

*Monaghan County Council*  
*Scotch Corner Landfill*



**Scotch Corner Landfill**

**1<sup>st</sup> January 2011 – 31<sup>st</sup> December 2011**

**Annual Environmental Report**

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## 1. INTRODUCTION

On 7<sup>th</sup> December 2001 the EPA granted a waste licence, W0020-01, subject to conditions to Monaghan County Council for its facility at Scotch Corner Landfill. This licence is for the operation and development of an existing non-hazardous landfill at Scotch Corner, Letterbane, Annyalla, Castleblaney, Co. Monaghan and also covers the operation of a Material Recovery Facility at the site. The Material Recovery Facility allows for the storage and processing of pre-segregated recyclable wastes.

This licence was reviewed by the Agency and a new licence, W0020-02 was issued on the 24<sup>th</sup> March 2010.

Condition 11.7 of Waste Licence W0020-02 states the following:

### *11.7 Annual Environmental Report*

*11.7.1 The licensee shall submit to the Agency, by the 31<sup>st</sup> March each year an AER covering the previous calendar year. This report, which shall to the satisfaction of the Agency, shall include as a minimum the information specified in Schedule G: Annual Environmental Report of this Licence and shall be prepared in accordance with any relevant guidelines issued by the Agency.*

*The AER shall include as a minimum the information specified in Schedule G: Content of the Annual Environment Report of this licence and shall be prepared in accordance with any relevant written guidance issued by the Agency.*

This Annual Environmental Report will include the following:

- Reporting Period.
- Waste activities carried out at the facility.
- Quantity and Composition of waste received, disposed of and recovered during the reporting period and each previous year.
- Calculated remaining capacity of the facility and year in which final capacity is expected to be reached.
- Methods of deposition and recovery of waste.
- Summary report on emissions.
- Summary of results and interpretation of environmental monitoring.
- Resource and energy consumption summary.
- Proposed development of the facility and timescale of such development (including plant operating capacity at the MRF, provision of adequate standby and provision of contingency, backup and spares in the case of breakdown)
- Capacity and provision of contingency, backup and spares in the case of breakdown).
- Volume of leachate produced and volume of leachate transported / discharged off-site.
- Report on development works undertaken during the reporting period, and a timescale for those proposed during the coming year.
- Report on restoration of completed cells/ phases.
- Site survey showing existing levels of the facility at the end of the reporting period.
- Estimated annual and cumulative quantities of landfill gas emitted from the facility.
- Estimated annual and cumulative quantity of indirect emissions to groundwater.
- Annual water balance calculation and interpretation.
- Report on the progress towards achievement of the Environmental Objectives and Targets contained in previous year's report.
- Schedule of Environmental Objectives and Targets for the forthcoming year.
- Updates to Landfill Environmental Management Plan (LEMP)
- Review of Environmental Liabilities
- Report on waste recovery

- Full title and a written summary of any procedures developed by the licensee in the year which relates to the facility operation.
- Tank, pipeline and bund testing and inspection report.
- Reported incidents and Complaints summaries.
- Review of Nuisance Controls.
- Reports on financial provision made under this licence, management and staffing structure of the facility, and a programme for public information.
- Report on training of staff.
- Statement of compliance of facility with any updates of the relevant Waste Management Plan.
- Statement on the achievement of the waste acceptance and treatment obligations.
- Any other items specified by the Agency.

## 2. REFERENCES

Waste Licence W0020-02

Waste Licence Application Form – Monaghan County Council 25<sup>th</sup> February 1998

EPA Landfill Manuals – Landfill Operational Practises

E.I.S. for Scotch Corner Landfill Site Monaghan – MCOS

Scotch Corner Landfill 2011 Groundwater, Surface Water and Leachate Monitoring Reports.

Scotch Corner Landfill 2011 Noise Monitoring Report.

Scotch Corner Landfill 2011 Landfill Gas Monitoring Reports.

Scotch Corner Landfill 2011 Dust Monitoring Reports.

Pestproof Service Reports.

Rock Bird Control Service Reports.

Environmental Management System at Scotch Corner Landfill Rev.00

Monaghan County Council Scotch Corner Landfill One Year Phasing Report – Phase 3 Rev 1 October 2007 by RPS and Monaghan County Council Scotch Corner Landfill Commencement Cell 4b Specified Engineering Works: Addendum 2 March 2010 by RPS.

Scotch Corner Landfill 1<sup>st</sup> January 2011– 31<sup>st</sup> December 2011 Annual Environmental Report

Scotch Corner Landfill 2011 AER Returns Workbook

Scotch Corner Landfill 2011 EPA Landfill Gas Survey

North East Region Waste Management Plan 2005 - 2010

## 3. CONTENT OF ANNUAL ENVIRONMENTAL REPORT

### 3.1 Reporting Period

This report covers the period 1<sup>st</sup> January 2011 to 31<sup>st</sup> December 2011.

### 3.2 Waste activities carried out at the facility

Scotch Corner Landfill is licensed to accept household waste, commercial waste, non-hazardous industrial waste and construction and demolition waste.

Wastes that will not be accepted at the landfill facility include the following:

- Liquid Wastes
- Hazardous Wastes as defined by the European Waste Catalogue & Hazardous Waste List
- Sewage Sludge and Industrial Sludge

Scotch Corner Landfill is closed to the public and accepts the above waste types from licensed hauliers only. All other persons must present their waste for disposal at the Material Recovery Facility (MRF). The MRF accepts the following clean, dry, segregated recyclables from householders and industrial and commercial sectors: paper, newspaper, cardboard, glass, timber, rubble, aluminium and steel cans, plastic, textiles/clothes, footwear, white goods, scrap metal, electrical goods (except printers), waste oil, used cooking oil, fluorescent tubes, batteries, gas cylinders, tyres, polystyrene, plasterboard, paint cans and green waste. The MRF also accepts mixed skips of recyclables from householders and kerbside collection of recyclables from waste hauliers.

Scotch Corner Landfill is licensed to accept and deposit the following waste types in lined cells as per Schedule A of the Waste Licence:

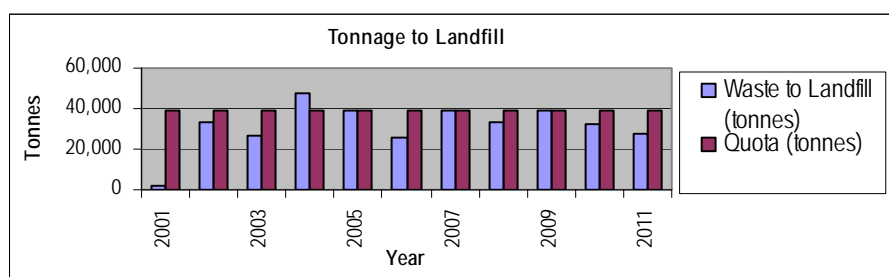
Waste Type	Maximum Tonnes Per Annum
Household	18,200
Commercial	5,700
Construction and Demolition	2,800
Industrial Non-Hazardous	12,800
TOTAL	39,500

**3.3 Quantity and Composition of waste received, disposed of and recovered during the reporting period and each previous year**

**(A) Waste Disposal**

**Table 1: Types and Quantities of waste disposed to landfill from 07/12/01 – 31/12/11.**

Year	Household EWC 20 03 01	Commercial EWC 20 03 01	Industrial Non-hazardous EWC 20 03 01	Mixed Municipal Waste EWC 20 03 01	Sewage Sludge EWC 19 08 05	Industrial Sludge EWC 02 05 02	Construction & Demolition EWC 17 09 04	Street Cleanings EWC 20 03 03	TOTAL (tonnes)
2001	908.52	121.89	562.75		238.72	15.90	0	13.11	1860.89
2002	15,103.3	3,736.66	8,390.4		4,703.44	622.77	277.32	397.39	33,231.28
2003	11,895.14	2,047.01	6,833.30		4,921.88	662.85	239.29	414.65	27,014.12
2004	19,096.03	3,757.94	16,210.71		5,473.12	560.91	345.56	2,487.23	47,931.50
2005	20,111.51	2,981.29	8,085.37		5,681.26	1020.06	214.28	729.77	38,823.54
2006	13,770.61	1,305.71	7,280.73		1,232.70	169.60	291.48	1,693.69	25,744.52
2007	12,559.82	2,689.06	10,888.38	12,528.14	0	0	49.44	792.75	39,507.59
2008	12,976.48	1,972.74	7,121.10	10,137.14	0	0	40.9	706.38	32,954.74
2009	9,228.92	612.22	4,737.98	23,492.30	0	0	93.28	668.16	38,832.86
2010	18,689	9,140	3,717		0	0	5	671	32,222.00
2011	7,326.62	681.30	5,070.06	13,587.82	0	0	0	701.90	27,367.70
Quota	18,200	5,700	12,800		0	0	2,800		39,500



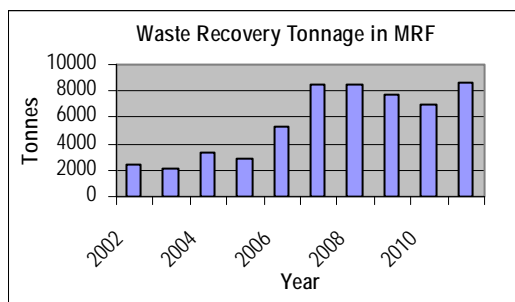
**(B) Waste Recovery**

**Table 2: Waste Recovery Table for Scotch Corner Recycling Centre 01/01/11 – 31/12/11**

Load Type	EWC Code	Tonnes
Lead Batteries	16 06 01	4.677
Household Batteries	16 06 02	1.898
C & D waste	17 09 04	1340.18
Textiles	20 01 11	19.5
Glass	15 01 07	143.931
Brown Bin Organic Waste	20 02 01	446.12
Fluores lights & Bulbs	20 01 21	0.4
Newspaper and Magazines	20 01 01	106.02
Scrap metal	20 01 40	179.32
Timber	20 01 38	1054
Cooking Oil	20 01 05	0.48
Waste oil	13 02 08	3.06
Metallic Packaging	15 01 04	23.1
Cardboard	15 01 01	2014.45
Mixed Paper	20 01 01	244.895
CRT's	20 01 35	45.04
LDA's	20 01 36	12.85
LDA's cold	20 01 36	20.98
SDA's	20 01 36	47.79
Kerbside	20 03 01	2497.90
Plasterboard	17 08 02	22.48
Polystrene	15 01 02	1.2
Tyres	16 01 03	8.02
Hard Plastic Packaging	17 02 03	15
Plastic Bottles	15 01 02	32.72
Other Plastic Packaging	20 01 39 & 15 01 02	31.72
Hard Plastic Non-Packaging	17 02 03	7.044
Waste Paint	20 01 27	0.478
Aerosol cans	16 05 04	0.529
Plastic Packaging	15 01 02	168.48
Green Waste	20 02 01	180.16
	<b>total</b>	<b>8,674.42</b>

**Table 3: Waste Recovery Table for Scotch Corner Recycling Centre 2001 - 2011**

Year	Tonnes
Dec 2001 & 2002	2,435.88
2003	2,067.32
2004	3,382.10
2005	1749.69
2006	5280.5
2007	8531.999
2008	8460.12
2009	7683.77
2010	6999.56
2011	8674.42



