

COMHAIRLE CHONTAE AN CABHÁIN

CAVAN COUNTY COUNCIL



Annual Environmental Report 2008

Ballyjamesduff Landfill WL 93-1

Document Control Sheet

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Cavan County Council

Comhairle Chontae an Chabháin



Courthouse

Teach Na Cúirte

Cavan

An Cabháin

Telephone Numbers

Central Council
049 437 8300

Motor Tax
049 437 8430

Planning
049 437 8600

Corporate Services
049 437 8601

Johnston Central Library
049 437 8500

Finance Department
049 437 8300

Roads
049 437 8300

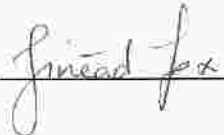
Housing
049 437 8300

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049 437 8602

Water Services
049 437 8300

Declaration

Cavan County Council hereby certifies that the content of the full pdf AER W0093-012008AER.pdf uploaded to the EPA website is a true copy of the original AER.

Signed  Dated 12/June '09

Sinead Fox
Landfill Operations Manager
Cavan County Council

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1. Introduction.

Ballyjamesduff Landfill has been operated as waste disposal facility by Cavan County Council since the late 1960s. It is located off the Derrylurgan road, approximately 0m north of Ballyjamesduff town on the eastern side of the Derrylurgan road, in what was bog and comprises some 1.62 hectares. The site was operated as a traditional landfill constructed on peat and relies on the properties of the peat bog for attenuation, dilution and dispersal.

A Waste Licence for the facility was issued by the EPA on 7th March 2002, Ref WL 93-1. Condition 11.4 of Waste Licence Ref. 93-1 requires the submission of an Annual Environmental Report for Ballyjamesduff Landfill facility. This document is produced in order to comply with requirements of Condition 11.4. The reporting period for the purposes of this Annual Environmental Report (AER) is January 1st 2008 to December 31st 2008.

This Annual Environmental Report (AER) has been prepared in accordance with the conditions of the Waste Licence and the EPA “Draft Guidance on Environmental Management Systems and Reporting to the Agency, 1999”.

The site at Ballyjamesduff was closed in early March 2002. Prior to closing the site a temporary cap was placed on site. Final capping and restoration details are presented in section 3.

2. Waste Management at the Facility.

It is estimated that the quantities of waste accepted into landfill came to a total of 65,000 tonnes. See the table 2.1a & 2.1b for quantities of waste accepted into the landfill from 1988 to 1999. There was no waste accepted into the facility during the reporting period 2008.

Table 2.1a Waste Quantities

<u>Year</u>	<u>Inert Waste</u>	<u>Non-Hazardous Waste (tonnes per annum)</u>	<u>Hazardous Waste (tonnes per annum)</u>	<u>Total Waste Quantities (tonnes per annum)</u>
1988	60	440	Minor Quantities	500
1989	40	460	Minor Quantities	500
1990	40	460	Minor Quantities	500
1991	65	485	Minor Quantities	550
1992	65	535	Minor Quantities	600
1993	65	535	Minor Quantities	600
1994	70	680	Minor Quantities	750
1995	80	920	Minor Quantities	1000
1996	85	1015	Minor Quantities	1100
1997	90	1110	Minor Quantities	1200
1998	184	1305	Minor Quantities	1489
1999	190	1310	Minor Quantities	1500
<u>Totals</u>	<u>1034</u>	<u>9255</u>		<u>10289</u>

Table 2.1b Waste Quantities

<u>Waste Type</u>	<u>Maximum Quantity</u>
Inert Waste at the landfill for cover, capping and restoration purposes only.	50,000 tonnes
Segregated Municipal and Commercial wastes at the Bring Centre (collection for recovery only) or at a Civic Waste Facility if installed in accordance with Condition 3 and operated in accordance with Condition 5 (collection for recovery and collection for disposal at an appropriate facility).	5,000 tonnes per annum

Under the terms of Waste Licence 93-1 no other waste types are acceptable at Ballyjamesduff Landfill Site. At present there are no wastes accepted for any purpose. There was no waste accepted at this site during the reporting period. There was no activity carried out at this site other than monitoring required by EPA licence.

Waste Licence 93-1 allows for the operation of a Civic Amenity Facility at Ballyjamesduff Landfill Site. To date there are no plans in place to operate such a facility at the site.

3. Restoration of Completed Cells

Cavan County Council appointed consultants Malachy-Cullen to prepare a final restoration plan and detailed tender documents for site works. Final restoration works, including capping of the site within the timeframe specified, were then carried out. Table 3.1 gives a summary outline of the capping system put into place in Ballyjamesduff.

