

**ANNUAL ENVIRONMENTAL REPORT**  
**2008**

**Waste Licence No.:**

W0029-02

**Licencee:**

Offaly County Council.

**Location of Activity:**

Derryclure Landfill,  
Derryclure,  
Tullamore,  
Co. Offaly

**Inspector:**

Dermot Burke  
Office of Environmental Enforcement  
Environmental Protection Agency  
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**Submitted by:**

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## **Introduction**

Offaly County Council operates Derryclure Landfill Facility under the terms of Waste Licence WL 029-2. This Annual Environmental Report is compiled in accordance with Condition 11.6 and Schedule H of WL 029-2. This report covers the period 1<sup>st</sup> January 2008 to 31<sup>st</sup> December 2008.

Derryclure Landfill is located approximately 5 km from Tullamore town on the Tullamore to Killeigh road (National Secondary Road - N80). The landfill site is located on what was originally a cut-away peatland area. The Northern, Southern and Eastern sides of the landfill are bounded by raised peatlands while the Western side is bounded by pastoral land. Topographically, the Tullamore area is extensively low-lying, and as such is characteristic of the low lands of central Ireland. The land uses of the area are a mixture of peat extraction for horticultural use on the raised peatlands and agricultural use on the pastoral land.

On the 16 November 1999 the EPA issued WL 029-1 subject to 11 conditions to Offaly County Council for its facility at Derryclure Landfill Site, Tullamore. The licence is related to the continued operation of an existing non-hazardous landfill.

In November 2001 an application was submitted to the EPA for a review of the Waste Licence and a second license WL 29-2 was granted on 23 July 2003, which remains in-force for the site.

### ***Items of note for 2008 include:***

- Completion of aftercare and restoration works on the original cell in May 2008
- A new civic amenity/recycling area completed January 2008, and opened to the public in June 2008.
- In October 2008 applications were submitted to An Board Pleanala for approval for strategic infrastructure development at Derryclure landfill and to the EPA for a Licence Review to increase the allowable waste intake from 40,000 to 100,000 tonnes per annum.
- Installation of 18 vertical gas extraction wells to cells 1A and 1B in December 2008 and associated pipe-work to the flare.
- Completion of road re-alignment works and installation of a right hand turning lane at entrance to the landfill.
- Completion of SEW agreed with the EPA, with Cell 1C ready to accept waste.

## **Waste Activities undertaken at the facility**

Derryclure Landfill is licensed to accept household waste, commercial waste, industrial non-hazardous solids, sewage sludge and construction and demolition waste as per third schedule of the Waste Management Act 1996 and waste for recovery as per the Fourth Schedule.

The waste activities on the site can be sub-divided into three areas:

1. Disposal of waste in fully engineered lined cells
2. Reception area for waste at front of site, where waste is deposited by the public into large skips, and these are transferred to the working face by Council staff
3. Recycling Centre where segregated recyclable wastes are accepted from the public.

## Quantities of Waste received, disposed of and recovered in 2008

### *A. Wastes accepted for disposal:*

Schedule A defines the quantities and categories of waste that may be accepted at the site. The table below illustrated the limits for each waste category, and the volumes of each accepted in 2008.

Waste Type	Maximum Tonnes per Annum	Tonnes accepted in 2008
Household Waste	20,000	14,711
Commercial.	6,000	38,385
Industrial Non-Hazardous Solids	5,500	1
Sewage Sludge	5,500	791
Construction and Demolition	3,000	1,684
<b>TOTAL</b>	<b>40,000</b>	<b>55,572</b>

Details of wastes accepted at the site were submitted to the EPA on a monthly basis in 2008, as agreed with the Agency.

