

Monaghan County Council

Scotch Corner Landfill



Scotch Corner Landfill

1st January 2013 – 31st December 2013

Annual Environmental Report

TABLE OF CONTENTS

1. Introduction.....	3
2. References.....	4
3. Content of Annual Environmental Report.....	4
3.1 Reporting Period.....	4
3.2 Waste activities carried out at the facility.....	4
3.3 Quantity and Composition of waste received, disposed of and recovered during the reporting period and each previous year.....	5
3.4 Calculated remaining capacity of the facility and year in which final capacity is expected to be reached.....	7
3.5 Methods of deposition and recovery of waste.....	7
3.6 Summary report on emissions.....	7
3.6.1 Dust.....	7
3.6.2 Noise.....	8
3.6.3 Landfill Gas.....	8
3.6.4 Leachate.....	9
3.7 Summary of results and interpretation of environmental monitoring.....	9
3.7.1 Landfill Gas.....	9
3.7.2 Noise Monitoring.....	10
3.7.3 Groundwater Monitoring.....	10
3.7.4 Leachate Monitoring.....	11
3.7.5 Surface Water Monitoring.....	11
3.7.6 Meteorological Monitoring.....	12
3.7.7 Topographical Survey.....	12
3.7.8 Biological Assessment.....	12
3.7.9 Archaeological Assessment.....	12
3.7.10 Nuisance Monitoring.....	12
3.8 Resource and energy consumption summary.....	12
3.9 Proposed development of the facility and timescale of such development (including plant operating capacity at the MRF, provision of adequate standby capacity and provision of contingency, backup and spares in the case of breakdown).....	14
3.10 Volume of leachate produced and volume of leachate transported/discharged off-site.....	14
3.11 Report on development works undertaken during the reporting period, and a timescale for those proposed during the coming year.....	14
3.12 Report on restoration of completed cells/ phases.....	15
3.13 Site survey showing existing levels of the facility at the end of the reporting period.....	15
3.14 Estimated annual and cumulative quantities of landfill gas emitted from the facility.....	15
3.15 Estimated annual and cumulative quantity of indirect emissions to groundwater.....	16
3.16 Annual water balance calculation and interpretation.....	17
3.17 Report on the progress towards achievement of the Environmental Objectives and Targets contained in previous year's report.....	18
3.18 Schedule of Environmental Objectives and Targets for the forthcoming year.....	18
3.19 Updates to Landfill Environmental Plan (EMP).....	19
3.20 Review of Environmental Liabilities.....	19
3.21 Report on Waste Recovery.....	20
3.21.1 The recovery of Construction and Demolition Waste.....	20
3.21.2 The recovery of energy from other waste at Scotch Corner by incineration.....	20
3.21.3 The recovery of other waste in landfill operations, including restoration.....	20
3.21.4 The recovery of energy through landfill gas combustion.....	20
3.22 Full title and a written summary of any procedures developed by the licensee in the year which relates to the facility operation.....	21
3.23 Tank, pipeline and bund testing and inspection report.....	23
3.24 Reported incidents and Complaints summaries.....	23
3.24.1 Incidents.....	23
3.24.2 Complaints.....	24
3.25 Review of Nuisance Controls.....	24

3.25.1	Litter.....	24
3.25.2	Vermin.....	24
3.25.3	Birds.....	24
3.25.4	Flies.....	25
3.25.5	Mud.....	25
3.25.6	Dust.....	25
3.25.7	Odour.....	25
3.25	Reports on financial provision made under this licence, management and staffing structure of the facility, and a programme for public information.....	25
3.26.1	Report on financial provision made under this licence.....	25
3.26.2	Report on management and staffing structure.....	25
3.26.3	Report on programme for public information.....	26
3.27	Report on training of staff.....	26
3.28	Statement of Compliance of facility with any updates of the Waste Management Plan.....	26
3.29	Statement on the achievement of the waste acceptance and treatment obligations.....	26
3.30	Any other items specified by the Agency.....	27
3.30.1	EPA Landfill Gas 2012 Survey.....	27
3.30.2	AER / PRTR Electronic Reporting Workbook 2012.....	27
3.30.3	Biodegradable Municipal Waste Reporting 2012.....	27
Appendix 1	AER / PRTR Electronic Reporting Workbook for 2012.....	28
Appendix 2	EPA Landfill Gas Survey 2012.....	39
Appendix 3	Biodegradable Municipal Waste Reporting 2012.....	42

1. INTRODUCTION

On 7th 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 24th 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 31st 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 25th February 1998.

EPA Landfill Manuals – Landfill Operational Practises.

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

Scotch Corner Landfill 2013 Groundwater Monitoring Reports.

Scotch Corner Landfill 2013 Surface Water Monitoring Reports.

Scotch Corner Landfill 2013 Leachate Monitoring Reports.

Scotch Corner Landfill 2013 Noise Monitoring Report.

Scotch Corner Landfill 2013 Landfill Gas Monitoring Reports.

Scotch Corner Landfill 2013 Dust Monitoring Reports.

Pestproof Service Reports.

Rock Bird Control Service Reports.

Environmental Management System at Scotch Corner Landfill Rev.00.

Scotch Corner Landfill 1st January 2012– 31st December 2012 Annual Environmental Report.

Scotch Corner Landfill 2013 AER Returns Workbook.

Scotch Corner Landfill 2013 EPA Landfill Gas Survey.

Scotch Corner Landfill 2013 Biodegradable Municipal Waste Reporting Landfill Submission Report.

National Waste Report 2013 Survey.

North East Region Waste Management Plan 2005 – 2010.

Focus on Landfilling in Ireland – EPA.

3. **CONTENT OF ANNUAL ENVIRONMENTAL REPORT**

3.1 **Reporting Period**

This report covers the period 1st January 2013 to 31st December 2013.

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:

- Whole used tyres (other than bicycle tyres and tyres with an outside diameter greater than 1400mm) and shredded tyres.

- Liquid Wastes
- Sludges
- Hazardous Wastes as defined by the European Waste Catalogue and Hazardous Waste List
- Unsorted Waste

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:

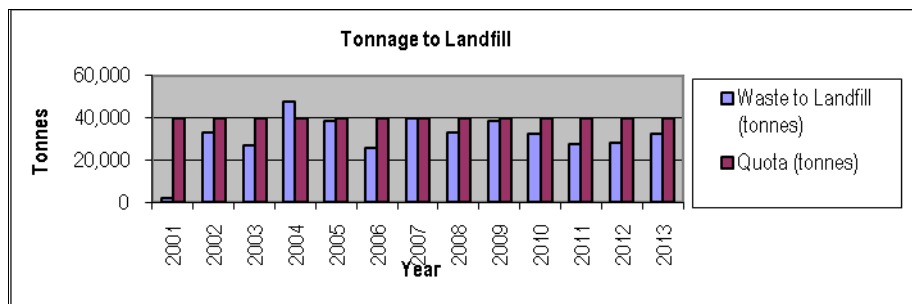
Waste Type	Maximum Tonnes Per Annum
Household	18,200
Commercial	5,700
Construction and Demolition	2,800
Industrial Non-Hazardous	12,800
TOTAL	39,500

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 – 31/12/13.

Year	Household EWC 20 03 01 20 03 07	Commercial EWC 20 03 01 20 03 02 19 12 12	Industrial EWC 20 03 01 19 12 04 07 01 99 02 03 04	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	1,861
2002	15,103.3	3,736.66	8,390.4		4,703.44	622.77	277.32	397.39	33,231
2003	11,895.14	2,047.01	6,833.30		4,921.88	662.85	239.29	414.65	27,014
2004	19,096.03	3,757.94	16,210.71		5,473.12	560.91	345.56	2,487.23	47,932
2005	20,111.51	2,981.29	8,085.37		5,681.26	1020.06	214.28	729.77	38,824
2006	13,770.61	1,305.71	7,280.73		1,232.70	169.60	291.48	1,693.69	25,745
2007	12,559.82	2,689.06	10,888.38	12,528.14	0	0	49.44	792.75	39,508
2008	12,976.48	1,972.74	7,121.10	10,137.14	0	0	40.9	706.38	32,955
2009	9,228.92	612.22	4,737.98	23,492.30	0	0	93.28	668.16	38,833
2010	18,689	9,140	3,717		0	0	5	671	32,222
2011	7,326.62	681.30	5,070.06	13,587.82	0	0	0	701.90	27,368
2012	4,837.86	6,911.16	1,799.00	13,755	0	0	0	771.00	28,075
2013	11,582.21	7,506.5	2,915.24	9021	0	0	0	1,429.31	32,454
Quota	18,200	5,700	12,800		0	0	2,800		39,500



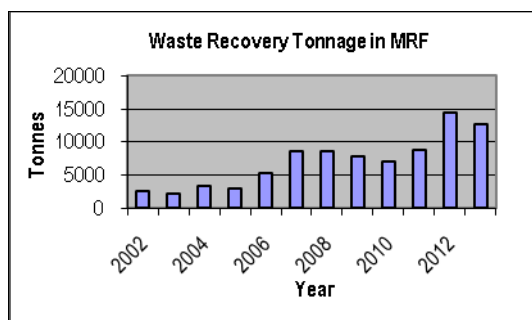
(B) Waste Recovery

Table 2: Waste Recovery Table for Scotch Corner Recycling Centre 01/01/13 – 31/12/13

Load Type	EWC Code	Tonnes
Lead Batteries	16 06 01	3.2
Household Batteries	16 06 02	2.506
C & D waste	17 09 04	182.58
Textiles	20 01 10	11.26
Glass	15 01 07	205.92
Brown Bin Organic Waste	20 02 01	385.0
Fluorescent lights & Bulbs	20 01 21	0.42
Newspaper and Magazines	20 01 01	182.57
Scrap metal	20 01 40	154.55
Timber/Woodchip	20 01 38	195.1
Cooking Oil	20 01 25	0.52
Waste oil	13 02 08	1.32
Metallic Packaging	15 01 04	36.14
Cardboard	15 01 01	1652.2
Mixed Paper	20 01 01	446.38
CRT's	20 01 35	123.03
LDA's	20 01 36	12.145
LDA's cold	20 01 36	13.649
SDA's	20 01 36	31.607
Mixed Dry Recyclables	20 03 01	2388.62
Plasterboard	17 08 02	15.1
Windscreen Glass	16 01 20	11.1
Tyres	16 01 03	10.18
Hard Plastic Packaging	17 02 03	36.896
Plastic Bottles	15 01 02	44.98
Hard Plastic Non-Packaging	17 02 03	34.0
Waste Paint	20 01 27	1.462
Aerosol cans	16 05 04	0.465
Plastic Packaging	15 01 02	151.42
Green Waste	20 02 01	243.88
Mixed Residual Waste	20 03 01	6003.4
	Total	12581.6

Table 3: Waste Recovery Table for Scotch Corner Recycling Centre 2001 – 2013

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
2012	14380.86
2013	12581.6



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

From calculations carried out by RPS in January 2014 using the topographical survey carried out in December 2013, there is approximately 100,000m³ of void space remaining. However only approximately 30,000 – 40,000m³ capacity remains for MSW as the remainder of the void space is located on the flanks of completed cells. As much of this void space as possible will be filled with Incinerator Bottom Ash as site engineered material. Final Capacity will be reached in 2016 at the latest.