**3.4 Calculated Remaining Capacity of the Facility and year in which Final Capacity is expected to be reached**

Ref. Report entitled “Monaghan County Council Scotch Corner Fill Commencement Cell 4b Specified Engineering Works: Addendum” Rev 1 dated 2/3/2010 by RPS. By 15/3/2010 when waste deposition commenced in Cell 4b there remained 302,000 tonnes capacity in Phase 3 with a life expectancy of approx. 8 years. Since filling of waste commenced in Cell 4b on 15/3/2010 – 28/6/2011, 43,375 tonnes of waste and 5,777 tonnes of compost has been placed in Cell 4b and since 29/6/2011 – 12/03/2012, 7,851 tonnes of waste and 3,184 tonnes of compost has been placed in Cell 4c. Therefore the remaining capacity is approx. 190,000Tonnes with a life expectancy of approx. 7 years (based on assumed annual intake of 30,000 tonnes of waste and cover material)

Cell	Year of Filling	Capacity
4B	2010	37,000 tonnes
4C	2011	37,000 tonnes
5B	2012	37,000 tonnes
5C	2013	37,000 tonnes
5A.1	2014	37,000 tonnes
4A.1	2015	40,000 tonnes
5B.1	2016	32,000 tonnes
4B.1	2017	25,000 tonnes
5A.2	2017	20,000 tonnes

**3.5 Methods of Deposition and Recovery of Waste**

From 15/3/10 – 28/6/11 waste was deposited to landfill into Cell 4b and since 29/6/11 waste is deposited to landfill into Cell 4c of Phase 3. Waste was compacted using a compactor and/or hymac and/or dozer as required.

From 25<sup>th</sup> April 2005 to date the MRF is operated by McElvaney Waste & Recycling Ltd. During this period 1/1/11 to 31/12/11, source segregated recyclable materials and mixed recyclables from their skip collection service at the MRF are sent to recycling outlets approved by the Agency. Unsorted household recyclable materials collected by kerbside is not sorted at the MRF but are sent directly to approved recycling outlets.

Waste deposited in the compactor at the MRF was landfilled in Cell 4b (15/3/10 – 28/6/11) and Cell 4c (29/6/11 to date).

Ref. “SOP 05 Waste Acceptance and Characterisation Procedure at Scotch Corner Landfill”

**3.6 Summary Report on Emissions**

**3.6.1 Dust**

Results for all dust monitoring locations were below the Waste Licence dust deposition limit of 350mg/m<sup>2</sup>/day except as follows:

Results for the second schedule for dust monitoring locations D2 & D3 exceeded the dust deposition limit slightly due to a number of tiny insects in the samples.



Results for the third schedule for dust monitoring location D4 exceeded the Waste Licence dust deposition limit of 350mg/m<sup>2</sup>/day because of algae growth in the sample.

Data since 2002 shows significant improvements since monitoring commenced in 2002.

Ref. 'Scotch Corner Landfill 2011 Dust Monitoring Report'.

### 3.6.2 Noise

As per in previous years the noise survey carried out at Scotch Corner Landfill in 2011 indicated that there are no significant noise emissions at the facility.

Results for noise monitoring locations NSL1, NSL 2, D1 and D4 are below the Waste Licence noise emission limits of 45 Night dB(A) L<sub>AEQ</sub>(30 minutes) and 55 Day dB(A) L<sub>AEQ</sub>(30 minutes).

Ref. 'Scotch Corner Landfill 2011 Noise Monitoring Report'.

### 3.6.3 Landfill Gas

Permanent landfill gas extraction and flaring has operated from Area 1 and Area 2 (capped cells since 2004) since 8<sup>th</sup> December 2005 including this period 1/1/11 to 31/12/11. Landfill gas extraction and flaring has operated from Phase 2 (capped cells since 2010) from vertical extraction wells since 10<sup>th</sup> December 2007. Landfill gas extraction and flaring has operated from Cell 5a (partially capped cell and temporarily capped cell since 2010) from horizontal extraction pipework since 29<sup>th</sup> January 2008 and from vertical extraction wells 16<sup>th</sup> December 2009. Landfill gas extraction and flaring has operated from Cell 4a (temporarily capped cell since 2010) from horizontal extraction pipework since 19<sup>th</sup> January 2009 and from vertical extraction wells 16<sup>th</sup> December 2009. Landfill gas extraction and flaring has operated from cell 4b from horizontal extraction pipework since 30<sup>th</sup> June 2010 and from vertical extraction wells since 27<sup>th</sup> October 2011.

Landfill gas produced by the decomposition of waste from Phase 2 (cells 2 & 3) discharged to the atmosphere since waste deposition commenced in this cell on 22/10/03 until 10/12/07 when flaring from this area commenced.

Landfill gas produced by the decomposition of waste from Cell 5a discharged to the atmosphere since waste deposition commenced in this cell on 21/6/07 until 29/1/08 when flaring from this area commenced.

Landfill gas produced by the decomposition of waste from the Cell 4a discharged to the atmosphere since waste deposition commenced in this cell on 23/6/08 until 19/1/09 when flaring from this area commenced.

Landfill gas produced by the decomposition of waste from the Cell 4b discharged to the atmosphere since waste deposition commenced in this cell on 15/3/10 until 30/6/10 when flaring from this area commenced.

Landfill gas produced by the decomposition of waste from the Cell 4c discharged to the atmosphere since waste deposition commenced in this cell on 29/6/11 until 28/1/2012 when flaring from this area commenced.

See also 3.7 Summary of results and interpretation of environmental monitoring and 3.14 Estimated annual and cumulative quantities of landfill gas emitted from the facility.

### **3.6.4 Leachate**

An analysis of surface water and groundwater at the Scotch Corner facility indicates that there is contamination of surface water and groundwater by leachate from the old landfill.

See also 3.7 Summary of results and interpretation of environmental monitoring and 3.10 Volume of leachate produced and volume of leachate transported / discharged off-site and 3.15 Estimated annual and cumulative quantities of indirect emissions to groundwater.

## **3.7 Summary of results and interpretation of environmental monitoring**

### **3.7.1 Landfill Gas**

During 2011, analysis of the inlet the landfill gas flare stack indicates active decomposition of waste since monitoring commenced on 1/3/06.

Analysis of the outlet the landfill gas flare stack was carried out by Odour Monitoring Ireland on 27<sup>th</sup> July 2011 and 7<sup>th</sup> December 2011. All parameters remained below the flare stack emission trigger levels for these dates.

During 2011, analysis of gas in boreholes at the perimeter of the facility (B1a, B2a, B3a, B4a, B5a, B6a and S3) indicate that there is no migration of gas from the current facility i.e. Area 1 (comprising of Cell 1 and the unlined cell to the north of Cell 1), Area 2 (comprising of the unlined cell behind the MRF), Phase 2 (Cells 2 and 3) and Phase 3 (Cells 5a and 4a, 4b & 4c)

Landfill Gas readings for boreholes L7, L8 and L9, located within the body of waste, are typical for waste that is actively decomposing.

Continuous monitoring of landfill gas in the weighbridge office, MRF office and in the MRF canteen indicate that the results are below the Waste Licence trigger levels for landfill gas emission levels of less than or equal to 1.0%v/v methane and less than or equal to 1.5% Carbon Dioxide.

Ref. 'Scotch Corner January to March 2011 Landfill Gas Monitoring Report'

'Scotch Corner Landfill April to June 2011 Landfill Gas Monitoring Report'

'Scotch Corner Landfill July to September 2011 Landfill Gas Monitoring Report'

'Scotch Corner Landfill October to December 2011 Landfill Gas Monitoring Report'

"Air Emission Testing reports of one landfill Flare located in Scotch Corner Landfill, Letterbane, Annyalla, Castleblaney, Co. Monaghan" performed by Odour Monitoring Ireland on behalf of Monaghan County Council on 27/7/11 & 7/12/11

### **3.7.2 Noise Monitoring**

See 3.6.2 Noise above.

### 3.7.3 Groundwater Monitoring

Analytical results of groundwater samples taken from private wells within 250m of the facility indicate no contamination from the landfill.

Old G1 was connected to the leachate collection system on 28/5/07. Works to install groundwater interceptor drains around the perimeter of old landfill took place in early 2007 and the discharge from this system was sampled and analysed as new G1 since April 2007. Analysis of groundwater at new G1 represents the quality of groundwater that is discharging from upstream of the old landfill (across the road from the current facility) to a surface water drain at the western side of Cell 1. When compared to the Department of the Environment's MACs for Salmonid Water Regulations 1988, new G1 continues to show exceedance levels of ammonia which indicates continued contamination by leachate from the old landfill with levels ranging from 2.92mg/l to 64.7mg/l in 2011.

Further investigations at the old landfill have identified the source of contamination and further remedial works were completed in summer of 2008 to prevent this source of contamination entering this groundwater collection system.

A flow meter was fitted to new g1 on 10/11/09 and a replacement was fitted on 4/10/10. From 4/1/2011 to 3/1/2012 58,840m<sup>3</sup> has discharged from new G1 with an ammonia loading of 537kg.

Groundwater from G2 (discharge of groundwater from under Phase 3 since July 2007) indicates no contamination from the landfill and its quality remains typical of background levels for a boggy area with slight exceedance of the ammonia MAC for Salmonid Water Regulations 1988 noted in April and May 2011.

The leachate interceptor drain has been fully operational around unlined Cell 1 since 04/06/03 and this has eliminated leachate contamination from this unlined cell to Boreholes S3 and RC1.

Analysis of groundwater sampled from S3, RC1, B1, B1a, B2, B2a, B3, B3a, B4, B4a, B6 and B6a show no contamination from the landfill while analysis of groundwater from boreholes B5 and B5a continues to indicate leachate contamination from the old landfill. As per 2009 and 2010 significant improvement in water quality at B5a was noted in 2011.

Groundwater levels and temperature continued to be monitored in groundwater boreholes RC1, S3, B1, B1a, B2, B2a, B3, B3a, B4, B4a, B5, B5a, B6 and B6a on a quarterly basis during 2011.

Ref. Scotch Corner Landfill January to March 2011 Groundwater, Surface Water and Leachate Monitoring Report.

Scotch Corner Landfill April to June 2011 Groundwater, Surface Water and Leachate Monitoring Report.

Scotch Corner Landfill July to September 2011 Groundwater, Surface Water and Leachate Monitoring Report.

Scotch Corner Landfill October to December 2011 Groundwater, Surface Water and Leachate Monitoring Report.

### 3.7.4 Leachate Monitoring

Results of analysis of leachate in all boreholes on site are typical of leachate from waste that is actively decomposing, with elevated readings of BOD, COD, Ammonia, Chloride and Minerals during this reporting period.

Leachate levels continue to be recorded on a weekly basis in leachate boreholes L5, L7, L8 and L9 from pressure transducer data on the Scada computer located in the landfill manager's office.