Table 3.1 Summary Capping System

a.	An upper component consisting of 150mm of topsoil on
b.	An 850mm layer of subsoil on
c.	A geo-composite surface water drainage layer on
d.	An LLDPE liner on
e.	A geo-composite gas collection layer on
f.	250mm regulation layer (where necessary)
g.	Re-graded landfill surface or filled waste

Further details of lining works were submitted to the [redacted] in the latest Waste Licence Application. The capping lining system was constructed to a very high standard and within all contractual and EPA guidelines.

4. Summary Report on Emissions and Environmental Monitoring

The required monitoring programme at Ballyjamesduff Landfill is specified in Schedule D of the waste licence 93-1. The emission limit values (ELV) are specified in Schedule C. Monitoring is carried out by BHP Laboratories on behalf of Cavan County Council. The frequency for reporting Environmental monitoring data [redacted] led in Schedule E of the licence.

The following monitoring data was reported to the Agency on a quarterly basis:

- Landfill Gas
- Surface water
- Groundwater

Table 4.1 Overall Site Monitoring Locations

Ballyjamesduff Landfill Schedule D: Monitoring				
Derrylurgan, Ballyjamesduff, Co. Cavan, Waste Licence No 93-1				
Landfill Gas	Noise	Surface Water	Groundwater	Leachate
Stations	Stations	Stations	Stations	Stations
MW12	n/a	SW1	MW10S	MW7
		SW2	MW11S	
			MW11D	
			MW16S to be re-drilled ¹	
			MW16D to be re-drilled ¹	
			MW17S to be re-drilled ¹	
			MW17D to be re-drilled ¹	
<u>Note 1</u>	Wells to be re-drilled 2009 and to be included in the monitoring program			

Analysis relating to Groundwater and Surface waters is also conducted by the EPA in County Monaghan. Please see Appendix 1 for Annual report of Ground water and Surface water monitoring results.

4.1 Landfill Gas

Schedule D.2 of the waste licence for the Ballyjamesduff landfill site, specifies the required gas monitoring programme. Table 4.1 indicates the monitoring locations and table 4.2 overleaf specifies the gas monitoring frequency. See Appendix 2 for Updated Site Map.

Table 4.2 Gas Monitoring Requirements

<u>Parameter</u>	<u>Frequency</u>
Methane (CH₄) %v/v	Quarterly
Carbon Dioxide (CO₂) %v/v	Quarterly
Oxygen (O₂) % v/v	Quarterly
Atmospheric Pressure	Quarterly
Temperature	Quarterly

As is shown in Table 4.2 there are 4no. groundwater wells to be drilled in Spring 2009 in order to bring us into full compliance with the licence.

Landfill gas at the facility is analysed on a quarterly basis by BHP Laboratories, New Road, Thomondgate, Limerick by means of an Infra-Red Gas Analyser (GA2000) which is calibrated once annually. There is one gas monitoring point at the facility (MW12). Gas monitoring commenced on site in September 2002 and is ongoing. Since this time, the quantities and constituents of Landfill gas being generated are not having a significant impact on the environment as the ELVs for CH₄ and CO₂ were not exceeded.

The Annual PRTR has been submitted to the Agency as part of this annual report. Gas emissions have been controlled by installing a passive trenching and venting system in the capping layer during final capping works. There is no evidence of any negative impact associated with this closed landfill. This is supported by annual monitoring results for the reporting period (See appendix 2).

Noise Monitoring

Noise Monitoring is no longer required at this closed landfill as there are no associated activities that would result in significant noise levels. This is supported by previously recorded noise monitoring reports.

Surface Water

Schedule D.4 of the waste licence, specifies the required surface water monitoring programme. Table 4.3 sets out the monitoring requirements.

Table 4.3 Surface Water Monitoring Requirements

<u>Parameter</u>	<u>Frequency</u>	<u>Comments</u>
Visual Inspection	Quarterly	
Quality Monitoring	Quarterly	Field sampling and Chemical analyses

The Pound Stream flows from north to south along the eastern boundary of the site. It is likely that the bulk of any impact from the landfill is confined to local shallow ground waters and surface waters.

The Annual Report covering surface water monitoring is presented in **Appendix 1**. In summary the landfill is not having a contribution to the discoloration of the waters downstream of the site. There was little difference from the monitoring results in the quality of the two waters upstream and downstream. The analytical results suggest the water quality both upstream and downstream of the facility is of a good standard, with BOD, Ammonia and total suspended solids remaining consistently below the expected limit values.

Currently there are two surface water monitoring points at the facility labelled SW1 and SW2. Field sampling is carried out once every quarter to determine the quality of surrounding waters. In December 2002, Surface waters SW1 and SW2 were also analysed for dangerous substances.