3.5 Methods of Deposition and Recovery of Waste

From 1st January 2013 to 27th January 2013 waste was deposited to landfill into Cell 4c of Phase 3. From 28th January 2013 to 31st December 2013 waste was deposited to landfill into Cell 5b of Phase 3. Waste was compacted using a compactor and/or hymac and/or dozer as required.

From 25th April 2005 to date the MRF is operated by McElvaney Waste & Recycling Ltd. During this period 1/1/13 to 31/12/13, 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 in 2013 was landfilled in Cell 4c and Cell 5b.

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/m²/day except as follows:

Results for the first schedule (12/06/2013 to 09/07/2013) for dust monitoring locations D1 & D4 exceeded the dust deposition of 350mg/m²/day limit slightly due to a number of tiny insects in the samples.

D1 results for the second schedule (09/07/2013 to 27/08/2013) exceeded the dust deposition limit slightly due to algae, 2 bees and 2 other insects in the sample. D2 results for the second schedule (09/07/2013 to 27/08/2013) exceeded the dust deposition limit of 350mg/m²/day slightly due to green moss like material and 1 bee in the sample. D4 results for the second schedule (09/07/2013 to 27/08/2013) exceeded the dust deposition limit of 350mg/m²/day due to green algae and leaves in the sample.

D1 results for the second schedule (09/09/2013 to 08/10/2013) exceeded the dust deposition limit of 350mg/m²/day due insects in the sample. D2 results for the second schedule (09/09/2013 to 08/10/2013) exceeded the dust deposition limit of 350mg/m²/day slightly due to white fluffy like material and approximately 5 small insects in the sample. D3 results for the second schedule (09/09/2013 to 08/10/2013) exceeded the dust deposition limit of 350mg/m²/day slightly due to white fluffy like material and approximately 5 small insects in the sample. D4 results for the second schedule (09/09/2013 to 08/10/2013) exceeded the dust deposition limit of 350mg/m²/day due a large amount of grey fluffy material and approximately 25 large insects in the sample.

Dust monitoring location D1 is prone to slightly elevated reading from small insects from the nearby drain and surrounding vegetation that are attracted to the preservative Metoxyethanol in the dust jars.

Likewise dust monitoring location D2 is prone to slightly elevated reading from small insects from the nearby forest and surrounding vegetation that are attracted to the preservative Metoxyethanol in the dust jars.

Dust monitoring location D3 is prone to slightly elevated reading from dust from the main road that is located approximately 5m to its south.

Dust monitoring location D4 is prone to very elevated readings from overhanging vegetation.

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

Ref. 'Scotch Corner Landfill 2013 Dust Monitoring Report'.

3.6.2 Noise

As per in previous years the noise survey carried out at Scotch Corner Landfill in 2013² 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) $L_{Aeq}(30 \text{ minutes})$ and 55 Day dB(A) $L_{Aeq}(30 \text{ minutes})$.

Ref. 'Scotch Corner Landfill 2013 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 8th December 2005 including this period 1/1/13 to 31/12/13. Landfill gas extraction and flaring has operated from Phase 2 (capped cells since 2010) from vertical extraction wells since 10th 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 29th January 2008 and from vertical extraction wells 16th December 2009. Landfill gas extraction and flaring has operated from Cell 4a (temporarily capped cell since 2010) from horizontal extraction pipework since 19th January 2009 and from vertical extraction wells 16th December 2009. Landfill gas extraction and flaring has operated from cell 4b from horizontal extraction pipework since 30th June 2010 and from vertical extraction wells since 27th October 2011. Landfill gas extraction and flaring has operated from cell 5b from horizontal extraction pipework since 3rd September 2013 and from vertical extraction wells since 9th October 2013.

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.

Landfill gas produced by the decomposition of waste from the Cell 5b discharged to the atmosphere since waste deposition commenced in this cell on 28/1/13 until 3/9/2013 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 2013, 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 18th June 2013 and 4th December 2013. All parameters remained below the flare stack emission trigger levels for these dates.

During 2013, 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 2013 Landfill Gas Monitoring Report'
'Scotch Corner Landfill April to June 2013 Landfill Gas Monitoring Report'
'Scotch Corner Landfill July to September 2013 Landfill Gas Monitoring Report'

'Scotch Corner Landfill October to December 2013 Landfill Gas Monitoring Report'
"Air Emission Testing 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 18/6/13 & 4/12/13.

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.

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.

Analysis of groundwater at new G1 represents the quality of groundwater that was 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. Further remedial works upstream of new G1 were completed by Irish Biotech on 19/6/2012 and therefore the discharge at new G1 ceased completely on 19/6/2012. There was no discharge from new G1 in 2013.

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.

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, 2010, 2011 and 2012 a slight improvement in water quality at B5a was noted in 2013.

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 2013.

Ref. Scotch Corner Landfill January to March 2013 Groundwater Monitoring Report.
Scotch Corner Landfill April to June 2013 Groundwater Monitoring Report.
Scotch Corner Landfill July to September 2013 Groundwater Monitoring Report.
Scotch Corner Landfill October to December 2013 Groundwater 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 2013 from pressure transducer data on the Scada computer located in the landfill manager's office.

The leachate level in Phase 3 exceeded the 1m threshold in 2013 from 28/12/2012 to 3/1/2013 (Ref. Incident Sheet 01/13), from 19/1/2013 to 23/1/2013 (Ref. Incident Sheet 07/13), from 26/1/2013 to 29/1/2013 (Ref. Incident Sheet 08/13), from 10/2/2013 to 12/2/2013 (Ref. INCI000830), from 23/3/2013 to 24/3/2013 (Ref. INCI001095), on 3 occasions between 20/10/13 and 23/10/13 (Ref. INCI002614) and from 27/12/13 to 21/1/14 (Ref. INCI003318).

The leachate level in Area 1 – L5 exceeded the 1m threshold in 2013 from 27/12/13 to 2/1/14 (Ref. INCI003318).

Ref. Scotch Corner Landfill January to March 2013 Leachate Monitoring Report.
Scotch Corner Landfill April to June 2013 Leachate Monitoring Report.
Scotch Corner Landfill July to September 2013 Leachate Monitoring Report.
Scotch Corner Landfill October to December 2013 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.

However a significant improvement in water quality at S7 is noted since June 2012 as a result of the blocking of New G1 discharge on 23/5/2012 with the average ammonia level of 8.1mg/l in January to June 2012 decreasing to 3.4mg/l in July to December 2012 and increasing again to 6.5mg/l in January to March 2013 and decreasing again to 3.5mg/l in April to June 2013 and decreasing again to 2.5mg/l in July to September 2013 but increasing to 12.90mg/l in October to December 2013. The average ammonia reading in 2013 was 6.86mg/l compared to 5.73mg/l in 2012.

S8 is the surface water sampling point upstream of the landfill and is typical of background surface water quality. Oil Interceptor S9, discharging to the leachate lagoon shows elevated ammonia levels but mineral oil analysis remains below the trigger level.

Ref. Scotch Corner Landfill January to March 2013 Surface Water Monitoring Report.
Scotch Corner Landfill April to June 2013 Surface Water Monitoring Report.
Scotch Corner Landfill July to September 2013 Surface Water Monitoring Report.
Scotch Corner Landfill October to December 2013 Surface Water 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 2013.

3.7.7 Topographical Survey

This survey completed by QED Engineering in December 2013.

3.7.8 Biological Assessment

This survey was completed by Conservation Services in June 2013 and indicated that water quality remained the same as 2009, 2010, 2011 and 2012 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 2012 to seriously polluted (Q2) and improved slightly in June 2013 and is now classified as moderately polluted (Q2-3) in 2013.

3.7.9 Archaeological Assessment

No archaeological assessment was carried out at the facility in 2013.

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.

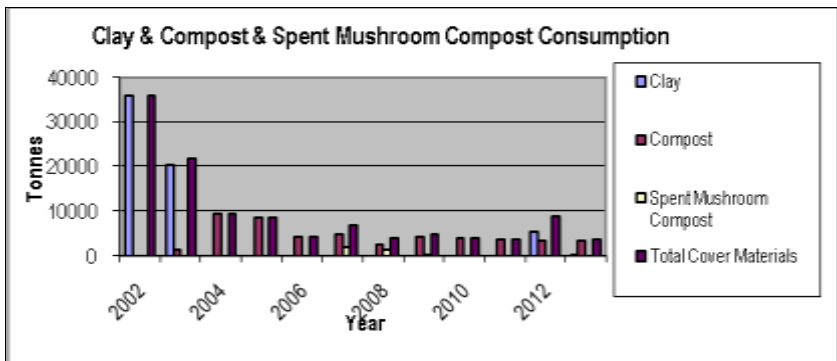
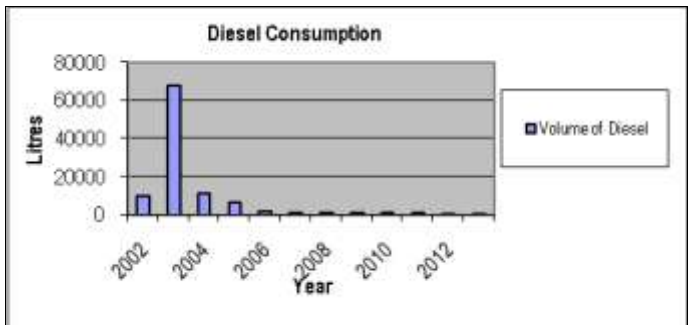
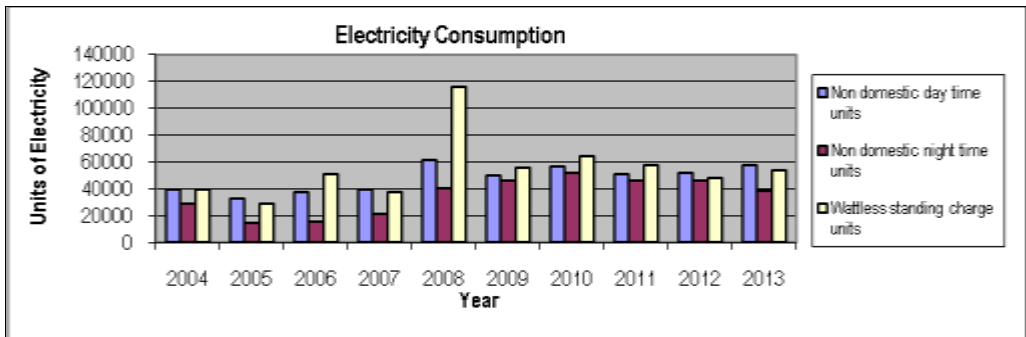
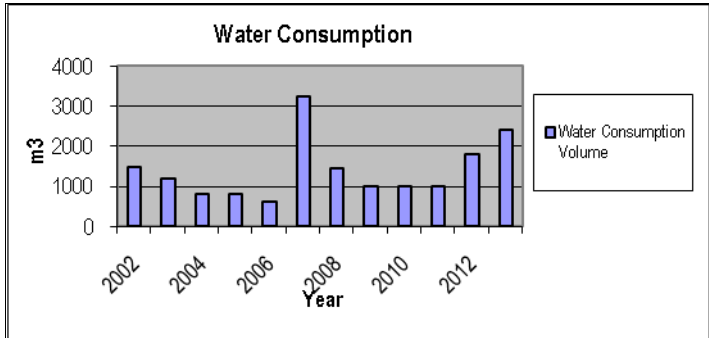
Ref. "SOP 11 Site Inspection Procedure in Environmental Management System at Scotch Corner Landfill