Leachate levels in Phase 2 and Phase 3 were also recorded on a weekly basis during 2011 from pressure transducer data on the Scada computer located in the landfill manager's office.

The leachate level in sump L5 in Cell 1 exceeded the 1m threshold in 2011 on various dates between 1/1/2011 and 30/6/2011 (Ref. Incident Sheet 17/11) and between 24/10/2011 and 27/10/2011 (Ref. Incident Sheet 26/11). The leachate level in Phase 3 exceeded the 1m threshold in 2011 between 24/10/2011 and 26/10/2011 (Ref. Incident Sheet 26/11).

Ref. Scotch Corner Landfill January to March 2011 Groundwater, Surface Water and Leachate Monitoring Report.

Scotch Corner Landfill April to June 2011 Groundwater, Surface Water and Leachate Monitoring Report.

Scotch Corner Landfill July to September 2011 Groundwater, Surface Water and Leachate Monitoring Report.

Scotch Corner Landfill October to December 2011 Groundwater, Surface Water and Leachate Monitoring Report.

### **3.7.5 Surface Water Monitoring**

Surface water samples S5, S6 and S7 continue to show contamination from the landfill. This contamination is attenuated with distance from the landfill as seen by analysis data for S7, EPA 155 and EPA 180. S8 is the surface water sampling point upstream of the landfill and is typical of background surface water quality. Oil Interceptor S9 shows elevated ammonia levels but mineral oil analysis remains below the trigger level.

Ref. Scotch Corner Landfill January to March 2011 Groundwater, Surface Water and Leachate Monitoring Report.

Scotch Corner Landfill April to June 2011 Groundwater, Surface Water and Leachate Monitoring Report.

Scotch Corner Landfill July to September 2011 Groundwater, Surface Water and Leachate Monitoring Report.

Scotch Corner Landfill October to December 2011 Groundwater, Surface Water and Leachate Monitoring Report.

### **3.7.6 Meteorological Monitoring**

Met Eireann on behalf of Monaghan County Council recorded the meteorological parameters as per Schedule D.6 of the Waste Licence W0020-02 for its facility at Scotch Corner.

Ref. Scotch Corner Landfill Meteorological Monitoring Report for 2011.

### **3.7.7 Topographical Survey**

This survey completed by QED Engineering in April 2011.

**3.7.8 Biological Assessment**

This survey was completed by Conservation Services in July 2011 and indicated that water quality remained the same as 2009 and 2010 levels with S7 remaining at Q2-3 and EPA155 at Q3. Biological monitoring was carried out monitoring location S8 for the first time in 2010 and was classified as moderately polluted (Q2-3). The water quality entering Scotch Corner landfill site at S8 deteriorated in 2011 and is now classified as seriously polluted (Q2).

**3.7.9 Archaeological Assessment**

No archaeological assessment was carried out at the facility in 2011.

**3.7.10 Nuisance Monitoring**

Nuisance monitoring was carried out at least twice weekly basis by the landfill manager or by the deputy landfill manager or by the acting landfill manager. These site inspections recorded the presence or absence of nuisances caused by litter, vermin, birds, flies, mud, dust and odours at the facility and at its immediate surrounds and the corrective actions to be carried out. Completed 'Site Inspection Forms at Scotch Corner Landfill' are maintained at the Landfill Office.

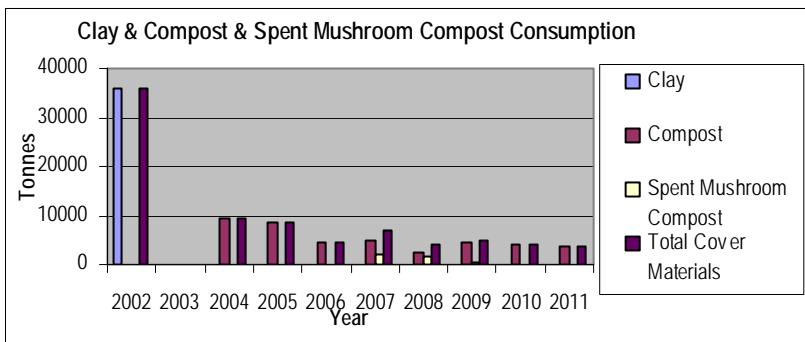
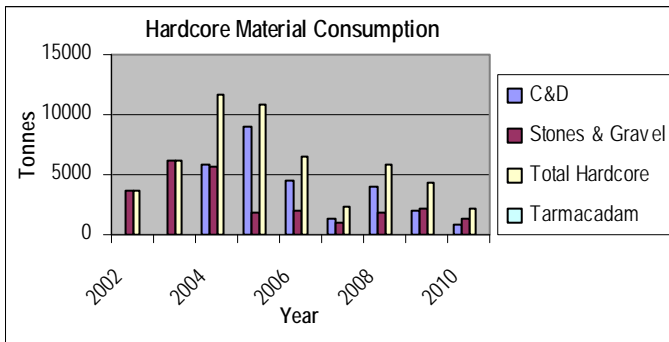
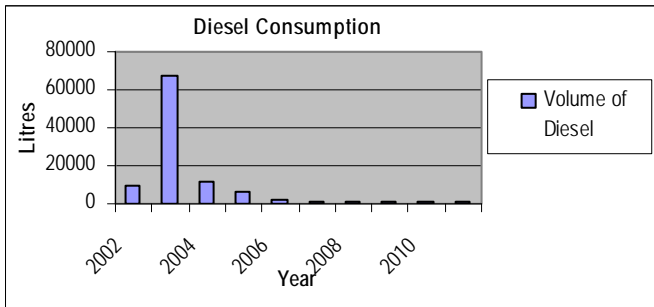
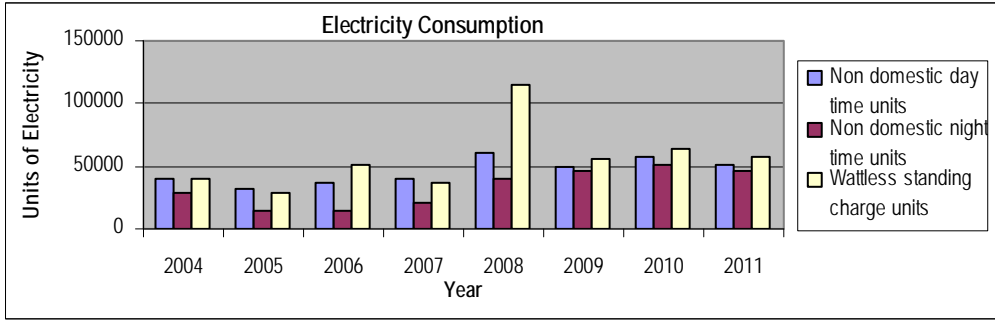
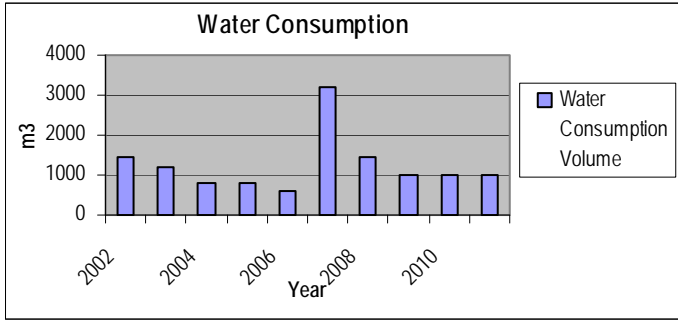
Ref. "SOP 11 Site Inspection Procedure in Environmental Management System at Scotch Corner Landfill

**3.8 Resource and energy consumption summary**

The following table summaries the consumption on site of water, electricity, diesel, and gravel. Water consumption consisted of usage by the wheel wash facility and domestic purposes. Electricity consumption consisted of usage by the landfill office, leachate pumps, groundwater pumps and the landfill gas flare. Diesel consumption includes the diesel supplied for the jeep and other hired in plant and equipment (e.g. dumper, generator etc). Gravel was required for maintenance of site roads, installation of horizontal gas extraction pipework and vertical gas extraction boreholes and other works on site as they arose (e.g. placement of ducting).

**Table 8: Resource and Energy Consumption Table**

Resource/Energy Source	Units consumed
Water	~1000m3
Electricity	Non-domestic day time units 50,976 Non-domestic night time units 45,852 Wattless standing charge units 57,276
Diesel	~1,000L
Stones/Gravel	1,575.28 tonnes
C&D	604.12 tonnes
Compost	3,990.80 tonnes
Imported Top Soil	5.26 tonnes
Imported Sub Soil	13.2 tonnes
Tarmacdam	0 tonnes
Spent Mushroom Compodt	0 tonnes



**3.9 Proposed development of the facility and timescale of such development (including plant operating capacity at the MRF, provision of adequate standby and provision of contingency, backup and spares in the case of breakdown)**

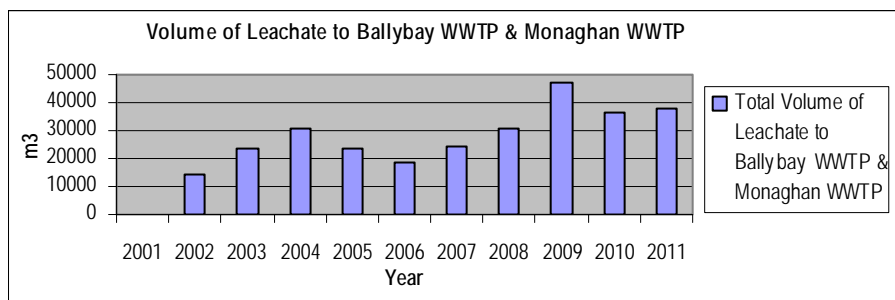
The following are the proposed development works for the year 2012/2013 subject to approval from the Agency, planning permission and/or funding from the Department of the Environment as appropriate:

- Gas infrastructure in Cells 4c.
- Final and Temporary Capping of Phase 3.
- Construction of wetlands for leachate treatment on old landfill and current facility.
- Installation of sludge storage compound.
- Installation of CHP plant.
- Infrastructure from alternative processing at MRF e.g. MBT, removal of high calorific waste.

**3.10 Volume of leachate produced and volume of leachate transported / discharged off-site**

**Table 9: Disposal of Leachate from 07/12/01 – 31/12/11**

Year	Total Volume to Monaghan WWTP
07/12/01 – 31/12/01	81.97 m <sup>3</sup>
2002	14,484.68 m <sup>3</sup>
2003	23,411.11 m <sup>3</sup>
2004	30,841.64 m <sup>3</sup>
2005	23,490.46 m <sup>3</sup>
2006	18,344.17 m <sup>3</sup>
2007	24,313.93 m <sup>3</sup>
2008	30,631.02 m <sup>3</sup>
2009	47,498.06 m <sup>3</sup>
2010	36,149.02 m <sup>3</sup>
2011	38,020.37 m <sup>3</sup>



**3.11 Report on development works undertaken during the reporting period, and a timescale for those proposed during the coming year**

The following development works were undertaken during the reporting period 01/01/11 to 31/12/11:

- Installation of horizontal gas infrastructure in Cell 4c.
- Installation of vertical gas extraction boreholes in Cell 4b.
- Connection of vertical gas extraction boreholes GE49 – GE60 to gas collection system and flare.
- Removal of two drip legs from gas carrier lines downstream of gas sampling valves 6 and 7.
- Replacement of knockout pot 1 upstream of flare.
- Remedial works to unfilled Cells 5b and 4c prior to commencement of filling waste in Cell 4c.
- Submission of planning permission for wetlands as leachate treatment option.