**B. Waste Accepted for Recovery:**

<b>Waste type</b>	<b>EWC Code</b>	<b>Tonnes</b>
Mixed Dry Recyclables	15 01 06; 20 03 01	89
Cardboard, Newspaper. other paper	15 01 01; 20 01 01	55
Cardboard Packaging	15 01 01	55
Newspaper & Magazines	20 01 01	89
Glass Packaging	15 01 07	59
Glass – non packaging	20 01 02	9
Aluminum Cans (packaging)	15 01 04	4
Steel Cans (packaging)	15 01 04	15
Other metals (non packaging)	20 01 40	78
Plastic Packaging	15 01 02	37
Plastic non-packaging	20 01 39	1
Textiles (non packaging)	20 01 11	26
Wood (non packaging)	20 01 38	305
Lead acid batteries	16 06 01*	1.14
Waste Mineral Oils	13 xx xx	0.88
Waste Cooking/ Vegetable Oils	20 01 25	0.74
Waste paints/varnish (incl containers)		5.72
WEEE – White goods	20 01 36; 16 02 14	136.84
Flourescent Tubes and lighting		0.16
Car Tyres	16 01 03	9.52
Polystyrene	20 01 39	3.98
Garden green waste		97.84
Top-soil – used as cover	17 05 04	37,848

Note: the table above reflects the wastes from the old civic amenity site from January – June 2008, and the new site from July – December 2008. The waste collected and manner in which they are reported varies under the two different management regimes, therefore some waste streams e.g. newspaper, cardboard are reported on separate lines above.

## **Remaining capacity of the landfill site**

In 2003, the EPA granted a licence to develop nine additional cells at Derryclure, creating an additional 1.1 million tonnes void space. Cells 1A & 1B have been constructed, and the remaining seven cells will be developed as required. The application for intensification of the waste activity on the site to 100,000 tonnes/annum will reduce the lifespan of the facility by 14.5 years.

## **Waste Handling and methods of deposition of waste**

### **A. Municipal/Commercial Solid Waste**

Waste handling and disposal practices include the weighing, inspection and recording of all wastes at the weighbridge office prior to disposal. The Site Manager and site staff must ensure that the waste received at the site is in accordance with WL 029-02 and that the waste correlates with the description as supplied by the producer. Upon acceptance of the waste, drivers are directed to the working face where waste discharge takes place.

The compactor/loading shovel operator also conducts spot checks at the working face prior to disposal. Waste is deposited adjacent to the active cell, the compactor pushes the waste onto the working face and compacts the waste. The track machine shapes the sides of the working area, maintains previous slopes and manages the covering of the working face on a daily basis.

Cover is placed over the waste, with 150 mm depth on a daily basis and 300 mm at weekends. The cover comprises of a mix of peat and fines (EWC 19 12 12), soil is used when available.

Rejected loads resulting from weighbridge or staff inspections are directed to the designated quarantine area for further inspection.

On the basis of the inspection, one of the following actions is initiated;

- Waste may be returned to the producer and tracked (evidence of disposal to be produced)
- Disposed off-site and tracked
- Disposed on site based on assessment by the Site Manager.

Records of rejected loads are maintained at the site office. A random inspection of incoming loads is also undertaken and recorded.

A drive-through wheel-wash is situated on the exit route from the landfill site, the use of which is compulsory for all vehicles leaving the site.

### **Public waste reception area**

At present all waste, other than large lorries, is disposed of by depositing the waste into a number of skips at the public waste reception area. This area is managed by Council staff on an ongoing basis, assisting customers, and advising them of the waste types acceptable. These skips are transported to the working face as required.

### **Inert Waste**

In accordance with Condition 5.8.3, and as per Schedule G, inert wastes are recovered through their use as cover material and for the construction of hard standing areas and haul-roads on the site. Separate locations are provided near the active working area for soil, fines and clean construction waste.

### **Recyclables**

The Civic Amenity/Recycling Area has undergone changes in 2008. From January – June 2008, recyclables were deposited in the area referred to above as the “*Public Waste Reception Area*” which was managed by Offaly County Council. In June 2008, the new Recycling Center was opened on the site, which is operated by a private contractor, on behalf of Offaly County Council. Under the new system, only customers wishing to deposit waste at the site enter the landfill area, over the weighbridge. Domestic customers, with recyclable waste to recover may deposit these waste materials at the Recycling Centre to the front of the site.

All wastes are managed by the contractor responsible for the site, with Waste Collection Permits available at the weighbridge office for all contractors removing waste from the site. Details of the authorised sites to which wastes are removed is also recorded.