Groundwater

The Annual Report covering groundwater monitoring is presented in Appendix 1. In summary the groundwater is of a relatively uncontaminated nature. This conclusion is supported from the monitoring results from the reporting period.

See the following Table 4.5 detailing plans to extend the monitoring borehole points in 2009. As is shown above there are 4no. groundwater wells to be drilled. These will be included into the monitoring schedule.

Table 4.4 Existing Monitoring points & planned Borehole Drilling

Groundwater	
Stations	
MW10S	Existing
MW11S	Existing
MW11D	Existing
MW16S to be re-drilled ¹	Planned
MW16D to be re-drilled ¹	Planned
MW17S to be re-drilled ¹	Planned
MW16D to be re-drilled ¹	Planned

During sampling standard portable instrument comprising a probe which emits an audible signal on contact with water is used to determine the ground water levels in the boreholes. As noted earlier water samples are lifted by means of a bailer. Groundwater level and test results are forwarded to the Agency in quarterly reports. Groundwater quality has remained good throughout the year as supported in the monitoring results.

5. Environmental Objectives and Targets.

A total of 9 Targets and Objectives have been identified. These can be grouped into two categories:

- 8no. Licence Related Targets and Objectives
- 1no. Identified Targets and Objectives

These targets and objectives are listed in Tables 5.1 and 5.2 below which also identifies progress to date in relation to these targets.

Table 5.1a Environmental Targets & Objectives – Licence Related

No.	Ref.	Details	Target Date	Progress
1	2.2	Management Structure		Included Table 6.1
2	2.4	Borehole Drilling Plans 2009	March 2009	Up-coming
3	11.6	Annual Environmental Report	31/03/08	Prepared
4	10 & 11	Record Keeping and Reporting		Ongoing
5	3.9	Landfill Gas Management		Ongoing
6	3.10	Surface Water Management		Ongoing
7	8.6	Topographical Survey	AER 2007	Included Appendix 4
8	8.7	Stability Analysis Certification Letter	AER 2011	To be submitted

Table 5.1b Environmental Targets & Objectives

No.	Ref.	Details	Target Date	Progress
1		Litter Management		Ongoing

6. Management Structure

Under the terms of WL 93-1 Ballyjamesduff Landfill Site no longer accepts waste. The Licence issued permits Cavan County Council to accept inert waste for the purposes of site restoration and remediation, subject to a maximum limit of 50,000 Condition 4.1 of WL 93-1 requires that the restoration of the landfill be completed within 30 months of the date of grant of licence. The site is now fully capped, restored and closed. In terms of general overseeing of site at its current status the management structure is listed below.

Table 6.1 Management Structure 2007-2009

Position	Name	Duties
A/SEO	Padraig McGivney	Oversee general supervision, monitoring and reporting of the site.
Landfill Operations Manager Cavan County Council	Sinead Fox	Responsible for general supervision, Compliance, monitoring and reporting of the site.

Contact Person for Sanitary Authority: Pdraig McGivney, A/Senior Executive Officer,
Waste Management Section,
Cavan County Council.

7. Reporting of Incidents

All incidents are reported to the Agency in line with the requirements of Waste Licence ref. 93-1. Copies of all Incident Reporting documentation are available for inspection. There were no incidents recorded for this reporting period. There were no complaints recorded for this reporting period.

10. Financial Provision.

Provision will be made in Cavan County Council Official Estimates for Charges as required under Condition 12 of Waste Licence Ref. 93-1.

APPENDIX 1

APPENDIX 2

APPENDIX 3



AER Returns Worksheet

Version 1.1.04

REFERENCE YEAR	2008
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1. FACILITY IDENTIFICATION

Parent Company Name	Cavan County Council
Facility Name	Ballyjamesduff Landfill
PRTR Identification Number	W0093
Licence Number	W0093-01

Waste or IPPC Classes of Activity

No.	class_name
3.1	Deposit on, in or under land (including landfill).
3.4	Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.
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.
4.2	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.
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.