See also 3.9 Proposed development of the facility and timescale of such development (including plant operating capacity at the MRF, provision of adequate standby and provision of contingency, backup and spares in the case of breakdown) above.

**3.12 Report on restoration of completed cells/ phases**

No restoration works were carried out in 2011.

**3.13 Site survey showing existing levels of the facility at the end of the reporting period**

A topographical survey was carried out by QED Engineering in April 2011.

**3.14 Estimated annual and cumulative quantities of landfill gas emitted from the facility**

The volume of landfill gas has been estimated as 200m<sup>3</sup> of gas per tonne of waste over its life in the Waste Licence Application. This figure assumes that the waste comprises of a 50/50 mix of slowly decomposable and rapidly decomposable material. The rapidly decomposable material is assumed to generate gas for 5 years after placement with peak gas generation for each tonne of waste being 1 year after placement. Gas generation for the slowly decomposable material is assumed to be on going for 15 years after placement with a peak at 5 years after placement.

Using the Landgem program 3.579 x 10<sup>6</sup> m<sup>3</sup> of landfill gas (assumed 50% methane by volume) was theoretically produced in 2011 by waste deposited at Scotch Corner. This is equivalent to 1,194,000kg Methane in 2011.

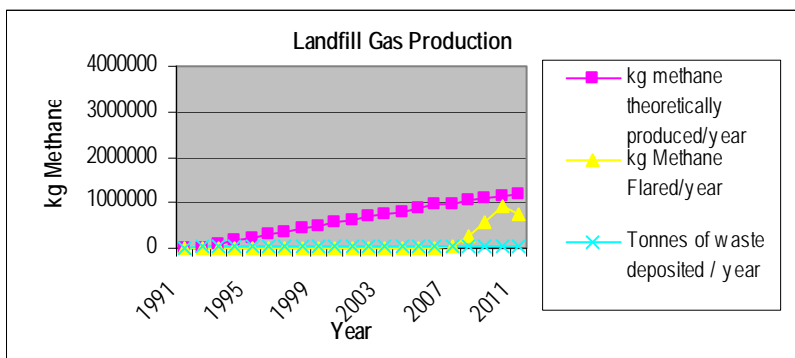
Landfill gas extracted and flared from Area 1, Area 2, Phase 2 and Phase 3 in 2011 was approximately 3.67 x 10<sup>6</sup> m<sup>3</sup> of landfill gas with an average composition of 30.5% CH<sub>4</sub>, 26.5% CO<sub>2</sub> and 3.4% O<sub>2</sub>. This is equivalent to 762,589kg Methane in 2011.

The quantity of methane flared in 2011 was reduced due to closed gas lines on site from Dec 2010 to November 2011 as requested by the Agency due to fire in the active cell in December 2010 Ref. Incident 31/10.



The follows summaries landfill gas production since the site opened in 1991 using the Landgem Program and EPA Landfill Survey Data for 2008, 2009, 2010 and 2011:

Year	Tonnes of waste deposited / year	Theoretical kg methane produced /year	Actual kg methane flared /year
1991	6750 (estimated)	0	0
1992	28000 (estimated)	17,690	0
1993	28000 (estimated)	90,390	0
1994	28000 (estimated)	160,200	0
1995	28000 (estimated)	227,300	0
1996	28000 (estimated)	291,800	0
1997	32237 (estimated)	353,800	0
1998	30,120.87	424,400	0
1999	33,882.46	486,700	0
2000	36,762.53	556,400	0
2001	33,256.37	631,000	0
2002	33,231.28	693,400	0
2003	27,014.12	753,300	0
2004	47,931.5	794,600	0
2005	38,823.53	889,100	0
2006	25,744.52	956,000	0
2007	39,507.59	986,000	-59,614
2008	32,954.74	1,051,000	258,086
2009	38,832.86	1,096,000	588,747
2010	32,222	1,155,000	921,191
2011	27,367.7	1,194,000	762,589



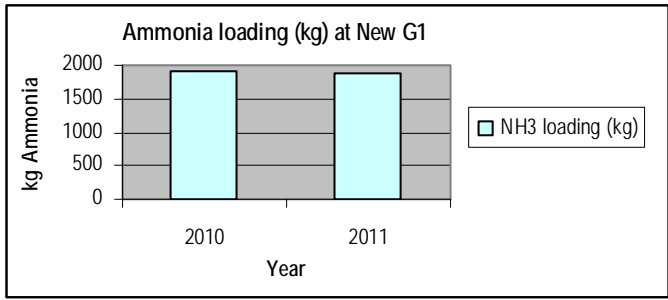
**3.15 Estimated annual and cumulative quantities of indirect emissions to groundwater**

Waste for disposal at Scotch Corner landfill is placed in lined cells to prevent potential discharge to groundwater. Leachate is pumped from the lined cell to the leachate lagoon and tankered off-site for treatment at Monaghan WWTP.

However, prior to the construction of lined cells on site, the landfill operated on a dilute and disperse principle with leachate collection by gravity in the old leachate lagoon. Consequently leachate from the unlined cells also migrated to groundwater. Leachate interceptor drains have been put in place around unlined cells at the facility to mitigate the risk of leachate contamination of groundwater and capping of unlined cells was completed on 28/7/05.

Despite remediation works that were undertaken at the old landfill, leachate contamination from the old landfill continues to discharge to surface water at new G1. In 2010 46,610m<sup>3</sup> discharged from New G1 with an average ammonia concentration of 41mg/L. This equates to ammonia loading of approx. 1911kg of ammonia to this surface water in 2010. In 2011 58,840m<sup>3</sup> discharged from New G1 with an average ammonia concentration of 31mg/L. This equates to reduced ammonia loading of approx. 1882kg of ammonia to this surface water in 2011.

Date	Volumetric Loading (m <sup>3</sup> )	Average NH <sub>3</sub> (mg/l)	NH <sub>3</sub> loading (kg)
2010	46610	41	1911
2011	58840	32	1882



See also 3.7.3 Groundwater Monitoring.

**3.16 Annual water balance calculation and interpretation**

The calculation for annual water balance is as follows:

$$L_o = [ER(A) + LW + IRCA + ER(1)] - [aW]$$

- Where  $L_o$  = leachate produced (m<sup>3</sup>)
- $ER$  = effective rainfall (use actual rainfall (R) for active cells)(m)
- $A$  = area of cell (m<sup>2</sup>)
- $LW$  = liquid waste (also includes excess water from sludges) (m<sup>3</sup>)
- $IRCA$  = infiltration through restored and capped areas (m)
- $1$  = surface area of lagoons (m<sup>2</sup>)
- $a$  = absorptive capacity of waste (m<sup>3</sup>/t)
- $W$  = weight of waste deposited (t/a)

$ER = 0.9488m$  (Total rainfall for 2011 from Met Eireann Data)  
 $= 0.6523m$  (Total rainfall 29/6/11 to 31/12/11 as filling of Cell 4c commenced on 29/6/11)

$A = 17,700m^2$  (~Area of unlined cell 1 & Area of unlined cell behind MRF)  
 $+ 7,800m^2$  (~Area of Cell 1)  
 $+ 20,000m^2$  (~Area of Cell 2 & 3)  
 $+ 8,100m^2$  (~Area of Cell 5a)  
 $+ 4,500m^2$  (~Area of Cell 4a)  
 $+ 4,500m^2$  (~Area of Cell 4b)  
 $+ 4,000m^2$  (~Area of Cell 4c)

$LW = 0m^3$

$IRCA = 30\%$  of  $ER \times$  Area of capped cells  
 $= (30\%$  of  $0.9488) \times (7800m^2 + 17700m^2 + 14240m^2 + 8048m^2)$   
 $= 0.2846m \times 47788 m^2 = 13602m^3$

$$1 = 350\text{m}^2 \text{ (~ area of new leachate lagoon)}$$

$$a = 0.025\text{m}^3/\text{t}$$

$$W = 27368 \text{ (total weight deposited in landfill in 2011)}$$

$$\begin{aligned} \text{ER(A)} &= 0.9488\text{m} \times (20000\text{m}^2 + 8100\text{m}^2 + 4500\text{m}^2 + 4500\text{m}^2 - 14240\text{m}^2 - 8048\text{m}^2) \\ &\quad + 0.6523\text{m} \times 4000\text{m}^2 \\ &= 0.9488\text{m} \times 14812 \text{ m}^2 + 0.6523\text{m} \times 4000 \text{ m}^2 \\ &= 16663\text{m}^3 \end{aligned}$$

$$\begin{aligned} \text{Lo} &= [\text{ER(A)} + \text{LW} + \text{IRCA} + \text{ER(1)}] - [\text{aW}] \\ &= 16663\text{m}^3 + 0\text{m}^3 + 13602\text{m}^3 + (0.9488 \times 350\text{m}^2) - [0.025\text{m}^3/\text{t} \times 27368\text{t}] \\ &= [16663\text{m}^3 + 0\text{m}^3 + 13602\text{m}^3 + 332\text{m}^3] - 684\text{m}^3 \\ &= 29913\text{m}^3 \end{aligned}$$

Theoretical volume of leachate produced in 2011 = 29913m<sup>3</sup>.

Actual volume of leachate tankered off site to Monaghan WWTP = 38020m<sup>3</sup>.

The figure of 38,020m<sup>3</sup> of leachate tankered to Monaghan WWTP also includes approximately 5,035m<sup>3</sup> of contaminated water from the old landfill (old G1), approximately 5000m<sup>3</sup> from S9 (which has been discharging to the leachate lagoon since 20/4/2010 and condensate from the gas collection system (estimated at ~500m<sup>3</sup> for 2011). Therefore the actual volume of leachate produced and tankered off site in 2011 was ~28,000m<sup>3</sup>.

There are a number of unknowns in the calculations of both the theoretical and actual volume of leachate generated on site. These are:

- The water balance formula does not take into account the fact that 17,700m<sup>2</sup> of the capped area on site are actually unlined cells and that leachate generation is as a result of ingress of groundwater at the base of the cells.
- The volume of condensate generated on site and discharged to the leachate lagoon is estimated.
- The volume of surface water discharge S9 from the oil interceptor which discharges to the leachate lagoon is estimated.

There it is not possible to compare the theoretical and actual volume of leachate generated on site.

### 3.17 Report on the progress towards achievement of the Environmental Objectives and Targets contained in previous year's report

The following progress toward achieving the Environment Objectives and targets listed in the 2010 AER was achieved in 2011:

- Implementation of EMS.
- Provision of Staff training as per training plans in 2011.
- Installation of vertical gas extraction boreholes and horizontal gas collection pipework for the active collection & flaring of landfill gas from Cell 4b and connection to flare.
- Submission of planning application for Integrated Wetlands for Leachate treatment to Monaghan County Council Planning Authorities.
- Implementation of new Waste Licence 20-02.
- On-going implementations of "Scotch Corner Landfill Resource Use and Energy Efficiency Report" dated December 2006 and subsequent Energy Audits.

