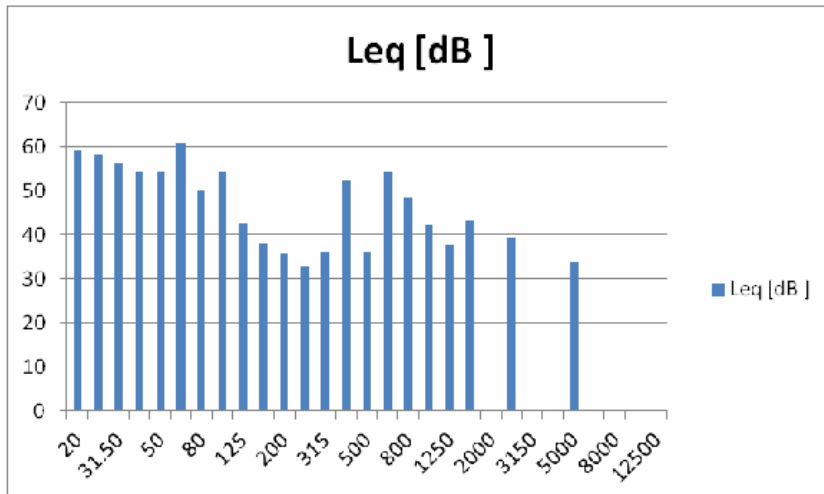
N7-Frequency Analysis



N5-Frequency Analysis



N6-Frequency Analysis



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#### 4 Equipment used

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Sound Level Meter: Bruel and Kjaer Sound level meter 2238  
Serial Number 2590900  
Calibration Date 07/07/2011

Microphone: B and K 4188 Class 1 ½ "microphone Free Field  
Serial Number 1773652

Calibrator: B and K 4231  
Serial Number 20222652  
Calibration Date 17/12/2010

Windshield UA 1650

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## 5 Discussion

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### Day-time

#### (1) N1-Onsite

The average noise measurement of 63.1dB for the period was above the limit of 55.0dB for this period. There were a number of on-site activities that contributed to the noise measurements made. There were 3 No truck movements on site as well as the sound of chains on a skip truck banging. There was also a loud banging noise coming from the shed where the waste was being separated. The  $LA_{90}$  was measured at 43.2dB and the  $LA_{10}$  was measured at 67.2dB. This  $LA_{90}$  is a good indicator of background noise and from the level of 43.2dB, it can be determined that the background noise level being produced is below the site limit. There was tonality detected at 25Hz, 50Hz and 63Hz during the monitoring.

#### (2) N7-Offsite

The average noise measurement of 48.5dB for the period was below the limit of 55.0dB for this period. One one occasion during the monitoring, there was noise audible from the site. This was a loud banging and crashing noise. It was possibly from a truck full of glass being emptied on site. There was noise from a powerwasher being used nearby, a dog barking, some road traffic from the nearby N5 and also from a plane flying overhead. There was tonality detected at 80Hz.

#### (3) N5-Offsite

The average noise measurement of 57.5dB for the period was above the limit of 55.0dB for this period. The main source of noise at this location was from road traffic on the N5 nearby. There were also a number of vehicles which passed directly by the noise monitor as well as the noise of steel cutting/grinding at a nearby yard. There was tonality detected at 50Hz.

#### (4) N6-Offsite

The average noise measurement of 47.6dB for the period was below the limit of 55.0dB for this period. The main source of noise at this location was from road traffic on the N5 nearby. There were also a dog barking very close to the monitor for a number of minutes and this was the main noise that could be detected. There was also a number of birds squawking during the monitoring. There was tonality detected at 63Hz, 400Hz, 630Hz, 2.5KHz and 5KHz.

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## 6. Conclusion

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It can be determined that the operation of the waste transfer facility is not having any substantial negative effect on the nearest sensitive receptors. Although one of the measurements made were above the contractual limits of 55.0dB, this was an on-site measurement. At any of the off-site measurement locations, the waste transfer facility could only be heard on one occasion and this was only for a period of 30 seconds. There were other factors from off-site activities that would cause a higher degree of annoyance than the waste transfer facility.

## **Appendix 3**

### **Additional Information**

<b>Barna Waste T/A Bergin Waste Disposal Ltd. EPA Waste Licence W0163-01</b>			
<b>Procedure no.</b>	<b>P6</b>	<b>Description</b>	<b>Communications Programme</b>
<b>Issued by:</b>	<b>AC</b>	<b>Date</b>	<b>04/01/10</b>

### 1.0 Scope

Provides for public access to Environmental Information at the facility.