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	2,409m3
Electricity	Non-domestic day time units 57,864 Non-domestic night time units 37,980 Wattless standing charge units 53,364
Diesel	~500L
Stones/Gravel	1,028.7 tonnes
C&D	1355.12 tonnes
Compost	3,451.5 tonnes
Imported Soil	268.74 tonnes
Spent Mushroom Compost	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)

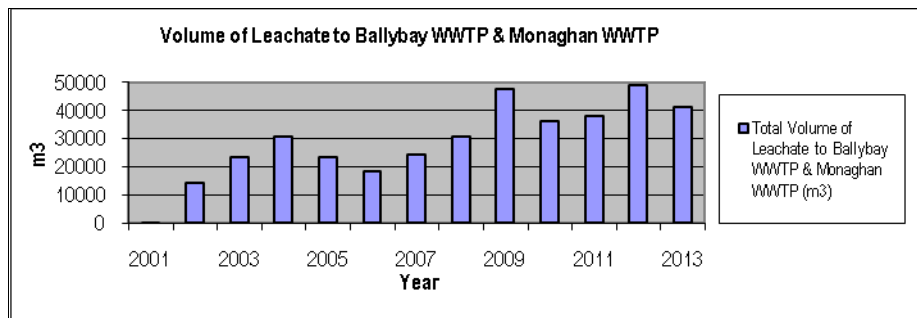
The following are the proposed development works for the year 2014/2015 subject to approval from the Agency, planning permission and/or funding from the Department of the Environment as appropriate:

- Gas infrastructure in Cell 5b.
- Final and Temporary Capping of Phase 3.
- EIS for construction of wetlands for leachate treatment on old landfill and current facility.
- Construction of wetlands for leachate treatment on old landfill and current facility
- Installation of CHP plant.

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

Table 9: Disposal of Leachate from 07/12/01 – 31/12/13

Year	Total Volume to Monaghan WWTP
07/12/01 – 31/12/01	81.97 m ³
2002	14,484.68 m ³
2003	23,411.11 m ³
2004	30,841.64 m ³
2005	23,490.46 m ³
2006	18,344.17 m ³
2007	24,313.93 m ³
2008	30,631.02 m ³
2009	47,498.06 m ³
2010	36,149.02 m ³
2011	38,020.37 m ³
2012	49,124.87 m ³
2013	41,243.31 m ³



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 01/01/13 to 31/12/13:

- Installation of horizontal gas infrastructure in Cell 5b.
- Connection of vertical gas extraction well GE62 – GE65 to gas collection system and flare.
- Remedial works to gas wells in temporary capped area in Phase 2 & Phase 3.

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 2013.

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 December 2013.

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

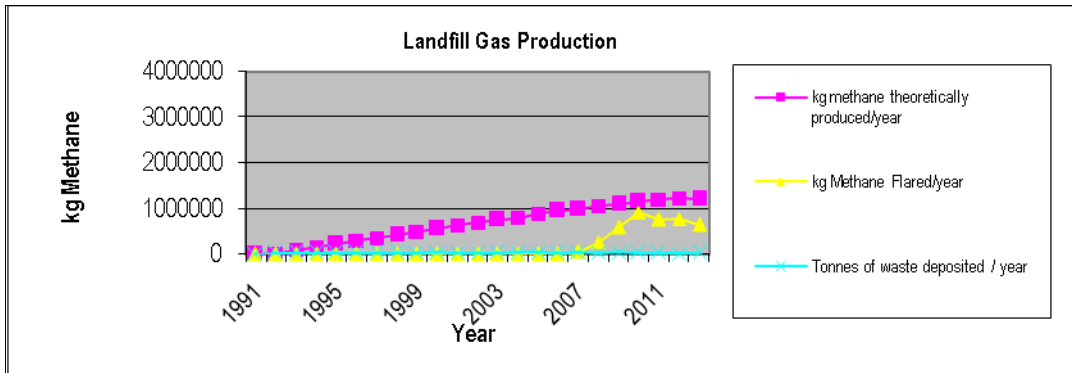
The volume of landfill gas has been estimated as 200m³ of gas per tonne of waste over its life in the Waste Licence Application. This figure assumes that the waste comprises of a 50/50 mix of slowly decomposable and rapidly decomposable material. The rapidly decomposable material is assumed to generate 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 3.623 x 10⁶ m³ of landfill gas (assumed 50% methane by volume) was theoretically produced in 2013 by waste deposited at Scotch Corner. This is equivalent to 1,209,000kg Methane in 2013. The figure below for waste deposition excludes 9,021T of repatriated waste from Northern Ireland and 1,988T of incinerator bottom ash which is classified by the Agency as 0% BMW.

Landfill gas extracted and flared from Area 1, Area 2, Phase 2 and Phase 3 in 2013 was calculated to be 978,452m³ CH₄ which is equivalent to 651,322kg.

The follows summaries landfill gas production since the site opened in 1991 using the Landgem Program and EPA Landfill Survey Data for 2008, 2009, 2011, 2012 and 2013:

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
2012	14,320	1,219,000	780,475
2013	21,444	1,209,000	651,322



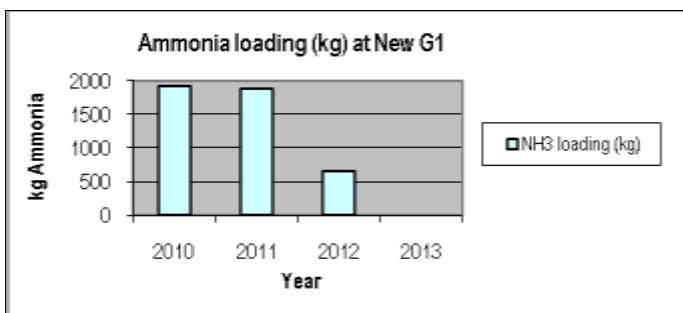
3.15 Estimated annual and cumulative quantities of indirect emissions to groundwater

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 46,610m³ 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 58,840m³ 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. Before the ceasing of the discharge at New G1 19/6/2012 17,975m³ discharged to surface water with an average ammonia concentration of 37mg/L. This equates to reduced ammonia loading of approx. 665kg of ammonia to this surface water body in 2012. There was no discharge from New G1 to surface water in 2013.

Date	Volumetric Loading (m ³)	Average NH ₃ (mg/l)	NH ₃ loading (kg)
2010	46610	41	1911
2011	58840	32	1882
2012	17975	37	665
2013	0	n/a	0



See also 3.7.3 Groundwater Monitoring.

3.16 Annual water balance calculation and interpretation

The calculation for annual water balance is as follows:

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

Where

- Lo = leachate produced (m³)
- ER = effective rainfall (use actual rainfall (R) for active cells)(m)
- A = area of cell (m²)
- LW = liquid waste (also includes excess water from sludges) (m³)
- IRCA = infiltration through restored and capped areas (m)
- 1 = surface area of lagoons (m²)
- a = absorptive capacity of waste (m³/t)
- W = weight of waste deposited (t/a)

ER = 1.0686m (Total rainfall for 2013 from Met Eireann Data)

A = 17,700m² (~Area of unlined cell 1 & Area of unlined cell behind MRF)
 + 7,800m² (~Area of Cell 1)
 + 20,000m² (~Area of Cell 2 & 3)
 + 8,100m² (~Area of Cell 5a)
 + 4,500m² (~Area of Cell 4a)
 + 4,500m² (~Area of Cell 4b)
 + 4,000m² (~Area of Cell 4c)
 + 5,100m² (~Area of Cell 5b)

LW = 0m³

IRCA = 30% of ER x Area of capped cells
 = (30% of 1.0686) x (7800m² + 17700m² + 14240m² + 8048m²)
 = 0.3206m x 47788 m² = 15321m³

1 = 350m² (~ area of new leachate lagoon)

a = 0.025m³/t

W = 32454 (total weight deposited in landfill in 2013)

ER(A) = 1.0686m x (20000m² + 8100m² + 4500m² + 4500m² + 4000m² - 14240m² - 8048m²) +
 0.9696 x 5100m²
 = (1.0686m x 18812m²) + (0.9696m x 5100m²)
 = 25048m³

Lo = [ER(A) + LW + IRCA + ER(1)] - [aW]
 = 25048m³ + 0m³ + 15321m³ + (1.0686 x 350m²) - [0.025m³/t x 32454t]
 = [25048m³ + 0m³ + 15321m³ + 374m³] - 811m³
 = 39932m³

Theoretical volume of leachate produced in 2013 = 39932m³.

Actual volume of leachate tankered off site to Monaghan WWTP = 41243m³.