Recyclables that are accepted at the site are as follows:

- Glass Bottles
- Plastic Bottles
- Plastic Packaging
- Cardboard
- Newspapers
- Glossy Magazines
- Tetra-pak
- Aluminum Cans
- Steel cans
- Scrap Metal
- Flat Glass
- WEEE
- Green Waste
- Waste oils
- Timber
- Paints/Solvents
- Clothes and Footwear
- Polystyrene
- Batteries
- Fluorescent and light bulbs
- Tyres

### **Summary of Results of Environmental Monitoring**

Monitoring was undertaken in accordance with the requirements of the licence in relation to the following environmental media:

- Surface Water – quarterly monitoring of seven points. Samples taken were compared to the Class A1 limit of Surface Water Regulation. The trigger limit of 25 mg/l BOD was not exceeded during 2008 monitoring. The 60 mg /l Suspended Solids limit was exceeded in Quarter 4. This matter was investigated and it was concluded that low flow in the drain at the time of sampling contributed to the Suspended Solids result.
- Groundwater is monitored quarterly at fourteen points, taking a level for the depth to water table and also analysing samples for parameters required under the licence. In 2008, the parameters were in compliance with the Guideline Values, with the exception of Chloride, which exceeded the guideline value on a number of occasions. This is

referred to as “more a feature of interest, rather than a cause for concern” in the Quarter 1 Monitoring analysis by an independent environmental laboratory.

- Landfill Gas – Landfill Gas is monitored monthly at eighteen points on the site, some of which are located within the waste body of the capped cell, and others along the perimeter of the site. Each monitoring episode has measured exceedances in the % Methane and/or % Carbon Dioxide. This is as expected in the monitoring points within the waste body. For those on the perimeter of the site, an assessment was undertaken to ascertain whether the results were from naturally occurring emissions from the surrounding bog.

As assessment was undertaken on sampling points GP01 and GP29, with a Determination of Bulk Gas Composition completed, with the following results:

Constituent	Composition at GP01	Composition at GP29
Hydrogen	<0.5% vol	<0.5% vol
Oxygen	21% vol	16% vol
Nitrogen	78% vol	79% vol
Carbon Monoxide (%)	<0.05%	<0.05%
Methane	0.80% vol	0.10% vol
Carbon Dioxide	0.80% vol	5.7% vol
Hydrogen Sulphide	<1 ppm	<1 ppm

Typical Landfill gas is composed of the following:

Typical landfill gas composition	% vol
Methane, CH <sub>4</sub>	54
Carbon dioxide, CO <sub>2</sub>	42
Oxygen, O <sub>2</sub>	0.8
Fluor, Fluorinated organic com-pounds (e.g., Freons)	5 mg/m <sup>3</sup>
Chlorine, Chlorinated organic compounds	22 mg/m <sup>3</sup>
Hydrogen sulphide, H <sub>2</sub> S	88 mg/m <sup>3</sup>

From the analysis above, methane concentrations are well below what would be expected from landfill gas production, and there was no hydrogen sulphide detected on the gas analysis. Oxygen concentrations were high (16-21% vol), indicating that the gas is probably not landfill derived gas, and may relate to the degradation of peat bogs, and therefore naturally occurring gas.

- Gas Flare –The gas flare commenced operations on the site in mid 2008. The annual monitoring of the flare was undertaken on 30 September 2008 and no incidents were recorded.
- Dust – Dust was monitored at four locations during the period 7 October – 6 November 2008. The results, for all points were below the limit set in Schedule A.C.3 of the Licence.



- Noise – A noise survey was undertaken at 4 pre-determined perimeter monitoring points on 28 & 29 May 2008. The monitoring indicated exceedances against the day-time noise limit of 55 dB(A) and the night-time noise limit of 45 dB(A).

Two points exceeded the recommended day-time noise limit, due to passing traffic and general landfill activities. The night-time limit was exceeded at three points, due to traffic on the Tullamore-Portlaoise road, outside landfill operation hours.

- Leachate – Under the terms of the licence, the leachate lagoon temperature is monitored quarterly and sampled annually at six leachate wells and the leachate lagoon. Due to capping works ongoing on the site, only three wells were accessible and sampled in 2008, along with the leachate lagoon.

The results highlighted concentrations above the guidance values for the following:

Leachate Lagoon: Ammonia, Chloride, COD, Magnesium, Potassium and Sodium

LE-02: Ammonia, COD, Magnesium, Potassium and Sodium

LE-07 & LE 08: Chloride, COD, Magnesium, Potassium and Sodium

All leachate is collected in the leachate lagoon, and tankered to a Waste Water Treatment facility.