### 3.18 Schedule of Environmental Objectives and Targets for the forthcoming year

**Table 12: Schedule of Environmental Objectives and Targets for 2011**

Objective	Target	Completion Date
Maintain EMS	Update and implement changes to EMS and continuous implementation of EMS to meet requirements of ISO14001, Audit by Odour Monitoring Ireland, "Energy Map" by SEI and new waste licence W0020-02.	June 2012
Implement new requirements of W002-02	Carry out Environmental Liabilities Risk Assessment	March 2012
Prepare AER	Submit Annual Environmental Report 2011 to the Agency	By 31 <sup>st</sup> March 2012
Provision of Training	Provide training as per training plans for 2012.	December 2012
Provision of MRF Infrastructure / Reduce waste to landfill	Provision of baled waste storage facility at rear of existing MRF if required.	December 2015
	Provision of concrete hardstanding area to facilitate composting if required.	December 2015
	Provision of new infrastructure at MRF for MBT if required.	December 2015
Provision of Landfill Infrastructure	Temporary capping of Cell 4b	July 2011
	Connection of Cell 4b gas boreholes to gas collection system and flare when allowed by the Agency Ref. Incident 31/10	December 2011
	Installation of vertical gas extraction boreholes and horizontal gas collection pipework for the active collection & flaring of landfill gas from Cell 4c	December 2012 or until cell is full.
	Further remediation of Old Landfill if required by Agency.	December 2011
	Obtain Planning Permission and EPA approval for Sludge Storage area.	December 2012
	Construct Sludge Storage area.	December 2012
	Obtain Planning Permission and EPA approval for Integrated Constructed Wetlands.	December 2013
	Construction of Integrated Constructed Wetlands (pending Planning Permission and EPA approval).	December 2015
Provision of Restoration & Aftercare	On-going implementation of Restoration and Aftercare Plan.	December 2012
Improve Energy Efficiency & Reduce Resource Use	On-going implementation of "Scotch Corner Landfill Resource Use and Energy Efficiency Report" dated December 2006 and subsequent Energy Audits and "Energy Map" recommendations by SEI.	December 2012

### 3.19 Updates to Landfill Environmental Management Plan (LEMP)

Landfill Environmental Management Plan (LEMP) will be completed by 30<sup>th</sup> June 2012 and submitted to the Agency for approval.

**3.20 Review of Environmental Liabilities**

Not applicable as the Environmental Liabilities Risk Assessment is currently being carried out by Fehily, Timoney & Company Ltd. It will be completed by 30<sup>th</sup> March 2012 and submitted to the Agency for approval as required by Waste Licence W20-02 Condition 12.3 Environmental Liabilities

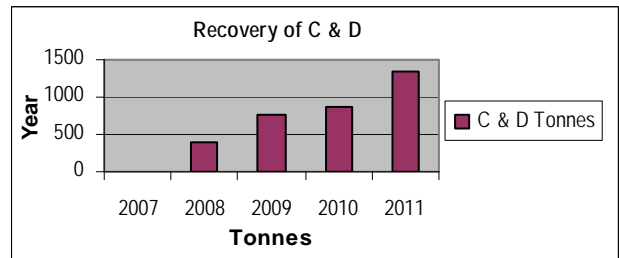
**3.21 Report on Waste Recovery**

See also 3.3 Quantity and Composition of waste received, disposed of and recovered during the reporting period and each previous year

**3.21.1 The recovery of Construction and Demolition Waste**

In 2011 Scotch Corner Landfill reused 1340.18tonnes of C & D waste collected at its MRF for maintenance of entrance pad and tipping area in its active Cell.

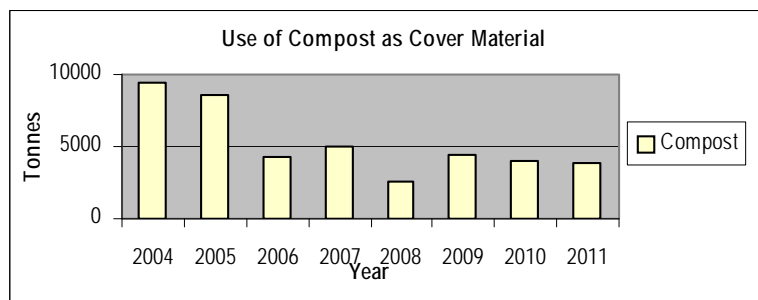
Year	C & D Tonnes
2007	0
2008	399.62
2009	760.7
2010	877.8
2011	1340.18



**3.21.2 The recovery of other waste in landfill operation, including restoration**

In 2011 Scotch Corner Landfill used 3824.22tonnes of compost from NWP for daily cover material and intermediate cover material.

Year	Compost
2004	9413.32
2005	8624.64
2006	4292.1
2007	5014
2008	2632.18
2009	4422.98
2010	3990.38
2011	3824.22



In addition Scotch Corner landfill used on site clay and peat as intermediate cover material.

**3.21.3 The recovery of energy through landfill gas combustion**

There is no recovery of energy through landfill gas combustion on site at present. However a planning application for the installation of a CHP plant at Scotch Corner landfill has been lodged with Monaghan County Council. A SEW for these works will be submitted to the Agency for approval.

**3.22 Full Title and a written summary of any procedures developed by the licensee in the year which relates to the facility operation**

No procedures were created in 2011.

The following procedures were revised in 2011 to comply with Waste Licence W0020-02 issued 24<sup>th</sup> March 2010:

SOP 03 Procedure for Operation of Weighbridge at Scotch Corner Landfill

SOP 05 Waste Acceptance and Characterisation Procedure at Scotch Corner Landfill

The following SOPs are in operation on site:

**Title:** SOP 01 Document Control and Records

**Revision No:** Rev.00

**Issue Date:** 22/10/02

**Summary:** This procedure outlines how documentation and data relating to the operation of the landfill at Scotch Corner is controlled and how records are maintained to demonstrate compliance with the Waste Licence 20-1. This procedure covers the control of the following documents and the records associated with them:  
Waste Licence 20-1; Environmental Management Plan; SOPs; Master Forms.

**Title:** SOP 02 Procedure for Leachate Management at Scotch Corner Landfill

**Revision No:** Rev.02

**Issue Date:** 07/03/02, Revised 29/04/02, Revised 12/04/07

**Summary:** This procedure details the leachate collection and removal system in operation at Scotch Corner landfill.

**Title:** SOP 03 Procedure for Operation of Weighbridge at Scotch Corner Landfill

**Revision No:** Rev.01,

**Issue Date:** 12/04/07, Revised 22/11/11

**Summary:** This procedure details the protocol for the weighbridge using Riteweigh software at Scotch Corner landfill.

**Title:** SOP 04 Emergency Response Procedure

**Revision No:** Rev.01

**Issue Date:** 28/08/02, Revised 05/12/02

**Summary:** This procedure details the Emergency Response Procedure that will be implemented at the facility at Scotch Corner to comply with Condition 9.2 of Waste Licence 20-1. This procedure and SOP 07 Corrective Action Procedure will be followed in the event of an emergency situation arising on site. The Emergency Response Procedure applies, but is not limited to the following incidents: Major Fire / Explosion; Migration of Landfill Gas; Spillage; Serious injury/accident to persons; Equipment Breakdown greater than 24 hours; Any other incident that may pose a significant threat to persons or to the environment.

**Title:** SOP 05 Waste Acceptance and Characterisation Procedure at Scotch Corner Landfill

**Revision No:** Rev.02

**Issue Date:** 29/05/02, Revised 18/10/04 & 22/11/11

**Summary:** This procedure details the waste acceptance and characterisation operations in place at Scotch Corner landfill to comply with Condition 5.2 of Waste Licence W0020-02. The procedure is summarized under the following headings:

Waste Acceptance; Waste Rejection; Waste Handling; Waste Characterisation; Sludge Testing.

**Title:** SOP 06 Communications Programme  
**Revision No:** Rev.00  
**Issue Date:** 20/08/02  
**Summary:** This procedure details the Communications Programme that will be implemented at the facility at Scotch Corner to comply with Condition 2.4.1 of Waste Licence 20-1. The Communications Programme includes newspaper advertisements, web site advertisements, and letters to the elected members and information requests to the Landfill Manager.

**Title:** SOP 07 Corrective Action Procedure  
**Revision No:** Rev.00  
**Issue Date:** 28/08/02  
**Summary:** This procedure details the Corrective Action Procedure that will be implemented at the facility at Scotch Corner to comply with Condition 2.3.2.3 of Waste Licence 20-1. This procedure will be followed in the event of any non-compliance of the Waste Licence that occurs in relation to the operation of the site. This includes incidents, complaints from the public, non-conforming waste loads, etc.

**Title:** SOP 08 Procedure for Operation of Scotch Corner Landfill in Adverse Wind Conditions  
**Revision No:** Rev.00  
**Issue Date:** 04/10/02  
**Summary:** This procedure details the programme that operates at Scotch Corner landfill in adverse wind condition resulting in either complete closure, limited closure or complete closure.

**Title:** SOP 09 Procedure for Acceptance and Handling of Sludge at Scotch Corner Landfill  
**Revision No:** Rev.01  
**Issue Date:** 09/10/02, Revised 18/10/04  
**Summary:** This procedure details the operations for accepting and handling sludges (sewage sludge and industrial non-hazardous sludges) at Scotch Corner landfill including restricted acceptance hours and deep burial of sludge on site to minimize nuisance by odours from sludges on site.

**Title:** SOP 10 Awareness and Training Programme  
**Revision No:** Rev.00  
**Issue Date:** 22/10/02  
**Summary:** This procedure details the Awareness and Training Programme that has implemented at the facility at Scotch Corner to comply with Condition 2.3.2.4 of Waste Licence 20-1. The purpose of this programme is to outline how training needs are identified, carried out and documented for all staff whose work is related to the operation of Scotch Corner Landfill by means of training plans and training records.

**Title:** SOP 11 Site Inspection Procedure  
**Revision No:** Rev.00  
**Issue Date:** 03/12/02

**Summary:** This procedure details the protocol for performing a site inspection at Scotch Corner to comply with Condition 8.14 of Waste Licence W0020-01 and completion of Site Inspection Forms at Scotch Corner Landfill.

**Title:** SOP 12 Sampling Procedure

**Revision No:** Rev.00

**Issue Date:** 04/12/02

**Summary:** This procedure details the frequency and protocol for sampling and analysis of groundwater, well water, surface water, leachate, and dust and landfill gas at Scotch Corner to comply with Condition 8.1 of Waste Licence W0020-01.

**Title:** SOP 16 Wheel Wash Facility Procedure

**Revision No:** Rev.00

**Issue Date:** 05/12/02

**Summary:** This procedure details the protocol for operation and maintenance of the wheel wash facility in operation at Scotch Corner since 21/10/2002.