The figure of 41,243m³ of leachate tankered to Monaghan WWTP also includes approximately 8,041m³ of contaminated water from the old landfill (old G1), approximately 5000m³ from S9 (which has been discharging to the leachate lagoon since 20/4/2010) and condensate from the gas collection system (estimated at ~250m³ for 2013). Therefore the actual volume of leachate produced and tankered off site in 2013 was ~28,000m³.

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 17,700m² 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 via 5 knockout pots on site is estimated with the exception of KOP1 which has a flow meter installed. KOP1 discharged 1.71 m³ of condensate to the leachate lagoon in 2013.
- 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 2011 AER was achieved in 2012:

- Implementation of EMS.
- Environmental Liabilities Risk Assessment (ELRA) was carried out in May 2012
- Submission of Scotch Corner Landfill 1st January 2011 – 31st December 2011 Annual Environmental Report in May 2013.
- Provision of Staff training as per training plans in 2013.
- Temporary capping of Cell 4b & 4c using soil.
- Installation of horizontal gas collection pipework for the active collection & flaring of landfill gas from Cell 5b and connection to flare.
- 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 2013

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.	December 2014
Implement new requirements of W002-02	Carry out a Risk Screening and where necessary a technical assessment in accordance with the "Guidance on the Authorisation of Discharges to Groundwater" published by the EPA	December 2014
Prepare AER	Submit Annual Environmental Report 2014 to the Agency	By 31 st March 2014
Provision of Training	Provide training as per training plans for 2014.	December 2014
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	Intermediate capping of Cell 5b & Cell 4a/b/c	December 2014
	Installation of vertical gas extraction boreholes and horizontal gas collection pipework for the active collection & flaring of landfill gas from Cell 5b.	December 2014 or until cell is full.
	Final Capping of Cells 4 and Cell 5	December 2015
	Further remediation of Old Landfill if required by Agency.	December 2015
	Carry out an EIS for Integrated Constructed Wetlands.	December 2014
	Obtain Planning Permission and EPA approval for Integrated Constructed Wetlands if EIS process is successful.	December 2015
	Construction of Integrated Constructed Wetlands (pending Planning Permission and EPA approval).	
Provision of Restoration & Aftercare	On-going implementation of Restoration and Aftercare Plan.	December 2014
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 2014

3.19 Updates to Landfill Environmental Management Plan (LEMP)

Landfill Environmental Management Plan (LEMP) will be completed by 30th December 2014 and submitted to the Agency for approval.

3.20 Review of Environmental Liabilities

An Environmental Liabilities Risk Assessment was completed by Fehily, Timoney & Company Ltd. in May 2012 and was submitted to the Agency for approval as required by Waste Licence W20-02 Condition 12.3 Environmental Liabilities. Monaghan County Council awaits Agency approval of this document.

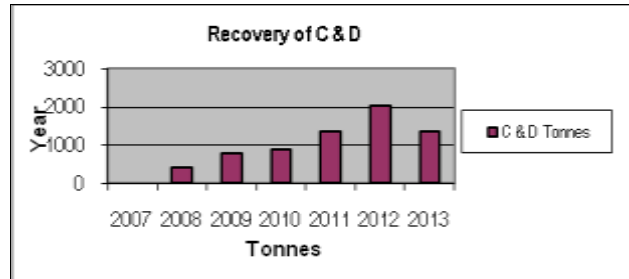
3.21 Report on Waste Recovery

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 2013 Scotch Corner Landfill reused 1355.12tonnes of C & D waste collected from various hauliers and sources 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
2012	2014.45
2013	1355.12



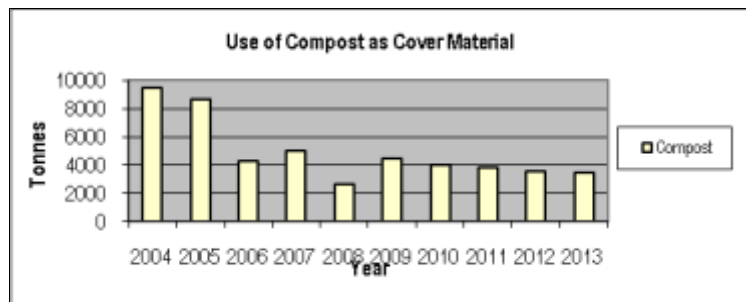
3.21.2 The recovery of energy from other waste at Scotch Corner MRF, by incineration

In 2013 Scotch Corner MRF sent 1715.0T of Commercial mixed residual waste (EWC Code 20 03 01) and 4288.4T of Household mixed residual waste (EWC Code 20 03 01) to Indaver’s incinerator at Duleek, Co. Meath for energy recovery.

3.21.3 The recovery of other waste in landfill operation, including restoration

In 2013 Scotch Corner Landfill used 3295.48tonnes of compost from NWP and 156.02T of compost from Milltown Composting 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
2012	3514.66
2013	3451.5



In addition Scotch Corner landfill used on site clay and peat as intermediate cover material as well as 268.74T of soil recovered from various hauliers and sources.

3.21.4 The recovery of energy through landfill gas combustion

There is no recovery of energy through landfill gas combustion on site at present. However, while a planning application for the installation of a CHP plant at Scotch Corner landfill was granted by Monaghan County Council and Agency approval received, this proposal is under review by Monaghan County Council’s new Chief Executive.

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 2013.

The following procedure was revised in 2013 to comply with the requirements of EPA correspondence Ref. RI000376.

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.04
Issue Date: 29/05/02, Revised 18/10/04, 22/11/11, 26/3/2013 & 8/4/2013
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 (mixed municipal waste); Waste handling (incinerator bottom ash); Waste Covering; Waste Characterisation; Biodegradable Municipal Waste Content Determination

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

No tank, pipeline and bund testing were carried out in 2013.

3.24 Reported Incidents and Complaints Summaries

3.24.1 Incidents

Incident 01/13, 07/13, 8/13, INCI000830, INCI001095, INCI002614, INCI003318 records an exceedance in the waste license W0020-02 trigger levels for leachate in Phase 3 at Scotch Corner Landfill.

Incident INCI003318 records an exceedance in the waste license W0020-02 trigger levels for leachate in Area 1 – L5 at Scotch Corner Landfill.

Incident No. 02/13, 03/13, 09/13, INCI000843, INCI001442, INCI001450, INCI001625, INCI002015, INCI002193, INCI002458, INCI002459, INCI002849, INCI003057, INCI003133, INCI003247 and 38/12 record shutdowns of the landfill gas flare.

Incident 04/13 records exceedance of MAC (Salmonid Regulations for surface water and Drinking Water Regulations for groundwater) for ammonia Ref. July to December 2012 Groundwater and Surface Water monitoring at Scotch Corner Landfill.

Incident 05/13 and INCI003945 record exceedances of the trigger level for Dust Ref. at Scotch Corner Landfill Dust Monitoring Report 2012 and Scotch Corner Landfill Dust Monitoring Report 2013.

Incident 25/12 records exceedance of MAC (Salmonid Regulations for surface water and Drinking Water Regulations for groundwater) for ammonia, copper, fluoride, sulphate, chromium, iron, manganese and lead Ref. Groundwater and Surface Water monitoring at Scotch Corner Landfill.

Incident No. 06/13, INCI001040, INCI001438, INCI001826, INCI001827, INCI001844, INCI002223, INCI003557, INCI003558 and INCI003606 record deliveries of diesel washings to Scotch Corner landfill.

INCI002237, INCI002457 records exceedance of the ELV of Landfill Gas in perimeter groundwater monitoring borehole S3.

INCI002264, INCI002337, INCI003630 and INCI003741 records exceedance of MAC (Salmonid Regulations for Surface Water 1988) during January to March 2013 Surface Water monitoring at Scotch Corner Landfill, April to June 2013 Surface Water monitoring at Scotch Corner Landfill, July to September 2013 Surface Water monitoring at Scotch Corner Landfill and October to December 2013 Surface Water monitoring at Scotch Corner Landfill.

INCI002275, INCI002464, INCI003629 and INCI003745 records exceedance of MAC (Drinking Water Regulations 2000) during January to March 2013 Groundwater monitoring at Scotch Corner Landfill, April to June 2013 Groundwater monitoring at Scotch Corner Landfill, July to September 2013 Groundwater monitoring at Scotch Corner Landfill and October to December 2013 Groundwater monitoring at Scotch Corner Landfill.

3.24.2 Complaints

There were No complaints received in 2013.

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 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 2013 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 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 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 2013. 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 and or clay, 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 2013, Monaghan County Council paid €24,758 to the Agency in Wexford for Waste Licence monitoring for this reporting period.

The operating cost of the landfill was €977,519.93 for 2013. This included a loan repayment of €254,120.70 and €50,000 that was transferred to capital.

Income from the deposition of waste at Scotch Corner was €1,212,065 for 2013.

Monaghan County Council completed and submitted the workbook as required by the Agency to comply with the reporting obligations under Section 53A of the Waste management Act, 1996 (as amended) on 25th June 2013.

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, Part-time Weighbridge Operative, Landfill Operative and subcontracted Machine Operatives for this reporting period.

The management and staffing structure at Scotch Corner Recycling Centre at the end of 2013 was employed by McElvaney Waste and Recycling and consisted of Director, General Manager, 2 Operations Managers, 1 Transport manager, 1 Environmental and Quality Manager, 5 Civic Amenity Attendants, 2 Office staff, 2 sales reps and 18 Drivers.

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:

01/13 "Hazardous Chemical and Spillage Control" by SMT consultants Ltd.

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 achieved their waste acceptance and treatment obligation of less than 55% BMW in the first 2 quarters but did not achieved their waste acceptance and treatment obligation of less than 40% BMW in the last quarter of 2013:

Date	% BMW	% BMW (Target)
January – March 2013	47.24%	55%
April – June 2013	42.64%	55%
July – September 2013	41.05%	40%
October – December 2013	46.21%	40%

The cumulative BMW for 2013 was 44.17%

3.30 Any Other Items Specified by the Agency.

3.30.1 AER / PRTR Electronic Reporting Workbook 2013

A copy of the 2013 AER / PRTR Electronic Reporting Workbook is contained in Appendix 1.

3.29.2 EPA Landfill Gas Survey 2013

A copy of the Scotch Corner Landfill EPA Landfill Gas Survey 2012 is contained in Appendix 2.

3.29.3 Biodegradable Municipal Waste Reporting 2013

A copy of the Scotch Corner Landfill EPA Biodegradable Municipal Waste Reporting Landfill Submission Reports for 2013 is contained in Appendix 3.