### 2.0 Responsibility

The Facility Manager is responsible for implementing this procedure

### 3.0 References

### 4.0 PROCEDURE

- 4.1. Condition 2.4.1 of Waste Licence W0163-01 requires the implementation of a communications programme to ensure that members of the public can obtain information at the facility, at all reasonable times, concerning the environmental performance of the facility.
- 4.2. Barna Waste T/A Bergin Waste Disposal Ltd. will provide public access to the following documentation on site:
  - Waste Licence no. W0163-01
  - Annual Environmental Report, for the previous year.
- 4.3. Opening hours for the inspection of these documents on site, is between 9am and 4pm, Monday to Friday
- 4.4. Visits to the site, for the purpose of inspection of the above documentation should be arranged in advance by ringing the Site at 094 9860807
- 4.5. Records of any environmental complaints made by the public in relation to Bergin Facility shall be retained on site, and any such complaints responded to in accordance with P4 Environmental Complaints Procedure.
- 4.6. In addition, members of the public can access environmental information in relation to the Facility by visiting the EPA's Regional Inspectorate Office, John Moore Road, Castlebar, Co. Mayo, and checking the Public file. Visits must be arranged in advance by contacting the EPA at 094 9021588.



## **Appendix 4**

### **PRTR Emission Data Information**



[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	Bergin Waste Disposal Limited
Facility Name	Bergin Waste Disposal Limited
PRTR Identification Number	W0163
Licence Number	W0163-01

### Waste or IPPC Classes of Activity

No.	class_name
3.11	Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.
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.
4.11	Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.
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.
4.2	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
4.3	Recycling or reclamation of metals and metal compounds.
4.4	Recycling or reclamation of other inorganic materials.
Address 1	Ballaghaderreen Industrial Estate
Address 2	Ballaghaderreen
Address 3	County Roscommon
Address 4	
	Roscommon
Country	Ireland
Coordinates of Location	-8.5906 53.9031
River Basin District	IEGBNISH
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
<b>AER Returns Contact Name</b>	
<b>AER Returns Contact Email Address</b>	
<b>AER Returns Contact Position</b>	
<b>AER Returns Contact Telephone Number</b>	

<b>AER Returns Contact Mobile Phone Number</b>	
<b>AER Returns Contact Fax Number</b>	
<b>Production Volume</b>	0.0
<b>Production Volume Units</b>	
<b>Number of Installations</b>	0
<b>Number of Operating Hours in Year</b>	0
<b>Number of Employees</b>	0
<b>User Feedback/Comments</b>	
<b>Web Address</b>	

## 2. PRTR CLASS ACTIVITIES

<b>Activity Number</b>	<b>Activity Name</b>
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 ?	

PRINT THIS SHEET

HELP

CREATE AER XML  
RETURN & UPLOAD

#### 4.1 RELEASES TO AIR

Please enter all quantities in this section in KGs

METHOD			ADD EMISSION POINT			QUANTITY		
Method Used			D1	D2	D3		A (Accidental) KG/Year	F (Fugitive) KG/Year
M/C/E	Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	T (Total) KG/Year		
M	PER	Bergerhoff VD1 2119 METHOD	9040.0	7780.0	8020.0	24840.0	0.0	0.0

[Link to previous years emissions data](#)

| PRTR# : W0163 | Facility Name : Bergin Waste Disposal Limited | Filename : PRTR 2011.xls | Return Year : 2011 |

**Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as this only concerns Releases from your facility**

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

**4.2 RELEASES TO WATER**

Name	M/C/E	Method Code	Designation or Description
BOD	M	PER	Gravimetric
Suspended Solids	M	PER	Gravimetric
<b>Mineral oils</b>	M	PER	Analysis by accredited Lab

**Please enter all quantities in this section in KGs**

ADD EMISSION POINT		QUANTITY	
SW1	SW 2	T (Total) KG/Year	A (Accidental) KG/Year
Emission Point 1	Emission Point 2		
135.0	135.0	270.0	
330.0	375.0	705.0	
0.23955	0.67785	0.9174	

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

**OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER**

POLLUTANT		METHOD				
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Method Used	
					ADD EMISSION POINT	
					FW 1 Emission Point 1	T (Total) KG/Year
303	BOD	M	PER	Gravimetric	120.0	120.0
306	COD	M	PER	Gravimetric	915.0	915.0
240	Suspended Solids	M	PER	Gravimetric	180.0	180.0