### Resource and energy consumption

	Municipal Water Supply (m <sup>3</sup> )	ESB (Kilowatt Hours)	Diesel (Gals.) For Machinery	Oil (Gals.) Machinery Hydraulic	Oil (Gals.) Machinery Engine
<b>Total</b>	<b>10,500</b>	<b>99,050</b>	<b>48,000</b>	<b>180</b>	<b>100</b>

**Water consumption:** consists of usage by wheel wash facility and domestic purposes.

**Electricity consumption:** consists of usage by the landfill offices, wheelwash, gas flare, public lighting, leachate pumps and ground water pumps.

**Diesel consumption:** consists of usage by the compactor and other vehicles. Diesel deliveries are made directly to all vehicles, as no diesel is stored on site.

### Proposed development and timescale:

As outlined above, a submission has been made to the EPA with respect to a Review of Waste Licence WL 29-2. The decision on this application will influence the timescale for initiating work on the next cell, and therefore development on the site.

### Volume of leachate produced

In 2008, 24,233.55 tonnes of leachate was produced on the site. All leachate was tankered off site for treatment at a Waste Water Treatment facility.

### **Development works undertaken during the reporting period:**

- Completion of aftercare and restoration works on the original cell in May 2008
- A new civic amenity/recycling area completed January 2008, and opened to the public in June 2008.
- In October 2008 applications were submitted to An Board Pleanala for approval for strategic infrastructure development at Derryclure landfill and to the EPA for a Licence Review to increase the allowable waste intake from 40,000 to 100,000 tonnes per annum.
- Installation of 18 vertical gas extraction wells to cells 1A and 1B in December 2008 and associated pipe-work to the flare.
- Completion of road re-alignment works and installation of a right hand turning lane at entrance to the landfill.
- Completion of SEW agreed with the EPA, with Cell 1C ready to accept waste.

### **Proposed works for 2009 include:**

- Extending gas collection infrastructure with gas extraction pipe-work to be installed around the south and west perimeter of cells 1A and 1B.
- Improvement works to be completed at the site entrance
- Works to be completed at the Public Reception Area to facilitate a separate Green Waste collection.

**Site survey showing existing levels is provided in Appendix A.**

**Estimated annual and cumulative quantities of gas emitted is included as Appendix B**

### **Estimated annual and cumulative quantities of indirect emissions to GW**

All waste activities are undertaken in lined cells. There are no emissions to groundwater, either direct or indirect.

### **Procedures**

No new procedures were developed in 2008. Offaly County Council will undertake a full review of all procedures in 2009.

### **Summary of Incidents and Complaints**

#### **Recorded Incidents.**

There were a number of incidents recorded during 2008, all of which were reported to the EPA. All details are available for inspection in the **Incident Register**, which is located in the Site Manager's Office at the facility.

### **Recorded Complaints.**

There were a number of complaints received at the Derryclure facility during 2008. All details are available for inspection in the **Complaints Register**, which is located in the Site Manager's Office at the facility.

### **Review of Nuisance Control**

The landfill manager and site staff carry out assessments of nuisance control on a daily basis. Records of nuisances caused by litter, vermin, birds, flies, mud, dust and odours are maintained on site and are available for inspection at the site office.

#### **Litter**

The erection and maintenance of 4m high anti-litter netting has been very successful in controlling wind blown litter within the landfill site. Netting on site is managed by regular maintenance and landfill staff complete litter picks within the site as part of routine works. Compaction, daily cover and intermediate covering of the waste also aids in preventing litter arising. All commercial/general public vehicles are required to have their waste covered to prevent any nuisances by litter. Signs are located at the facility indicating same.

#### **Vermin and Flies**

Control of vermin on site was contracted to EcoLab Pest Prevention in 2008, who provided preventative pest control measures for rodents (rats and mice) at the site.

#### **Birds**

Control of birds was contracted to Bird Control Ireland in 2008, who provided preventative pest control measures for the presence of birds at the site. Random operation of a hand held flare gun and a fixed Bird Stress Caller, which operates at irregular intervals, was also used.