Report Prepared By: <hr/> Irene Williamson <i>Landfill Manager</i>	Report Approved By: <hr/> Declan McKernan <i>Senior Executive Engineer</i>	Date: <hr/>
--	--	-----------------------

APPENDIX 1

AER / PRTR Electronic Reporting Workbook for 2013



Environmental Protection Agency

| PRTR# : W0020 | Facility Name : Scotch Corner Landfill | Filename : PRTR W0020_2013 completed 21 May 2014.xls | Return Year : 2013 |

Guidance to completing the PRTR workbook**AER Returns Workbook**

Version 1.1.18

REFERENCE YEAR	2013
-----------------------	------

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

AER Returns Contact Name	Irene Williamson
AER Returns Contact Email Address	iwilliam@monaghancoco.ie
AER Returns Contact Position	Landfill Manager
AER Returns Contact Telephone Number	04780930
AER Returns Contact Mobile Phone Number	0876991844
AER Returns Contact Fax Number	04780930
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	4
User Feedback/Comments	Variance of +50% increase in carbon dioxide emissions in 2013 when compared to 2012 is due a decrease in landfill gas extraction from the gas field from 2,436363m ³ (at 44.5% CH ₄ & 32.8% CO ₂) in 2012 to 1,919,546m ³ (at 44.3% CH ₄ & 33.1% CO ₂) in 2013. Variance of -50% decrease in SO _x emissions in 2013 when compared to 2012 is due a decrease in landfill gas extraction from the gas field from 2,436363m ³ (at 109.6mg/m ³ SO _x) in 2012 to 1,919,546m ³ (at 28.0mg/m ³ SO _x) in 2013.
Web Address	

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?	
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. WASTE IMPORTED/ACCEPTED ONTO SITE

[Guidance on waste imported/accepted onto site](#)

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	
--	--

APPENDIX A

SECTION A - REMAINING POTENTIAL POLLUTANT EMISSIONS

4.1 RELEASES TO AIR

SECTION B - REMAINING POTENTIAL POLLUTANT EMISSIONS

No. Address (1)		RELEASER TO AIR		RELEASER TO AIR		RELEASER TO AIR		RELEASER TO AIR	
POLLUTANT	POLLUTANT	METHOD	MODE	METHOD	MODE	METHOD	MODE	METHOD	MODE
Benzen (CH)	Benzen (CH)	Calculated using "Benzen"	C	Calculated using "Benzen"	C	Calculated using "Benzen"	C	Calculated using "Benzen"	C
Chloro-benz (C2)	Chloro-benz (C2)	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C
Ethyl-benz (C2)	Ethyl-benz (C2)	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C
Methane (CH)	Methane (CH)	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C
Total	Total	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C
		T. Total (K2/Year)		T. Total (K2/Year)		T. Total (K2/Year)		T. Total (K2/Year)	
		0.0		0.0		0.0		0.0	

* Based on the Air Pollution Modeling on the Pollutant Name Column B. See also the table below.

No. Address (1)		RELEASER TO AIR		RELEASER TO AIR		RELEASER TO AIR		RELEASER TO AIR	
POLLUTANT	POLLUTANT	METHOD	MODE	METHOD	MODE	METHOD	MODE	METHOD	MODE
Benzen (CH)	Benzen (CH)	Calculated using "Benzen"	C	Calculated using "Benzen"	C	Calculated using "Benzen"	C	Calculated using "Benzen"	C
Chloro-benz (C2)	Chloro-benz (C2)	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C
Ethyl-benz (C2)	Ethyl-benz (C2)	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C
Methane (CH)	Methane (CH)	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C
Total	Total	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C
		T. Total (K2/Year)		T. Total (K2/Year)		T. Total (K2/Year)		T. Total (K2/Year)	
		0.0		0.0		0.0		0.0	

* Based on the Air Pollution Modeling on the Pollutant Name Column B. See also the table below.

No. Address (1)		RELEASER TO AIR		RELEASER TO AIR		RELEASER TO AIR		RELEASER TO AIR	
POLLUTANT	POLLUTANT	METHOD	MODE	METHOD	MODE	METHOD	MODE	METHOD	MODE
Benzen (CH)	Benzen (CH)	Calculated using "Benzen"	C	Calculated using "Benzen"	C	Calculated using "Benzen"	C	Calculated using "Benzen"	C
Chloro-benz (C2)	Chloro-benz (C2)	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C
Ethyl-benz (C2)	Ethyl-benz (C2)	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C
Methane (CH)	Methane (CH)	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C
Total	Total	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C
		T. Total (K2/Year)		T. Total (K2/Year)		T. Total (K2/Year)		T. Total (K2/Year)	
		0.0		0.0		0.0		0.0	

* Based on the Air Pollution Modeling on the Pollutant Name Column B. See also the table below.

No. Address (1)		RELEASER TO AIR		RELEASER TO AIR		RELEASER TO AIR		RELEASER TO AIR	
POLLUTANT	POLLUTANT	METHOD	MODE	METHOD	MODE	METHOD	MODE	METHOD	MODE
Benzen (CH)	Benzen (CH)	Calculated using "Benzen"	C	Calculated using "Benzen"	C	Calculated using "Benzen"	C	Calculated using "Benzen"	C
Chloro-benz (C2)	Chloro-benz (C2)	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C
Ethyl-benz (C2)	Ethyl-benz (C2)	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C
Methane (CH)	Methane (CH)	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C
Total	Total	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C	Calculated using "Benzene"	C
		T. Total (K2/Year)		T. Total (K2/Year)		T. Total (K2/Year)		T. Total (K2/Year)	
		0.0		0.0		0.0		0.0	

* Based on the Air Pollution Modeling on the Pollutant Name Column B. See also the table below.

Additional Data Requested from Landfill operations

Method Code	Method Name or Description	Quantity of Methane (kg/Year)	
		Total	Per Tonne
C	Calculated using "Landfill"	1000.0	0.0
M	Calculated using "Landfill"	0.0	0.0
C	Calculated using "Landfill"	0.0	0.0
T. Total (kg/Year)		1000.0	0.0

Net methane emissions per reported tonne of waste (kg/tonne) = Total (kg/Year) / Total Tonnage (Tonnage)

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

Total submitted methane generation (as per the model)

Methane flared

Methane utilized in projects

Net methane emissions per reported tonne of waste (kg/tonne)

Method Code

Method Name or Description

Quantity of Methane (kg/Year)

Quantity of Methane (kg/Year)

Quantity of Methane (kg/Year)

Quantity of Methane (kg/Year)

Quantity of Methane (kg/Year)

4.1 RELEASES TO AIR [Link to previous years emissions data](#)

(PRTR99 : W0020) Facility Name : Scotch Corner Landfill | Filename : PRTR W0020_2013 completed 21 May 2014.xls | Return Year : 2013 | 20/03/2014 08:18

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

POLLUTANT		METHODOLOGY		QUANTITY		
No. Annex I	Name	M/C/E	Method Code	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
01	Methane (CH4)	C	OTH	557878.0	0.0	557878.0
05	Carbon dioxide (CO2)	E	OTH	3183338.0	0.0	3183338.0
02	Carbon monoxide (CO)	M	OTH	4.3	0.0	0.0
03	Nitrogen oxides (NOx/NO2)	M	OTH	135.3	0.0	0.0
11	Sulphur oxides (SOx/SO2)	M	OTH	53.7	0.0	0.0

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

SECTION B : REMAINING PRTR POLLUTANTS

POLLUTANT		METHODOLOGY		QUANTITY		
No. Annex I	Name	M/C/E	Method Code	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
				0.0	0.0	0.0

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

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

POLLUTANT		METHODOLOGY		QUANTITY		
Pollutant No.	Name	M/C/E	Method Code	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
				0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the empty 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 utilized on their facilities to accompany the figures for total methane generated. Operators should only report their net methane (C/M) emissions to the environment under 'Total Net' for Section A. Sector specific PRTR pollutants above. Please complete the table below:

Landfill: Scotch Corner Landfill

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

M/C/E	Method Code	Method Used Designation or Description	Facility Total Capacity m3 per hour
C	OTH	120000.0	N/A
M	OTH	65132.0	1000.0 (Total Flaring Capacity)
		0.0	0.0 (Total Utilising Capacity)
C	OTH	557878.0	N/A

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

4.2 RELEASES TO WATERS

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASERS TO WATERS

DATA ON AMBIENT MONITORING OF ATMOSPHERIC WATER OR GROUNDWATER, CONDUCTED AS PART OF YOUR SOURCE REQUIREMENTS, SHOULD NOT BE SUBMITTED UNDER AER / PRTR REPORTING AS THIS ON PLEASE ENTER ALL QUANTITIES IN THIS SECTION IN KG'S

POLLUTANT	MWC/E	Method Code	Method Used Description of Description	Emission Point 1	QUANTITY	
					T (Total) KG/Year	A (Accidental) KG/Year F (Fugitive) KG/Year
No. Ammonia II					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 WATERS

PLEASE ENTER ALL QUANTITIES IN THIS SECTION IN KG'S

POLLUTANT	MWC/E	Method Code	Method Used Description of Description	Emission Point 1	QUANTITY	
					T (Total) KG/Year	A (Accidental) KG/Year F (Fugitive) KG/Year
No. Ammonia II					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 WATERS

PLEASE ENTER ALL QUANTITIES IN THIS SECTION IN KG'S

POLLUTANT	MWC/E	Method Code	Method Used Description of Description	Emission Point 1	QUANTITY	
					T (Total) KG/Year	A (Accidental) KG/Year F (Fugitive) KG/Year
Fluoranthene					0.0	0.0

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

Link to previous years emissions data

Link to previous years emissions data

4.3 RELEASES TO WASTEWATER OR SEWER

SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER						
No. Annex II	Pollutant Name	METHOD		QUANTITY		
		M/C/E	Method Used (Designation or Description)	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
				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						
Pollutant No.	Pollutant Name	METHOD		QUANTITY		
		M/C/E	Method Used (Designation or Description)	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
				0.0	0.0	0.0

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

Link to previous years emissions data | PRTR# : W0020 | Facility Name : Scotch Corner Landfill | Filename : PRTR W0020_2013 completed 21 May 2014.xls | Return Year : 2013 | 23/05/2014 09:57

4.4 RELEASES TO LAND

SECTION A : PRTR POLLUTANTS

RELEASES TO LAND		METHOD		QUANTITY	
POLLUTANT	M/C/E	Method Used	T (Total) KG/Year	A (Accidental) KG/Year	
No. Annex II		Method Used (Description of Disposition)	0.0	0.0	0.0