**Title:** SOP 17 Procedure for Landfill Gas Management at Scotch Corner Landfill

**Revision No:** Rev.01

**Issue Date:** 13/06/2007, Revised 21/09/2009

**Summary:** This procedure details the landfill gas analysis and balancing protocol for efficient landfill gas flare operation at Scotch Corner landfill.

### 3.23 Tank, pipeline and bund testing and inspection report

A leak detection survey was carried out on Cell 4c by Metlab on 16/5/2011 prior to Agency approval of waste deposition in this cell on 29/6/2011.

Leak detection surveys were carried out on the Waste Inspection Tank, the Waste Quarantine Tank, the steel bund beside the flare and the leachate lagoon by Metlab on 17/8/2011.

All passed the leak detection survey.

### 3.24 Reported Incidents and Complaints Summaries

#### 3.24.1 Incidents

Incident 17/11 and 26/11 record an exceedance in the waste license W0020-01 trigger levels for leachate in L5 and Phase 3 at Scotch Corner Landfill.

Incident No. 01/11, 02/11, 03/11, 04/11, 05/11, 06/11, 07/11, 08/11, 09/11, 10/11, 11/11, 12/11, 13/11, 14/11, 15/11, 16/11, 20/11, 21/11, 22/11, 23/11, 24/11, 27/11, 28/11, 29/11, 28/11, 29/11, 30/11, 32/11 and 33/11 record shutdowns of the landfill gas flare.

Incident 18/11, 19/11 and 25/11 record exceedance of MAC (Salmonid Regulations for surface water and Drinking Water Regulations for groundwater) for ammonia Ref. Groundwater and Surface Water monitoring at Scotch Corner Landfill.

Incident No. 30/11 and 31/11 record a delivery of diesel washings to Scotch Corner landfill.



### **3.24.2 Complaints**

Complaint 01/11: Relates to a complaint from local residents about litter in their fields.

Complaint 02/11: Relates to an odour complaint from an anonymous source.

Complaint 03/11: Relates to a complaint from a local resident about flies around their house.

## **3.25 Review of Nuisance Controls**

### **3.25.1 Litter**

The erection and maintenance of 5m high anti-litter netting has been very successfully in controlling wind blown litter within the active face. Holes in netting are repaired and landfill operatives collect any litter that escapes from the tipping area. Compaction, daily cover with geo-hess and/or compost or clay and intermediate covering of the waste with compost or clay will continue as to prevent nuisance by litter at the facility.

### **3.25.2 Vermin**

During 2011 rodent control duties were carried out by Pestproof. From inspection of the bait boxes on site, Pestproof has noted sporadic low levels of infestation from mice and to a lesser extent rat infestation at varying times of the year. Satisfactory rodent control was provided by Pestproof during the reporting period.

### **3.25.3 Birds**

Bird control at Scotch Corner landfill is an integrated approach of keeping the tipping face as small as possible, compacting the waste, daily covering with geo-hess and/or compost or clay and intermediate covering of the waste with compost or clay and deployment of visual deterrents and use of acoustic deterrents. To compliment bird control management by landfill operatives, Monaghan County Council also contract the services of Rock Bird Control on site. Satisfactory bird control was provided by Rock Bird Control during the reporting period.

### **3.25.4 Flies**

Fly control at Scotch Corner landfill is also an integrated approach of keeping the tipping face as small as possible, compaction of the waste, and covering the tip head daily with geo-hess and/or compost or clay and intermediate covering of the waste with compost or clay. The above measures proved to be very successful in preventing nuisance by flies in 2011. The spraying of insecticide was carried out as required.

### **3.25.5 Mud**

The installation of the wheel wash facility at Scotch Corner Landfill has been successful as it has virtually eliminated mud as a nuisance at the facility. Additional measures in place to prevent

nuisance by mud are the regular maintenance of site roads and regular cleaning of the site entrance and the weighbridge.

### **3.25.6 Dust**

Nuisance by dust was not a problem at the facility during the reporting period due to compaction of the waste and spraying of site roads with water when necessary.

### **3.25.7 Odour**

Nuisance by odour was addressed during the reporting period by an integrated approach that involved keeping the tipping face as small as possible, compacting the waste, daily covering with compost, intermediate covering with compost and clay, capping of completed cells, installation of both horizontal gas extraction pipework and vertical gas extraction boreholes in the active cell from commencement of waste deposition and operation of permanent flare on a continuous basis.

## **3.26 Reports on financial provision made under this licence, management and staffing structure of the facility, and a programme for public information**

### **3.26.1 Report on financial provision made under this licence**

From the period January to December 2011, Monaghan County Council paid €22,636 to the Agency in Wexford for Waste Licence monitoring for this reporting period.

The operating cost of the landfill was €1,673,682 for 2011. This included a loan repayment of €811,587

Income from the deposition of waste at Scotch Corner was €1,341,252 for 2011

### **3.26.2 Report on management and staffing structure**

The management and staffing structure at Scotch Corner Landfill consisted of Executive Senior Engineer, Landfill Manager, Deputy Landfill Manager, Weighbridge Operative, 2 Landfill Operatives (1 landfill operative retired in July 2011) and subcontracted Machine Operatives for this reporting period.

The management and staffing structure at Scotch Corner Recycling Centre at the end of 2011 was employed by McElvaney Waste and Recycling and consisted of a Facility Manager, Civic Amenity Site Caretaker, 7 Office staff and 5 MRF Operatives.

### **3.26.3 Report on programme for public information**

Environmental information relating to the landfill and to the Recycling Centre is on display at the landfill offices and available in the Environment Section of Monaghan County Council. A notice to this effect is on the Monaghan County Council Web site.

**3.27 Report on training of staff**

Training plans and records were compiled for all staff at the facility including the subcontracted machine operators. Training was been completed as per training plans during the reporting period.

Training completed for this period included the following:  
01/11 Dignity at Work Training organized by Monaghan County Council.

**3.28 Statement of Compliance of facility with any updates of the relevant Waste Management Plan**

The facility at Scotch Corner is operated under the conditions of Waste Licence W0020-02 and is in compliance with the "North East Region Waste Management Plan 2005 – 2010".

**3.29 Statement of the achievement of the waste acceptance and treatment obligations**

Scotch Corner Landfill has not achieved their waste acceptance and treatment obligation of less than 47% BMW:

Date	% BMW	% BMW (Target)
January – March 2011	54.93%	47%
April – June 2011	53.4%	47%
July – September 2011	50.5%	47%
October – December 2011	46.4%	47%

**3.30 Any Other Items Specified by the Agency,**

**3.30.1 AER / PRTR Electronic Reporting Workbook 2011**

A copy of the 2011 AER / PRTR Electronic Reporting Workbook is contained in Appendix 1.

**3.29.2 EPA Landfill Gas Survey 2011**

A copy of the Scotch Corner Landfill EPA Landfill Gas Survey 2011 is contained in Appendix 2.

**3.29.3 Biodegradable Municipal Waste Reporting 2011**

A copy of the Scotch Corner Landfill EPA Biodegradable Municipal Waste Reporting Landfill Submission Reports for 2011 are contained in Appendix 3.

<b>Report Prepared By:</b>  <hr/> Irene Williamson <i>Landfill Manager</i>	<b>Report Approved By:</b>  <hr/> Eugene Hickey <i>Senior Executive Engineer</i>	<b>Date:</b>  <hr/>
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# APPENDIX 1

## AER / PRTR Electronic Reporting Workbook for 2011



| PRTR# : W0020 | Facility Name : Scotch Corner Landfill | Filename : PRTR EPA Workbook w0020\_2011-Completed March 2012.xls | Return Year : 2011 |

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[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	Monaghan County Council
Facility Name	Scotch Corner Landfill
PRTR Identification Number	W0020
Licence Number	W0020-02

### Waste or IPPC Classes of Activity

No.	class_name
3.1	Deposit on, in or under land (including landfill).
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.
3.2	Land treatment, including biodegradation of liquid or sludge discards in soils.
3.4	Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.
3.5	Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.
4.1	Solvent reclamation or regeneration.
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.
4.8	Oil re-refining or other re-uses of oil.
Address 1	Letterbane
Address 2	Annyalla
Address 3	Castleblaney
Address 4	Co. Monaghan
	Monaghan
Country	Ireland
Coordinates of Location	-7.32431 54.0181
River Basin District	GBNIIENB
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
<b>AER Returns Contact Name</b>	Irene Williamson
<b>AER Returns Contact Email Address</b>	iwilliam@monaghancoco.ie
<b>AER Returns Contact Position</b>	Landfill Manager
<b>AER Returns Contact Telephone Number</b>	047-80930
<b>AER Returns Contact Mobile Phone Number</b>	087-6991844
<b>AER Returns Contact Fax Number</b>	047-80930
<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

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

## 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 [Link to previous years emissions data](#)

| PRTR#: W0020 | Facility Name : Scotch Corner Landfill | Filename : PRTR EPA Workbook w0020\_2011-Completed March 2012.xls | Return Year : 2011 |

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**SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS**

RELEASERS TO AIR		METHOD			Please enter all quantities in this section in KGs			
POLLUTANT		Method Used			QUANTITY			
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Outlet Stack of Flare Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
01	Methane (CH4)	E	OTH	Calculated using "landgem" theoretical landfill gas production model and Landfill Gas Survey 2011.	0.0	431411.0	0.0	431411.0
03	Carbon dioxide (CO2)	E	OTH	Calculated using "Landgem" theoretical landfill gas production model and actual flow data from flare and in house qualification data	0.0	1398414.0	0.0	1398414.0
02	Carbon monoxide (CO)	M	OTH	Calculated using actual flow meter data from flare and analysis data by Odour Monitoring Ireland	4.59	4.59	0.0	0.0
08	Nitrogen oxides (NOx/NO2)	M	OTH	Calculated using actual flow meter data from flare and analysis data by Odour Monitoring Ireland	154.23	154.23	0.0	0.0
11	Sulphur oxides (SOx/SO2)	M	OTH	Calculated using actual flow meter data from flare and analysis data by Odour Monitoring Ireland	684.91	684.91	0.0	0.0

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

**SECTION B : REMAINING PRTR POLLUTANTS**

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

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

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

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

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

**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: Please enter summary data on the quantities of methane flared and / or utilised	Scotch Corner Landfill				
	T (Total) kg/Year	M/C/E	Method Code	Designation or Description	Facility Total Capacity m3 per hour
Total estimated methane generation (as per site model)	1194000.0	E	OTH	Calculated using "Landgem" theoretical landfill gas production model	N/A
Methane flared	762589.0	M	OTH	From Landfill Gas Survey 20	1000.0 (Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0 (Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0	E		Calculated using "landgem" theoretical landfill gas production model and Landfill Gas Survey 2011	N/A

OTH

4.2 RELEASES TO WATERS

[Link to previous years emissions data](#)

| PRTR# : W0020 | Facility Name : Scotch Corner Landfill | Filename : PRTR EPA Workbook w0020\_2011-Completed March 2012.xls | Return Year : 2011 |

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**SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS**