Address 1	Derrylurgan
Address 2	Ballyjamesduff
Address 3	Co Cavan
Address 4	
Country	Ireland
Coordinates of Location	542300.000
River Basin District	IEGBNISH
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Sinead Fox
AER Returns Contact Email Address	sfox@cavancoco.ie

AER Returns Contact Position	Landfill Operations Manager
AER Returns Contact Telephone Number	049-4378418
AER Returns Contact Mobile Phone Number	087 980 8507
AER Returns Contact Fax Number	
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	0
User Feedback/Comments	Closed landfill, fully remediated.
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5d	Landfills
5c	Installations for the disposal of non-hazardous waste

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

Is it applicable?	no
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

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR					ADD EMISSION POINT			
POLLUTANT		METHOD			QUAN TITY			
No. Annex II	Name	M/ C/ E	Method Used		Emission Point 1	T (Total) KG/Year	A (Accid ental) KG/Ye ar	F (Fugitiv e) KG/Yea r
			Method Code	Designation or Description				
03	Carbon dioxide (CO2)	C	MAB	GASSIM	164000.0	164000.0	0.0	0.0
01	Methane (CH4)	C	MAB	GASSIM	58300.0	58300.0	0.0	0.0

ADD NEW ROW

DELETE ROW

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					ADD EMISSION POINT			
POLLUTANT		METHOD			QUAN TITY			
No. Annex II	Name	M/ C/ E	Method Used		Emission Point 1	T (Total) KG/Year	A (Accid ental) KG/Ye ar	F (Fugitiv e) KG/Yea r
			Method Code	Designation or Description				
					0.0	0.0	0.0	0.0

ADD NEW ROW

DELETE ROW

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					
POLLUTANT	METHOD			ADD EMISSION POINT	QUAN

Pollutant No.	Name	M/ C/ E	Method Used		Emission Point 1	T (Total) KG/Year	TITY	
			Method Code	Designation or Description			A (Accid ental) KG/Year	F (Fugitiv e) KG/Year
					0.0	0.0	0.0	0.0

ADD NEW ROW

DELETE ROW

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

Additional Data Requested from Landfill operators

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

Landfill:

Ballyjamesduff Landfill

Please enter summary data on the quantities of methane flared and / or utilised

T (Total) kg/Year	M/ C/ E	Method Used		Facility Total Capacity m3 per hour
		Method Code	Designation or Description	
Total estimated methane generation (as per site model)	0.0			N/A
Methane flared	0.0			0.0
Methane utilised in engine/s	0.0			0.0
Net methane emission (as reported in Section A above)	58300.0	C	MAB GASSIM	N/A

(Total Flaring Capacity)
(Total Utilising Capacity)

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4.2 RELEASES TO WATERS
SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

Data on ambient monitoring of storm/surface water or ground water releases, should NOT be submitted under AER / PRTR Reporting as this only concerns Releases from your facility

RELEASES TO WATERS								
POLLUTANT					ADD EMISSION POINT	QUANTITY		
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
						0.0	0.0	0.0

ADD NEW ROW | DELETE ROW*
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					ADD EMISSION POINT	QUANTITY		
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
						0.0	0.0	0.0

ADD NEW ROW | DELETE ROW*
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					ADD EMISSION POINT	QUANTITY		
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year

						r			
						0.0	0.0	0.0	0.0

ADD NEW ROW

DELETE ROW*

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

4.3 RELEASES TO WASTEWATER OR SEWER

| PRTR# : W0093 | Facility Name : Ballyjamesduff Landfill |
 Filename : W0093_2008(1).xls | Return Year : 2008 |

19/06/20
 09 16:56

SECTION A : PRTR POLLUTANTS

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

POLLUTANT		METHOD			QUANTITY			
No. Annex II	Name	M/C/E	Method Used		Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description				
						0.0	0.0	0.0

ADD NEW ROW

DELETE ROW*

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

POLLUTANT		METHOD			QUANTITY			
Pollutant No.	Name	M/C/E	Method Used		Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description				

0.0 0.0 0.0 0.0

ADD NEW ROW

DELETE ROW*

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

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4.4 RELEASES TO LAND

| PRTR# : W0093 | Facility Name : Ballyjamesduff Landfill | Filename : W0093_2008(1).xls | Return Year : 19/06/2009 16:56
2008 |

SECTION A : PRTR POLLUTANTS

RELEASES TO LAND						
POLLUTANT		METHOD			ADD EMISSION POINT	QUANTITY
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year A (Accidental) KG/Year
					0.0	0.0 0.0

ADD NEW ROW

DELETE ROW*

* 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		METHOD			ADD EMISSION POINT	QUANTITY
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year A (Accidental) KG/Year

0.0 0.0 0.0

ADD NEW ROW

DELETE ROW*

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

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5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

| PRTR# : W0093 | Facility Name : Ballyjamesduff Landfill | Filename : W0093_2008(1).xls | Return Year : 2008 |

19/06/2009
16:56

Transfer Destination	European Waste Code	Hazardous	Quantity T/Year	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Name and Licence / Permit No. of Recoverer / Disposer / Broker	Address of Recoverer / Disposer / Broker	Name and Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)	Licence / Permit No. of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C /E	Method Used					

ADD NEW ROW

DELETE ROW*

* Select a row by double-clicking the Description of Waste then click the delete button