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

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

RELEASES TO LAND		METHOD		QUANTITY	
POLLUTANT	M/C/E	Method Used	T (Total) KG/Year	A (Accidental) KG/Year	
Pollutant No.		Method Used (Description of Disposition)	0.0	0.0	0.0

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

23050914 0039

8. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	EU Waste Name and Licence/No. of Year 2000 Dest. Facility Dest. Waste Name and Licence/No. of Recipient/Offsite	Site Name - Address of Next Destination Facility Dest. Waste Address of Recipient/Offsite	Name and Licence / Permit No. and Address of Final Recipient / Offsite (INDIVIDUAL WASTE ONLY)	Actual Address of Final Destination (Individual Waste ONLY)
						IMCE	Method Used					
Within the Country	19 02 08	Yes	1.32	Engines oil	R9	M	Weighted	Offsite in Ireland	Enva Ireland Ltd, WD-184-02	Portlaoise, Co. Laois, Ireland	Portlaoise, Co. Laois, Ireland	
To Other Countries	15 01 01	No	1852.2	Cardboard	R12	M	Weighted	Abroad	Rish Packaging Recycling, WPR 021-2	Ballymount Road, Dublin 12, Ireland	Ballymount Road, Dublin 12, Ireland	
Within the Country	19 01 02	No	44.98	Plastic bottles	R3	M	Weighted	Offsite in Ireland	Shelbra Recycling Ltd, WFP-MK-08-0022-01	Kilcoed Industrial Estate, Bree, Castlebar, Co. Monaghan, Ireland	Shelbra, Co. Monaghan, Ireland	
Within the Country	19 01 02	No	151.42	Plastic Packaging (film)	R3	M	Weighted	Offsite in Ireland	Lansizer Environmental WPR200908	Park, Haggardstown, Dundalk, Co. Louth, Ireland	Park, Haggardstown, Dundalk, Co. Louth, Ireland	
To Other Countries	19 01 04	No	35.14	Metallic packaging	R4	M	Weighted	Abroad	Shengim Recycling, WML 2501	Road, Omagh, Co. Tyrone, Ireland	Road, Omagh, Co. Tyrone, Ireland	
Within the Country	18 01 07	No	169.52	Commercial glass bottles	R5	M	Weighted	Offsite in Ireland	Glaxco Recycling Limited (Rish Recycling), WFP-KE-08-0357-01	Unit 4 Oberstown Business Park, Carragh, Kildare, Ireland	Unit 4 Oberstown Business Park, Carragh, Kildare, Ireland	
Within the Country	19 01 07	No	36.0	Household glass bottles	R5	M	Weighted	Offsite in Ireland	Glaxco Recycling Limited (Rish Recycling), WFP-KE-08-0357-01	Unit 4 Oberstown Business Park, Carragh, Kildare, Ireland	Unit 4 Oberstown Business Park, Carragh, Kildare, Ireland	
Within the Country	19 01 03	No	3.14	Tyres	R3	M	Weighted	Offsite in Ireland	Duffy Tyre Recycling Ltd, WFP-DL-0101-18-01	Templebrook Headmount, Llanelli, Carmarthenshire, Carmarthenshire, Wales	Templebrook Headmount, Llanelli, Carmarthenshire, Carmarthenshire, Wales	
To Other Countries	19 05 04	Yes	0.465	Aerocol Cans	R12	M	Weighted	Abroad	Enva Ireland Ltd, WD-184-02	Portlaoise, Co. Laois, Ireland	Portlaoise, Co. Laois, Ireland	
To Other Countries	16 04 01	Yes	3.2	Lead acid batteries	R12	M	Weighted	Abroad	Wilson Waste Recycling, WFP-CH-10-0055-01	Kilfin, Ballymestuff, Co. Carrigrohane, Ireland	Kilfin, Ballymestuff, Co. Carrigrohane, Ireland	
Within the Country	19 06 02	Yes	2.509	Household batteries	R12	M	Weighted	Offsite in Ireland	ERP Ireland Compliance Scheme			
Within the Country	17 02 03	No	38.896	Hard Plastic (Packaging)	R3	M	Weighted	Offsite in Ireland	Lansizer Environmental WPR200908	Park, Haggardstown, Dundalk, Co. Louth, Ireland	Park, Haggardstown, Dundalk, Co. Louth, Ireland	
Within the Country	17 08 02	No	15.1	Plasterboard	R5	M	Weighted	Offsite in Ireland	Envyro Grind Ltd, WFP-DL-004-01	Donaghy Road, Donaghy, Co. Donegal, Ireland	Donaghy Road, Donaghy, Co. Donegal, Ireland	
Within the Country	17 09 04	No	182.58	Mixed construction and demolition wastes (not less than 50% of total weight)	R5	M	Weighted	Offsite in Ireland	Waste Services Ltd, 0140-03	Rathfriland, Beauparc, Navan, Co. Meath, Ireland	Rathfriland, Beauparc, Navan, Co. Meath, Ireland	
Within the Country	19 07 03	No	41243.31	In 19 07 02	D6	M	Weighted	Offsite in Ireland	Monaghan Waste Water Treatment Plant, D0051-01	Tilkeeman, Monaghan, Ireland	Tilkeeman, Monaghan, Ireland	
To Other Countries	20 01 01	No	417.76	Mixed paper	R12	M	Weighted	Abroad	Rish Packaging Recycling, WPR 021-2	Ballymount Road, Dublin 12, Ireland	Ballymount Road, Dublin 12, Ireland	
To Other Countries	20 01 01	No	162.07	News and Pems	R12	M	Weighted	Abroad	Teetle Recycling Ltd, WPR 014	Belgard Road, Tallaght, Co. Dublin, Ireland	Belgard Road, Tallaght, Co. Dublin, Ireland	
Within the Country	20 01 10	No	11.26	clothes	R12	M	Weighted	Offsite in Ireland				

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Lic. (MRE) - Name and Designation Facility (Lic. (MRE) - Name and Designation Facility)	Lic. (MRE) - Address of Treatment (Lic. (MRE) - Address of Treatment)	Name and Address of Recipient (Name and Address of Recipient)	Actual Address of Final Destination (or Subsequently Designated Site) (Actual Address of Final Destination (or Subsequently Designated Site))
						MCE	Method Used					
Within the Country	20 01 21	Yes	0.42	Fluorescent Tubes	R4	M	Weighted	Offsite in Ireland	XMK Metals Recycling Ltd. W0113-03	Cappincur Industrial Estate, Carrigan Road, Tulamore, Co. Offaly, Ireland	XMK Metals Recycling Ltd. W0113-03, Cappincur Industrial Estate, Carrigan Road, Tulamore, Co. Offaly, Ireland	Cappincur Industrial Estate, Carrigan Road, Tulamore, Co. Offaly, Ireland
Within the Country	20 01 25	No	0.12	Cooking oil	R9	M	Weighted	Offsite in Ireland	Enna Ireland Ltd. W0113-03	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland
Within the Country	20 01 27	Yes	1.482	Paints	R2	M	Weighted	Offsite in Ireland	Enna Ireland Ltd. W0113-03	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland
Within the Country	20 01 35	Yes	123.03	CRT's	R12	M	Weighted	Offsite in Ireland	Electrol Waste Management, WVF-DS-09-0012-01	Enna Ireland Ltd. W0113-03	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland
To Other Countries	20 01 36	No	12.145	LDA's	R4	M	Weighted	Abroad	European Metal Recycling Ltd. 400414600940110	Midlands, W510 8LW, United Kingdom	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland
To Other Countries	20 01 36	No	13.849	LDA's cold	R4	M	Weighted	Abroad	European Metal Recycling Ltd. 400414600940110	Midlands, W510 8LW, United Kingdom	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland
To Other Countries	20 01 38	No	31.807	SDA's	R4	M	Weighted	Abroad	European Metal Recycling Ltd. 50471913767	Enna Ireland Ltd. W0113-03	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland
Within the Country	20 01 38	No	97.18	Woodchip	R10	M	Weighted	Offsite in Ireland	Local Farmers and School	Enna Ireland Ltd. W0113-03	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland
To Other Countries	20 01 40	No	154.55	Metals	R4	M	Weighted	Abroad	T-Met WML 0013 and LMT104	Enna Ireland Ltd. W0113-03	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland
Within the Country	20 02 01	No	385.0	Biowaste	R3	M	Weighted	Offsite in Ireland	Thomsons Recycling W0113-01	Enna Ireland Ltd. W0113-03	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland
Within the Country	20 02 01	No	243.96	Cardboard waste	R3	M	Weighted	Offsite in Ireland	Enoch Environmental Limited, WFFM10800040	Enna Ireland Ltd. W0113-03	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland
Within the Country	20 03 01	No	1715.0	Mixed residual waste (Commercial)	D10	M	Weighted	Offsite in Ireland	Indyve Ireland Ltd. W0167-02	Enna Ireland Ltd. W0113-03	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland
Within the Country	20 03 01	No	4288.4	Mixed residual waste (Household)	D10	M	Weighted	Offsite in Ireland	Indyve Ireland Ltd. W0167-02	Enna Ireland Ltd. W0113-03	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland
To Other Countries	20 03 01	No	2368.62	Mixed Dry Recyclables	R12	M	Weighted	Abroad	Shergim Recycling WML 25/01	Enna Ireland Ltd. W0113-03	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland
Within the Country	16 01 03	No	7.04	end-of-life tyres	R3	M	Weighted	Offsite in Ireland	Green Leaf Tyre Recycling WFFM-12-0003	Enna Ireland Ltd. W0113-03	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland
To Other Countries	15 01 01	No	28.62	paper and cardboard packaging	R3	M	Weighted	Abroad	Agreat Ltd. TIA ROC Recycling Solutions (N.L.) WMEEX 2380	Enna Ireland Ltd. W0113-03	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland
To Other Countries	20 01 25	No	0.4	etible oil and fat	R9	M	Weighted	Abroad	Fyffe Ltd. LNH1163	Enna Ireland Ltd. W0113-03	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland	Enna Ireland Ltd. W0113-03, Enna, Co. Dubh., Ireland