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

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

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

**SECTION B : REMAINING PRTR POLLUTANTS**

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

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

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

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

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

4.3 RELEASES TO WASTEWATER OR SEWER

[Link to previous years emissions data](#)

| PRTR# : W0020 | Facility Name : Scotch Corner Landfill | Filename : PRTR EPA Workbook w0020

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**SECTION A : PRTR POLLUTANTS**

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

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

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

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

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



4.4 RELEASES TO LAND

[Link to previous years emissions data](#)

| PRTR# : W0020 | Facility Name : Scotch Corner Landfill | Filename : PRTR EPA Workbook w0020\_2011-Completed March 2012.xls | Return Year : 2

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SECTION A : PRTR POLLUTANTS

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

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

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

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

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

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

| PRTR# : W0020 | Facility Name : Scotch Corner Landfill | Filename : PRTR EPA Workbook w0020\_2011-Completed March 2012.xls | Return Year : 2011 |

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Please enter all quantities on this sheet in Tonnes

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Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility	Haz Waste : Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility	Non Haz Waste : Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used		Non	Non Haz Waste	ONLY	ONLY		
Within the Country	19 07 03	No	38020.37	landfill leachate other than those mentioned in 19 07 02	D8	M	Weighed	Offsite in Ireland	Monaghan Waste Water Treatment Plant,D0061-01		Tirkennan,....,Monaghan ,Ireland			
Within the Country	20 02 01	No	170.82	Brown Bin Organic Waste	R3	M	Weighed	Offsite in Ireland	Terralift Ireland Ltd.,WPR 10/8		Tullyhattina,.,Castleblaney,C o. Monaghan,Ireland			
Within the Country	20 02 01	No	275.3	Brown Bin Organic Waste	R3	M	Weighed	Offsite in Ireland	Thorntons Recycling,W0195-02		Meath,Ireland			
Within the Country	20 01 38	No	1037.7	Woodchip	R10	M	Weighed	Offsite in Ireland	Local Farmers and School, Terralift Ireland Ltd.,WPR 10/8		.....,Ireland			
Within the Country	20 01 38	No	16.3	Woodchip	R3	M	Weighed	Offsite in Ireland	Terralift Ireland Ltd.,WPR 10/8		Tullyhattina,.,Castleblaney,C o. Monaghan,Ireland			
Within the Country	15 01 07	No	95.9	Commercial glass bottles	R5	M	Weighed	Offsite in Ireland	Glassdon Recycling,WML 20/21 and LN/08/103		52 Creagh Road,Toomebridge,Co. Antrim,BT41 3SE,United Kingdom			
Within the Country	15 01 07	No	48.031	Household glass bottles	R5	M	Weighed	Offsite in Ireland	Rehab Recycling,WPR 004-02		Park,Sandymount,Dublin 4,.,Ireland			
Within the Country	15 01 04	No	23.1	Metallic packaging	R4	M	Weighed	Offsite in Ireland	Shergrim Recycling,WML 25/01		81 Kilyclogher Road,.,Omagh,Co. Tyrone,Ireland			
Within the Country	16 06 02	Yes	1.898	Household batteries	R13	M	Weighed	Offsite in Ireland	ERP Ireland,Compliance Scheme		Unit 9D Nutgrove Office Park,Nutgrove Avenue,Rathfarnham,Dublin 14,Ireland		Not known at this time,Currently in storage at ERP,.....,Ireland	.....,Ireland
Within the Country	16 06 01	Yes	4.677	Lead acid batteries	R12	M	Weighed	Offsite in Ireland	Wilton Waste Recycling,WFP-CN_10-0005-01		Kiffa,.,Ballyjamesduff,Co. Cavan,Ireland		Darley Dale,Smelter,South Darley Matlock,DE4 2LP,United Kingdom	Darley Dale,Smelter,South Darley Matlock,DE4 2LP,United Kingdom
Within the Country	16 05 04	Yes	0.529	Aerosol Cans	R12	M	Weighed	Offsite in Ireland	Enva Ireland Ltd.,W0184-01		Portlaoise,Co. Laois,.....,Ireland		Remondis AG & Co. KG,H09037950,Brunnenstra Be 138,44536 Lunen,.,.,Germany	Brunnenstra Be 138,44536 Lunen,.,.,Germany
Within the Country	15 01 01	No	1877.49	Cardboard	R3	M	Weighed	Offsite in Ireland	Irish Packaging Recycling,WPR 021-2		Ballymount Road,.,Dublin 12,.,Ireland			
Within the Country	15 01 01	No	136.96	Cardboard	R3	M	Weighed	Offsite in Ireland	Failand Paper Services Ltd.,ENW/029763		11 Triangle South,Clifton,Bristol,BS8 1EY,United Kingdom			
Within the Country	15 01 02	No	32.72	Plastic bottles	R3	M	Weighed	Offsite in Ireland	Shabra Recycling Ltd.,WFP-MN-08-0022-01		Estate,Bree,Castleblaney,C o. Monaghan,Ireland			
Within the Country	20 01 11	No	19.5	Clothes	R12	M	Weighed	Offsite in Ireland	Textile Recycling Ltd.,WPR 014		Belgard Road,Tallaght,Co. Dublin,.,Ireland			
Within the Country	20 01 25	No	0.48	Cooking oil	R9	M	Weighed	Offsite in Ireland	Agri Pure,LN/11/63		Swords,Co. Dublin,.,.,Ireland			
Within the Country	13 02 08	Yes	3.06	Engine oil	R9	M	Weighed	Offsite in Ireland	Enva Ireland Ltd.,WO-184-01		Portlaoise,Co. Laois,.....,Ireland		Enva Ireland Ltd.,WO-184-01,Portlaoise,Co. Laois,.....,Ireland	Portlaoise,Co. Laois,.....,Ireland
Within the Country	20 01 21	Yes	0.4	Fluorescent tubes	R4	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd. ,W0113-03		Cappincur industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland		KMK Metals Recycling Ltd. ,W0113-03,Cappincur industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	Cappincur industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility	Haz Waste : Address of Next Destination Facility	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used		Haz Waste : Name and Licence/Permit No of Recover/Disposer	Non Haz Waste: Address of Recover/Disposer		
Within the Country	20 02 01	No	101.74	Garden waste	R3	M	Weighed	Offsite in Ireland	Terralift Ireland Ltd.,WPR 10/8 Wilton Waste Recycling,WFP-CN_10-0005-01	Tullyhattina,,Castleblaney,Co. Monaghan,Ireland		
Within the Country	20 02 01	No	78.42	Garden waste	R3	M	Weighed	Offsite in Ireland	Irish Packaging Recycling,WPR 021-2	Kiffa,,Ballyjamesduff,Co. Cavan,Ireland Ballymount Road,,Dublin 12,,Ireland		
Within the Country	20 01 01	No	222.655	Mixed paper	R3	M	Weighed	Offsite in Ireland	Highlander International Recycling Ltd.,SCO/044794/CB	1 Teign Grove,Gardenhall East Kilbride ,Lanarkshire,G75 8U2,United Kingdom		
Within the Country	20 01 01	No	22.24	Mixed paper	R3	M	Weighed	Offsite in Ireland	Irish Packaging Recycling,WPR 021-2	1 Teign Grove,Gardenhall East Kilbride ,Lanarkshire,G75 8U2,United Kingdom		
Within the Country	20 01 01	No	75.56	News and Pams	R3	M	Weighed	Offsite in Ireland	Highlander International Recycling Ltd.,SCO/044794/CB	1 Teign Grove,Gardenhall East Kilbride ,Lanarkshire,G75 8U2,United Kingdom		
Within the Country	20 01 01	No	30.46	News and Pams	R3	M	Weighed	Offsite in Ireland	Enva Ireland Ltd.,WO-184-01	Portlaoise,Co. Laois,,Ireland	Enva Ireland Ltd.,WO-184-01,Portlaoise,Co. Laois,,Ireland	Portlaoise,Co. Laois,,Ireland
Within the Country	20 01 27	Yes	0.478	Paints	R2	M	Weighed	Offsite in Ireland	Wilton Waste Recycling,WFP-CN_10-0005-01	Kiffa,,Ballyjamesduff,Co. Cavan,Ireland Kilycard Industrial Estate,Bree,Castleblaney,Co. Monaghan,Ireland		
Within the Country	17 08 02	No	22.48	Plasterboard	R5	M	Weighed	Offsite in Ireland	Shabra Recycling Ltd.,WFP-MN-08-0022-01	Mooretown,Dromiskin,Dundalk,Co. Louth,Ireland 84 Armagh Road,Moy Dungannon,Co. Tyrone,BT71 7JA,Ireland		
Within the Country	15 01 02	No	1.2	Polystyrene	R13	M	Weighed	Offsite in Ireland	Crumb Rubber Ireland Ltd.,WP2007/01	84 Armagh Road,Moy Dungannon,Co. Tyrone,BT71 7JA,Ireland		
Within the Country	16 01 03	No	8.02	Tyres	R3	M	Weighed	Offsite in Ireland	T-Met,WML 03/13 and LN/11/04	Clermont Business Park,Haggardstown,Dundalk,Co. Louth,Ireland Unit 7 Shepherd's Drive,Carnbane Industrial Estate,Newry Co. Down,BT35 6JQ,United Kingdom		
Within the Country	20 01 40	No	179.32	Metals	R4	M	Weighed	Offsite in Ireland	Leinster Environmental,WP/2008/06	Down,BT35 6JQ,United Kingdom		
Within the Country	17 02 03	No	15.0	Hard plastic	R3	M	Weighed	Offsite in Ireland	Re-Gen Waste Ltd.,WML 22/25 and LN/10/50M	Letterbane,Annyalla,Castleblaney,Co. Monaghan,Ireland Carranstown,Duleek,Co. Meath,,Ireland		
Within the Country	15 01 02	No	31.72	Other plastic packaging	R3	M	Weighed	Offsite in Ireland	Scotch Corner Landfill,W0020-02	Letterbane,Annyalla,Castleblaney,Co. Monaghan,Ireland		
Within the Country	20 03 01	No	3014.42	Mixed residual waste	D5	M	Weighed	Offsite in Ireland	Indaver Ireland Ltd.,W0167-02	Letterbane,Annyalla,Castleblaney,Co. Monaghan,Ireland		
Within the Country	20 03 01	No	2364.44	Mixed residual waste	D10	M	Weighed	Offsite in Ireland	Scotch Corner Landfill,W0020-02	Letterbane,Annyalla,Castleblaney,Co. Monaghan,Ireland		
Within the Country	20 03 01	No	631.58	Household skip waste	D5	M	Weighed	Offsite in Ireland	Scotch Corner Landfill,W0020-02	Letterbane,Annyalla,Castleblaney,Co. Monaghan,Ireland		
Within the Country	20 03 01	No	5140.63	Commercial waste	D5	M	Weighed	Offsite in Ireland	Scotch Corner Landfill,W0020-02	Letterbane,Annyalla,Castleblaney,Co. Monaghan,Ireland		
Within the Country	15 01 02	No	168.48	Plastic packaging	R3	M	Weighed	Offsite in Ireland	Leinster Environmental,WP/2008/06	Down,BT35 6JQ,United Kingdom		