#### **Mud**

The continued use of the wheel wash has significantly reduced the quantity of mud deposited on the facility roads. A road sweeper is also employed on a regular basis to clean access roads and hard standing areas.

#### **Dust**

Managing the working face in a confined area and the employment of a water bowser to suppress dust on the site, especially on roads during extended periods of dry weather achieved control of dust during the reporting period.

#### **Odour**

The restoration and aftercare programme commenced at the existing facility on the 9 July 2007 and was completed on 22 August 2008, which the completion of capping works of the old landfill area and the extraction of gas to the flare.

In relation to the active working areas, cells 1A & 1B, throughout 2008, odour was managed through the management of the working face area and application of cover. In December 2008, 18 vertical gas extraction well were installed in Cells 1A& 1B and the pipe-work connected to the flare. This work resulted in a significant increase in the volume of gas being collected and flared-off, the therefore had a positive impact on odours generated from the site. This work was extended further in early 2009.

The Council note that odours have occurred in particular weather conditions, namely during periods of foggy and very cold weather. This situation will continue to be monitored as gas

extraction infrastructure is implemented and options for cover material will also be re-assessed.

### **Noise**

As per schedule E of WL 29-2, an annual monitoring episode was undertaken to assess noise levels arising on the site. Noise is managed through the following steps:

- Regular maintenance of site plant equipment.
- Ramps at access roads to reduce speed and noise of vehicles.
- Erection of speed signs to reduce speed and noise of vehicles.
- The bird control devices (bird stress caller) are switched off at night to reduce noise levels
- The use of the hand held flare gun, which is only used during working hours.

### **Management of site**

The management structure for Derryclure Landfill site is as follows:

Director of Services (Michael Roche)

Senior Engineer (David Hogan)

Executive Scientist (Marian Healy)

#### **On-site staff:**

Site Manager (Brendan King)

Site Foreman (P.J. Cleary)

Site Operators (Gerry Condron, Dave Mc Cabe, Brendan Monaghan, Eddie Kaye)

### **Staff training provided in 2008**

Staff training completed in 2008 is as follows:

- Training in Gas Monitors
- Bird Scaring Pistol Efficiency Test
- FGAS Safe Pass Programme
- Scada System at Derryclure
- Basic Fire Training Course

Records of all training are maintained and are available at the site office.

**EMP 2008: Schedule of Objectives and Targets for Derryclure Landfill Site for 2008**

1. To provide signage where appropriate.
2. To continue tree planting and landscaping works.
3. Further training to all employees at the facility.
4. Conduct operations on site in accordance with the schedules and conditions of the waste license.
5. Complete new civic amenity
6. Assess the number of emission points on site
7. Complete restoration of existing facility
8. Provide a service for green waste on the site

OPERATION	TARGET	OBJECTIVE	DATE/ ACTION COMPLETE D	RESPONSIBLE PERSON
1. To provide signage where appropriate	To ensure compliance with Waste Licence	All emission points to be labeled Safety signs where appropriate	Completed and managed on an ongoing basis	Site Manager
2. Landscaping	To ensure compliance with Waste Licence	To continue tree plantation and landscaping where appropriate	Ongoing	Site Manager
3. Training Programme	Ensure all staff are appropriately trained	Further training to all staff at the facility	Completed and managed on an ongoing basis	Site Manager
4. All site activities	To ensure compliance with the Waste Licence	Conduct operations on site in accordance with the schedules and conditions of the waste license	Ongoing	Site Manager
5. Recycling of Wastes & Reduction in Quantities of Disposed Wastes	Maximize recycling employed on site and reduce quantity of waste disposed to specified limits	Establish new Civic Amenity Facility/Recycling Centre on the site	Completed in early 2008, and opened to the public in June 2008	Senior Engineer
6. Assess the number of emission points	To ensure compliance with Waste Licence	Review the number of emission points	Completed and two additional points established	Site Manager
7. Restoration and aftercare	Restoration and aftercare programme	Complete restoration and aftercare of existing facility	Completed for original cell in 2008	Senior Engineer
8. Provide a service for green waste	Compliance with the Landfill Directive	Establish a separate area for green waste management	Planned in 2008, to be implemented in 2009	Site Manager