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Licence/Permit No. of Host Destruction Facility Lic. Waste Name and Licence/Permit No. of Receiver/Operator	Lic. Waste - Address of Host Destruction Facility Lic. Waste - Address of Receiver/Operator	Name and License/ Permit No. and Address of Final Receiver / Disposer (REGULOUS WASTE ONLY)	Actual Address of Final Receiver / Disposer Site (REGULOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	17 02 03	No	34.0	Herd Plastics (Non- Packaging)	R3	M	Weighted	Offsite in Ireland	Leinster Environmental WPT2009/08	Clermont Business Park, Haggardstown, Duncogh, Co. Louth, Ireland		
Within the Country	20 01 38	No	31.1	wood other than that mentioned in 20 01 37	R3	M	Weighted	Offsite in Ireland	Connaught Waste Disposal Ltd, WPP-15-11-0001-01 Nurethane Ltd, T/A Penco Waste Services Ltd, D14D-03	Centre, Lawlessstown, Clonsilla, Co. Tipperary, Ireland		
Within the Country	20 01 38	No	66.82	wood other than that mentioned in 20 01 37	R3	M	Weighted	Offsite in Ireland	John Gannon Concrete Ltd, WPT-WM-2008-0007.	Rathfragh, Beauparc, Navan, Co. Meath, Ireland		
Within the Country	16 01 20	No	11.1	Windscreens glass	R5	M	Weighted	Offsite in Ireland		Kibbegan, Co. Westmeath, Ireland		

* Select a size by double-clicking the Description of Waste then click the words below

Appendix 2

EPA Landfill Gas Survey 2013



A survey of landfill sites to determine the quantity of methane flared and or recovered in utilisation plants for 2013

Please choose from the drop down menu the license number for your site
 Please choose from the drop down menu the name of the landfill site
 Please enter the number of flares operational at your site in 2013
 Please enter the number of engines operational at your site in 2013

W0000
 Scotch Corner Landfill
 1
 0
 651,322 kg/year
 0 kg/year

Total methane flared

Total methane utilised in engines

Please note that the closing date for receipt of completed surveys is 31/03/2014

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

Once completed please send the completed file as an attachment clearly stating the name and or license number of the landfill site (e.g. W0000 Kinsale landfill_2013) to:

LFGProject@epa.ie

to be filled in by licensee calculated by spreadsheet

Flare No. 1														
Flare type ?														
Blogos BC2468														
Enclosed														
March 2005														
Select														
Extraction from capped and uncapped areas														
If "other" enter flare description here														
Rated flare capacity ? 1000 m ³ /hr														
If "other" enter flare function here														
Monthly	Method	Runtime	Runtime	Runtime	Downtime	Total runtime	Average Inlet	Average Flow	Average CH ₄	Average CO ₂	Average O ₂	Combustion	Total CH ₄	Total CH ₄
	M/C/E	days/month	hrs/day	hrs/month	hrs	hrs/month	Pressure (mbg)	Rate (m ³ /hr)	%v/v	%v/v	%v/v	efficiency (%)	m ³	kg
January	MCE	31	24.0	724	19.7	724	-44	283	45.70	33.60	1.50	98.0	91,801	60,631
February	MCE	29	24.0	682	14.5	682	-44	235	46.60	33.50	1.50	98.0	73,138	48,306
March	MCE	31	24.0	744	0.5	744	-40	297	42.80	32.30	1.30	98.0	92,621	61,425
April	MCE	30	24.0	720	0.0	720	-43	299	45.70	32.80	1.60	98.0	67,994	44,557
May	MCE	31	24.0	739	4.6	739	-39	274	42.90	32.30	1.30	98.0	85,175	56,546
June	MCE	30	24.0	715	5.1	715	-43	223	45.40	33.90	1.00	100.0	70,930	46,895
July	MCE	31	24.0	742	21.3	723	-38	233	45.20	34.00	1.00	99.0	74,590	49,569
August	MCE	31	24.0	706	2.3	706	-37	211	47.60	34.20	1.00	99.0	73,004	48,565
September	MCE	30	24.0	741	14.4	706	-33	229	47.60	34.60	1.00	100.0	75,375	50,348
October	MCE	31	24.0	718	7.8	718	-30	264	44.50	33.80	1.00	99.0	85,335	57,175
November	MCE	30	24.0	675	2.4	675	-29	315	42.70	32.90	1.00	99.0	87,383	58,607
December	MCE	31	24.0	686	68.6	675	-22	315	38.90	31.00	1.00	100.0	101,706	68,698
Total				8,628		8,628							978,452	651,322

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

Yearly	Method	Runtime	Runtime	Runtime	Downtime	Total runtime	Average Inlet	Average Flow	Average CH ₄	Average CO ₂	Average O ₂	Combustion	Total CH ₄	Total CH ₄
	M/C/E	days/year	hrs/day	hrs/year	hrs	hrs/year	Pressure (mbg)	Rate m ³ /hr	%v/v	%v/v	%v/v	efficiency (%)	m ³	kg
2013				0		0							0	0

Appendix 3

Biodegradable Municipal Waste Reporting 2013

Biodegradable Municipal Waste Reporting Landfill Submission Report

Waste licence number: W0020-02 Scotch Corner Landfill

Report created on: 10/04/2013 09:47

Submission details

Year: 2013 Quarter: 1

Reporting period: January - March

Reference number: R-W0020-2013-1

Site details

License number: W0020-02

Parent company name: Monaghan County Council

Facility name: Scotch Corner Landfill

Facility address: Letterbane, Annyalla, Castleblaney, Co. Monaghan

Contact details of person who made the return

Contact name: Jim MacEntee Contact position:

Email address: landfill@monaghancoco.ie Telephone number: 047 80930

Mobile number: Fax number:

BMW details

Summary for Q1 2013

Type of MSW	Total Qty MSW	Factor Type	Factor Value	Total Qty BMW	Comment	% BMW
2-bin residual household waste	819.57	EPA Approved factor	0.63	516.33		63.00
3-bin residual household waste	237.19	EPA Approved factor	0.47	111.48		47.00
Untreated 1-bin commercial waste	35.9	EPA Approved factor	0.77	27.64		76.99
3-bin residual commercial waste	171.32	EPA Approved factor	0.68	116.50		68.00
Bulky waste from sorting of MSW skips	157.88	EPA Approved factor	0.50	78.94		50
Oversize residues from MSW skips	1828.98	EPA Approved factor	0.43	699.60		43.00
Oversize residues from MSW bin collections ("wet waste")	733.9	EPA Approved factor	0.41	300.90		41.00
Residues from source separated recyclable waste ("clean MRF")	106.62	EPA Approved factor	0.47	50.11		47.00
Residual MSW from civic amenity facility	59.62	EPA Approved factor	0.63	37.56		63.00
Other	155.56	Site Specific factor	0.00	0.00	zero bmw content	0
	4104.54			1939.06		47.24

Cumulative report for year

Quarter	Type of MSW	Total Qty MSW	Factor Type	Factor Value	Total Qty BMW	Comment	% BMW
Q1	2-bin residual household waste	819.57	EPA Approved factor	0.63	516.33		63.00
Q1	3-bin residual household waste	237.19	EPA Approved factor	0.47	111.48		47.00
Q1	Untreated 1-bin commercial waste	35.90	EPA Approved factor	0.77	27.64		76.99
Q1	3-bin residual commercial waste	171.32	EPA Approved factor	0.68	116.50		68.00
Q1	Bulky waste from sorting of MSW skips	157.88	EPA Approved factor	0.50	78.94		50.00
Q1	Oversize residues from MSW skips	1626.98	EPA Approved factor	0.43	699.60		43.00
Q1	Oversize residues from MSW bin collections ("wet waste")	733.90	EPA Approved factor	0.41	300.90		41.00
Q1	Residues from source separated recyclable waste ("clean MRF")	106.62	EPA Approved factor	0.47	50.11		47.00
Q1	Residual MSW from civic amenity facility	59.62	EPA Approved factor	0.63	37.56		63.00
Q1	Other	155.56	Site Specific factor	0.00	0.00	zero bmw content	0.00
		4104.54			1939.06		47.24

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

Biodegradable Municipal Waste Reporting Landfill Submission Report

Waste licence number: W0020-02 Scotch Corner Landfill
Report created on: 26/08/2013 17:17

Submission details

Year: 2013 Quarter: 2
Reporting period: April - June
Reference number: R-W0020-2013-2

Site details

License number: W0020-02
Parent company name: Monaghan County Council
Facility name: Scotch Corner Landfill
Facility address: Letterbane, Annyalla, Castleblaney, Co. Monaghan

Contact details of person who made the return

Contact name: Mark T. Johnston Contact position:
Email address: mjohnston2@monaghancoco.ie Telephone number: 047 30500
Mobile number: Fax number:

BMW details

Summary for Q2 2013

Type of MSW	Total Qty MSW	Factor Type	Factor Value	Total Qty BMW	Comment	% BMW
2-bin residual household waste	868.8	EPA Approved factor	0.63	547.34		63.00
3-bin residual household waste	7.89	EPA Approved factor	0.47	3.71		47.02
2-bin residual commercial waste	232.97	EPA Approved factor	0.75	174.73		75.00
3-bin residual commercial waste	138.96	EPA Approved factor	0.68	94.51		68.00
Bulky waste from sorting of MSW skips	183.68	EPA Approved factor	0.50	91.84		50
Oversize residues from MSW skips	1672.4	EPA Approved factor	0.43	805.13		43.00
Oversize residues from MSW bin collections ("wet waste")	1009.86	EPA Approved factor	0.41	413.96		41.00
Residues from source separated recyclable waste ("clean MRF")	98.42	EPA Approved factor	0.47	46.26		47.00
Residual MSW from civic amenity facility	56.56	EPA Approved factor	0.63	35.65		63.01
Ash residue from MSW incineration	574.44	EPA Approved factor	0.00	0.00		0
Other	150.8	Site Specific factor	0.00	0.00	zero bmw content	0
Other	10.88	Site Specific factor	1.00	10.88	contaminated tree cuttings	100