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility	Non	Haz Waste : Address of Next Destination Facility	Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						Haz Waste: Name and Licence/Permit No of Recover/Disposer								
Within the Country	20 01 35	Yes	45.04	CRT's	R4	M	Weighed	Offsite in Ireland	The Recycling Village,WP2007-20		Tenure Business Park,,Monasterboice,Co. Louth,Ireland Bentley Road South,Darlaston,West Midlands,WS10 8LW,United Kingdom		The Recycling Village,WP2007-20,Tenure Business Park,,Monasterboice,Co. Louth,Ireland	Tenure Business Park,,Monasterboice,Co. Louth,Ireland
Within the Country	20 01 36	No	12.85	LDA's	R4	M	Weighed	Offsite in Ireland	European Metal Recycling Ltd.,40041/40099/40110		8LW,United Kingdom Bentley Road South,Darlaston,West Midlands,WS10 8LW,United Kingdom		Alexandra Building Alexandra Dock,Bootle,Liverpool	
Within the Country	20 01 36	No	20.98	LDA's cold	R4	M	Weighed	Offsite in Ireland	European Metal Recycling Ltd.,40041/40099/40110		Merseyside,L20 1BX,United Kingdom			
Within the Country	20 01 36	No	47.79	SDA's	R4	M	Weighed	Offsite in Ireland	European Metal Recycling Ltd.,50447/101767					
Within the Country	17 09 04	No	1340.18	C&D Waste	R10	M	Weighed	Offsite in Ireland	Scotch Corner Landfill,W0020-02		Letterbane,Annyalla,Castleblaney,Co. Monaghan,Ireland 81 Killyclogher Road,,Omagh,Co. Tyrone,United Kingdom			
<b>Within the Country</b>	<b>20 03 01</b>	<b>No</b>	2497.9	Mixed dry recyclables	R12	M	Weighed	Offsite in Ireland	Shergrim Recycling,WML 25/01					
Within the Country	17 02 03	No	7.044	hard plastic (non-packaging)	R3	M	Weighed	Offsite in Ireland	Leinster Environmental,WP/2008/06					

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

[Link to previous years waste data](#)

[Link to previous years waste summary data & percentage change](#)

## Appendix 2

# EPA Landfill Gas Survey 2011

## A survey of landfill sites to determine the quantity of methane flared and or recovered in utilisation plants for 2011

Please choose from the drop down menu the license number for your site	W0020
Please choose from the drop down menu the name of the landfill site	Scotch Corner Landfill
Please enter the number of flares operational at your site in 2011	1
Please enter the number of engines operational at your site in 2011	Select
Total methane flared	762,589 kg/year
Total methane utilised in engines	0 kg/year

**Please note that the closing date for receipt of completed surveys is 31/03/2012**

### Introduction

The Office of Climate Licensing and Resource Use (OCLR) of the Environmental Protection Agency acts as the inventory agency in Ireland with responsibility for compiling and reporting national greenhouse gas inventories to the European Commission and the United Nations Framework Convention on Climate Change. In addition to meeting international commitments Ireland's national greenhouse gas inventory informs national agencies and Government departments as they face the challenge to curb emissions and meet Ireland's targets under the Kyoto Protocol. The national inventory also informs data suppliers, making them aware of the importance of their contributions to the inventory process and a means of identifying areas where input data may be improved.

It is on this basis that the Environmental Protection Agency is asking landfill operators to partake in this survey so that the most up to date information on methane flaring and recovery in utilisation plants at landfill sites is used in calculating the contribution of the waste sector to national greenhouse gas emissions

The Environmental Protection Agency wishes to thank you for partaking in this survey. If you have any questions about the survey and how to complete it please view the "Help sheet" worksheet. If however, your query is not answered by viewing the "Help sheet" worksheet please contact:

[LFGProject@epa.ie](mailto:LFGProject@epa.ie)

Once completed please send the completed file as an attachment clearly stating the name and or license number of the landfill site (e.g. W000 Xanadu landfill\_2011) to:

[LFGProject@epa.ie](mailto:LFGProject@epa.ie)

to be filled in by licensee	calculated by spreadsheet	
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**Flare No. 1**

Flare type ? If "other" enter flare description here  
 Biogas BG2468

Is the flare an open or enclosed flare ? Rated flare capacity ? 880 m3/hr  
 Enclosed

Month /year commissioned ? March 2005

Month decommissioned if decommissioned in 2011 ? Select

What is the function of the flare ? If "other" enter flare function here  
 Extraction from capped and uncapped areas

Monthly	Method M/C/E	Runtime days/month	Runtime hrs/day	Downtime hrs	Total runtime hrs/month	Average Inlet Pressure (mbg)	Average Flow Rate (m <sup>3</sup> /hr)	Average CH <sub>4</sub> %v/v	Average CO <sub>2</sub> %v/v	Average O <sub>2</sub> %v/v	Combustion efficiency (%)	Total CH <sub>4</sub> m <sup>3</sup>	Total CH <sub>4</sub> kgs
January	M	31	24.0	96.0	648	-46	581	25.80	24.40	4.80	98.0	95,191	62,741
February	M	28	24.0	273.6	398	-37	611	26.90	24.10	5.20	98.0	64,171	42,689
March	M	31	24.0	3.4	741	-39	601	23.40	21.70	5.80	98.0	102,070	67,762
April	M	30	24.0	165.6	554	-40	590	25.80	22.40	4.20	98.0	82,703	54,848
May	M	31	24.0	178.8	565	-28	617	27.80	24.40	4.80	98.0	95,008	63,785
June	M	30	24.0	57.0	663	-29	510	26.70	24.40	4.10	98.0	88,475	59,339
July	M	31	24.0	54.3	690	-25	446	27.50	25.50	3.80	98.0	82,900	55,826
August	M	31	24.0	0.0	744	-29	415	27.70	25.60	3.60	98.0	83,816	56,214
September	M	30	24.0	6.8	713	-28	363	29.90	26.00	3.60	98.0	75,860	50,930
October	M	31	24.0	51.8	692	-28	388	35.00	28.70	2.60	98.0	92,121	61,847
November	M	30	24.0	0.0	720	-39	593	36.00	29.70	1.90	98.0	150,631	100,000
December	M	31	24.0	5.7	738	-38	474	38.00	31.80	1.00	98.0	130,323	86,607
Total					7,867							1,143,270	762,589

Please note: Only fill the "Yearly" table if data is not available or cannot be calculated nor estimated on a monthly basis

Yearly	Method M/C/E	Runtime days/year	Runtime hrs/day	Downtime hrs	Total runtime hrs/year	Average Inlet Pressure (mbg)	Average Flow Rate m <sup>3</sup> /hr	Average CH <sub>4</sub> %v/v	Average CO <sub>2</sub> %v/v	Average O <sub>2</sub> %v/v	Combustion efficiency (%)	Total CH <sub>4</sub> m <sup>3</sup>	Total CH <sub>4</sub> kgs
2011					0						98.0	0	0

## Appendix 3

# Biodegradable Municipal Waste Reporting 2011



Cumulative report for year

Quarter	Type of MSW	Total Qty MSW	Factor Type	Factor Value	Total Qty BMW	Comment	% BMW
Q1	Untreated 1-bin household waste	2.52	EPA Approved factor	0.65	1.64		65.08
Q1	2-bin residual household waste	6354.75	EPA Approved factor	0.63	4003.49		63.00
Q1	3-bin residual household waste	3066.10	EPA Approved factor	0.47	1441.07		47.00
Q1	Bulky waste from sorting of MSW skips	38.38	EPA Approved factor	0.50	19.19		50.00
Q1	Oversize residues from MSW skips	1396.16	EPA Approved factor	0.44	614.31		44.00
Q1	Oversize residues from MSW bin collections ("wet waste")	855.96	EPA Approved factor	0.41	350.94		41.00
Q1	Residues from source separated recyclable waste ("clean MRF")	30.68	EPA Approved factor	0.47	14.42		47.00
Q1	Untreated cleansing waste (fly-tipping, street bins, road sweepings etc.)	182.50	EPA Approved factor	0.65	118.62		65.00
Q1	Residual MSW from civic amenity facility	40.82	EPA Approved factor	0.63	25.72		63.01
Q1	Other	28.06	Site Specific factor	0.00	0.00	waste verified as all toner powder	0.00
Q2	Untreated 1-bin household waste	1.72	EPA Approved factor	0.65	1.12		65.12
Q2	2-bin residual household waste	4763.62	EPA Approved factor	0.63	3001.08		63.00
Q2	3-bin residual household waste	2145.44	EPA Approved factor	0.47	1008.36		47.00
Q2	Oversize residues from MSW skips	1296.54	EPA Approved factor	0.43	557.51		43.00
Q2	Oversize residues from MSW bin collections ("wet waste")	1645.86	EPA Approved factor	0.41	674.80		41.00
Q2	Residues from source separated recyclable waste ("clean MRF")	153.64	EPA Approved factor	0.47	72.21		47.00
Q2	Untreated cleansing waste (fly-tipping, street bins, road sweepings etc.)	178.06	EPA Approved factor	0.65	115.74		65.00
Q2	Residual MSW from civic amenity facility	52.34	EPA Approved factor	0.63	32.97		62.99
Q3	Untreated 1-bin household waste	8.34	EPA Approved factor	0.65	5.42		64.99
Q3	2-bin residual household waste	933.98	EPA Approved factor	0.63	588.41		63.00
Q3	3-bin residual household waste	713.50	EPA Approved factor	0.47	335.34		47.00
Q3	Oversize residues from MSW skips	1496.62	EPA Approved factor	0.43	643.55		43.00
Q3	Untreated cleansing waste (fly-tipping, street bins, road sweepings etc.)	136.86	EPA Approved factor	0.65	88.96		65.00
Q3	Residual MSW from civic amenity facility	56.96	EPA Approved factor	0.63	35.88		62.99
Q3	Other	13.40	Site Specific factor	0.00	0.00	no bmw content	0.00
Q4	Untreated 1-bin household waste	10.08	EPA Approved factor	0.65	6.55		64.98
Q4	2-bin residual household waste	128.62	EPA Approved factor	0.63	81.03		63.00
Q4	3-bin residual household waste	39.62	EPA Approved factor	0.47	18.62		47.00
Q4	2-bin residual commercial waste	8.76	EPA Approved factor	0.75	6.57		75.00
Q4	3-bin residual commercial waste	147.76	EPA Approved factor	0.68	100.48		68.00
Q4	Untreated MSW skip waste	22.58	EPA Approved factor	0.35	7.90		34.99
Q4	Oversize residues from MSW skips	1178.60	EPA Approved factor	0.43	506.80		43.00
Q4	Untreated cleansing waste (fly-tipping, street bins, road sweepings etc.)	116.46	EPA Approved factor	0.65	75.70		65.00
Q4	Residual MSW from civic amenity facility	19.14	EPA Approved factor	0.63	12.06		63.01
Q4	Other	86.38	Site Specific factor	0.00	0.00	zero bmw content	0.00
		27350.81			14566.46		53.26

These figures are as reported by the licensee to the Agency and have not been validated by the EPA