**EMP 2009: Schedule of Objectives and Targets for Derryclure Landfill Site for 2009**

**The Schedule of Objects and Targets for 2009**

1. Conduct operation on site in accordance with the schedules and conditions of the waste license
2. Continue to reduce air emission within facility e.g. dust control, odour
3. To provide signage where appropriate and secure all locations.
4. Continue to reduce levels of litter within site and surrounding areas
5. Provide a facility for green waste for domestic and commercial customers
6. Ongoing training to be provided to all employees at the facility.
7. Continue to review all records maintained on site
8. Progress improvement works at the site entrance

OPERATION	TARGET	OBJECTIVE	DATE (STARTED ) FINISHED	RESPONSIBLE PERSON
1. All site activities	To ensure compliance with the Waste Licence	Conduct operations on site in accordance with the schedules and conditions of the waste license	Ongoing	Site Manager
2. All activities, particularly the active cells, covered cells 1A & 1B and the leachate lagoon	To minimise any odour impacts from the facility	To further develop the gas extraction infrastructure, in consultation with the EPA	Ongoing, actions scheduled for Q1 2009, will be reviewed in Q2	Executive Scientist
3. To provide signage where appropriate and improve monitoring locations	To ensure compliance with Waste Licence and H&S of monitoring staff	All emission points to be labeled, and access to each assessed,	Access assessment of monitoring points in Q1 2009. Management of signs is ongoing	Site Manager
4. All site activities	To ensure litter is managed on the site and surrounding areas.	Litter is managed and site is maintained litter free	Ongoing	Site Manager
5. Provide a service for green waste	Compliance with the Landfill Directive	Establish a separate area for green waste management	Q2 2009	Site Manager
6. Training Programme	Ensure all staff are appropriately trained	Further training to all staff at the facility	Completed and managed on an ongoing basis	Site Manager

7. Records Management	To ensure all records maintained in relation to the site are in accordance with Procedures	To review all procedures and current paper management systems	Q3 2009	Executive Scientist
8. Site Entrance	To ensure the site entrance is suitable and safe for all traffic movements	Complete works on site entrance, commenced with road re-alignment in 2008	Q4 2009	Executive Scientist

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**Appendix A**

**Site survey showing existing levels**





## **Appendix B**

### **Estimated annual and cumulative quantities of gas emitted – extract from AER PRTR Submission**

4.1 RELEASES TO AIR

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

No. Annex I	POLLUTANT Name	METHOD		QUANTITY	
		MIC/E Method Code	Method Used Designation or Description	T (Total) KG/Year	F (Fugitive) KG/Year
01	Methane (CH4)	E	Total annual flow through flare * density of 0.68	1741631.0 0.0	0.0 0.0

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

SECTION B : REMAINING PRTR POLLUTANTS

No. Annex I	POLLUTANT Name	METHOD		QUANTITY	
		MIC/E Method Code	Method Used Designation or Description	T (Total) KG/Year	F (Fugitive) KG/Year
			Emission Point 1	0.0	0.0
			T (Total)	0.0	0.0

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

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

Pollutant No.	POLLUTANT Name	METHOD		QUANTITY	
		MIC/E Method Code	Method Used Designation or Description	T (Total) KG/Year	F (Fugitive) KG/Year
			Emission Point 1	0.0	0.0
			T (Total)	0.0	0.0

\* Select a row by double-clicking on the Pollutant Name (Column B) then click the table 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) and other pollutants generated. Operators should only report their net methane (CH4) emission to the environmental audit. (Total) kg/yr for Section A. Sector specific PRTR pollutants above. Please complete the table below.

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

MIC/E	Method Code	Method Used Designation or Description	Facility Total Capacity m3 per hour	
			T (Total)	F (Fugitive)
E		Old cell capped mid 2008. This figure is the combination of total gas flared from old cell in July. Dec. estimate of fugitive gas from old cell or new cell. Methane emissions of the fugitive emission from the new cell with waste deposited in 2007 & 2008 used to estimate the gas generated. Flare data from 5 July-31 Dec	N/A	1200.0 (Total Flaring Capacity)
		Balance of two figures above	N/A	0.0 (Total Utilising Capacity)

Total estimated methane generation (as per site record)  
Methane flared  
Methane utilised  
Net methane emission (as reported in Section A above)