5215.50		2224.01	42.64
---------	--	---------	-------

Cumulative report for year

Quarter	Type of MSW	Total Qty MSW	Factor Type	Factor Value	Total Qty BMW	Comment	% BMW
Q1	2-bin residual household waste	819.57	EPA Approved factor	0.63	516.33		63.00
Q1	3-bin residual household waste	237.19	EPA Approved factor	0.47	111.48		47.00
Q1	Untreated 1-bin commercial waste	35.90	EPA Approved factor	0.77	27.64		76.99
Q1	3-bin residual commercial waste	171.32	EPA Approved factor	0.68	116.50		68.00
Q1	Bulky waste from sorting of MSW skips	157.88	EPA Approved factor	0.50	78.94		50.00
Q1	Oversize residues from MSW skips	1626.98	EPA Approved factor	0.43	699.60		43.00
Q1	Oversize residues from MSW bin collections ("wet waste")	733.90	EPA Approved factor	0.41	300.80		41.00
Q1	Residues from source separated recyclable waste ("clean MRF")	106.62	EPA Approved factor	0.47	50.11		47.00
Q1	Residual MSW from civic amenity facility	58.62	EPA Approved factor	0.63	37.56		63.00
Q1	Other	155.56	Site Specific factor	0.00	0.00	zero bmw content	0.00
Q2	2-bin residual household waste	868.80	EPA Approved factor	0.63	547.34		63.00
Q2	3-bin residual household waste	7.89	EPA Approved factor	0.47	3.71		47.02
Q2	2-bin residual commercial waste	232.97	EPA Approved factor	0.75	174.73		75.00
Q2	3-bin residual commercial waste	138.98	EPA Approved factor	0.68	94.51		68.00
Q2	Bulky waste from sorting of MSW skips	183.68	EPA Approved factor	0.50	91.84		50.00
Q2	Oversize residues from MSW skips	1872.40	EPA Approved factor	0.43	805.13		43.00
Q2	Oversize residues from MSW bin collections ("wet waste")	1009.66	EPA Approved factor	0.41	413.96		41.00
Q2	Residues from source separated recyclable waste ("clean MRF")	98.42	EPA Approved factor	0.47	46.26		47.00
Q2	Residual MSW from civic amenity facility	55.58	EPA Approved factor	0.63	35.65		63.01
Q2	Ash residue from MSW incineration	574.44	EPA Approved factor	0.00	0.00		0.00
Q2	Other	180.80	Site Specific factor	0.00	0.00	zero bmw content	0.00
Q2	Other	10.88	Site Specific factor	1.00	10.88	contaminated tree cuttings	100.00
		9320.04			4163.07		44.67

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

Biodegradable Municipal Waste Reporting Landfill Submission Report

Waste licence number: W0020-02 Scotch Corner Landfill

Report created on: 09/10/2013 12:20

Submission details

Year: 2013 Quarter: 3
 Reporting period: July - September
 Reference number: R-W0020-2013-3

Site details

License number: W0020-02
 Parent company name: Monaghan County Council
 Facility name: Scotch Corner Landfill
 Facility address: Letterbane, Annyalla, Castleblaney, Co. Monaghan

Contact details of person who made the return

Contact name: Mark T. Johnston Contact position:
 Email address: mjohnston2@monaghancoco.ie Telephone number: 047 30500
 Mobile number: Fax number:

BMW details

Summary for Q3 2013

Type of MSW	Total Qty MSW	Factor Type	Factor Value	Total Qty BMW	Comment	% BMW
2-bin residual household waste	1049.16	EPA Approved factor	0.63	660.97		63.00
3-bin residual household waste	113.8	EPA Approved factor	0.47	53.49		47.00
2-bin residual commercial waste	172.33	EPA Approved factor	0.75	129.25		75.00
3-bin residual commercial waste	179.2	EPA Approved factor	0.68	121.86		68.00
Bulky waste from sorting of MSW skips	318.12	EPA Approved factor	0.50	159.06		50
Oversize residues from MSW skips	2120.28	EPA Approved factor	0.43	911.71		43.00
Oversize residues from MSW bin collections ("wet waste")	1313.76	EPA Approved factor	0.41	538.64		41.00
Residues from source separated recyclable waste ("clean MRF")	100.36	EPA Approved factor	0.47	47.17		47.00
Residual MSW from civic amenity facility	53.7	EPA Approved factor	0.63	33.83		63.00
Other	1049.4	Site Specific factor	0.00	0.00	zero bmw content	0
	6468.09			2654.98		41.05

Cumulative report for year

Quarter	Type of MSW	Total Qty MSW	Factor Type	Factor Value	Total Qty BMW	Comment	% BMW
Q1	2-bin residual household waste	819.57	EPA Approved factor	0.63	516.33		63.00
Q1	3-bin residual household waste	237.19	EPA Approved factor	0.47	111.48		47.00
Q1	Untreated 1-bin commercial waste	35.90	EPA Approved factor	0.77	27.64		76.99
Q1	3-bin residual commercial waste	171.32	EPA Approved factor	0.68	116.50		68.00
Q1	Bulky waste from sorting of MSW skips	157.88	EPA Approved factor	0.50	78.94		50.00
Q1	Oversize residues from MSW skips	1626.98	EPA Approved factor	0.43	699.60		43.00
Q1	Oversize residues from MSW bin collections ("wet waste")	733.90	EPA Approved factor	0.41	300.90		41.00
Q1	Residues from source separated recyclable waste ("clean MRF")	106.62	EPA Approved factor	0.47	50.11		47.00
Q1	Residual MSW from civic amenity facility	59.62	EPA Approved factor	0.63	37.56		63.00
Q1	Other	155.56	Site Specific factor	0.00	0.00	zero bmw content	0.00
Q2	2-bin residual household waste	868.80	EPA Approved factor	0.63	547.34		63.00
Q2	3-bin residual household waste	7.89	EPA Approved factor	0.47	3.71		47.02
Q2	2-bin residual commercial waste	232.97	EPA Approved factor	0.75	174.73		75.00
Q2	3-bin residual commercial waste	138.98	EPA Approved factor	0.68	94.51		68.00
Q2	Bulky waste from sorting of MSW skips	183.68	EPA Approved factor	0.50	91.84		50.00
Q2	Oversize residues from MSW skips	1872.40	EPA Approved factor	0.43	805.13		43.00
Q2	Oversize residues from MSW bin collections ("wet waste")	1009.66	EPA Approved factor	0.41	413.96		41.00
Q2	Residues from source separated recyclable waste ("clean MRF")	98.42	EPA Approved factor	0.47	46.26		47.00
Q2	Residual MSW from civic amenity facility	56.58	EPA Approved factor	0.63	35.65		63.01
Q2	Ash residue from MSW incineration	574.44	EPA Approved factor	0.00	0.00		0.00
Q2	Other	160.80	Site Specific factor	0.00	0.00	zero bmw content	0.00
Q2	Other	10.88	Site Specific factor	1.00	10.88	contaminated tree cuttings	100.00
Q3	2-bin residual household waste	1049.16	EPA Approved factor	0.63	660.97		63.00
Q3	3-bin residual household waste	113.80	EPA Approved factor	0.47	53.45		47.00
Q3	2-bin residual commercial waste	172.33	EPA Approved factor	0.75	129.25		75.00
Q3	3-bin residual commercial waste	179.20	EPA Approved factor	0.68	121.86		68.00
Q3	Bulky waste from sorting of MSW skips	316.12	EPA Approved factor	0.50	158.06		50.00
Q3	Oversize residues from MSW skips	2120.26	EPA Approved factor	0.43	911.71		43.00
Q3	Oversize residues from MSW bin collections ("wet waste")	1313.76	EPA Approved factor	0.41	538.64		41.00
Q3	Residues from source separated recyclable waste ("clean MRF")	100.36	EPA Approved factor	0.47	47.17		47.00
Q3	Residual MSW from civic amenity facility	53.70	EPA Approved factor	0.63	33.83		63.00
Q3	Other	1049.40	Site Specific factor	0.00	0.00	zero bmw content	0.00
		15788.13			8818.05		43.18

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

Biodegradable Municipal Waste Reporting Landfill Submission Report

Waste licence number: W0020-02 Scotch Corner Landfill

Report created on: 14/01/2014 11:40

Submission details

Year: 2013 Quarter: 4

Reporting period: October - December

Reference number: R-W0020-2013-4

Site details

License number: W0020-02

Parent company name: Monaghan County Council

Facility name: Scotch Corner Landfill

Facility address: Letterbarie, Annyalla, Castleblaney, Co. Monaghan

Contact details of person who made the return

Contact name: Mark T. Johnston Contact position:

Email address: mjohnston2@monaghancoco.ie Telephone number: 047 30500

Mobile number: Fax number:

BMW details

Summary for Q4 2013

Type of MSW	Total Qty MSW	Factor Type	Factor Value	Total Qty BMW	Comment	% BMW
2-bin residual household waste	1434.93	EPA Approved factor	0.63	904.01		63.00
3-bin residual household waste	121.2	EPA Approved factor	0.47	56.96		47.00
2-bin residual commercial waste	256.56	EPA Approved factor	0.75	192.50		75.00
3-bin residual commercial waste	538.52	EPA Approved factor	0.68	366.18		68.00
Bulky waste from sorting of MSW skips	227.5	EPA Approved factor	0.50	113.75		50
Oversize residues from MSW skips	2814.95	EPA Approved factor	0.43	1210.43		43.00
Oversize residues from MSW bin collections ("wet waste")	1408.24	EPA Approved factor	0.41	577.38		41.00
Residues from source separated recyclable waste ("clean MRF")	121.86	EPA Approved factor	0.47	57.27		47.00
Residual MSW from civic amenity facility	85.12	EPA Approved factor	0.63	53.63		63.01
Other	635.1	Site Specific factor	0.00	0.00	zero bmw content	0
	7644.08			3532.12		46.21

BMW-2013 - CUMULATIVE FOR YEAR = 44.17%
5

Cumulative report for year

Quarter	Type of MSW	Total Qty MSW	Factor Type	Factor Value	Total Qty BMW	Comment	% BMW
Q1	2-bin residual household waste	819.57	EPA Approved factor	0.63	516.33		63.00
Q1	3-bin residual household waste	237.19	EPA Approved factor	0.47	111.48		47.00
Q1	Untreated 1-bin commercial waste	35.90	EPA Approved factor	0.77	27.54		76.99
Q1	3-bin residual commercial waste	171.32	EPA Approved factor	0.68	116.50		68.00
Q1	Bulky waste from sorting of MSW skips	157.88	EPA Approved factor	0.50	78.94		50.00
Q1	Oversize residues from MSW skips	1626.98	EPA Approved factor	0.43	699.60		43.00
Q1	Oversize residues from MSW bin collections ("wet waste")	733.90	EPA Approved factor	0.41	300.90		41.00
Q1	Residues from source separated recyclable waste ("clean MRF")	106.62	EPA Approved factor	0.47	50.11		47.00
Q1	Residual MSW from civic amenity facility	59.52	EPA Approved factor	0.63	37.56		63.00
Q1	Other	155.56	Site Specific factor	0.00	0.00	zero bmw content	0.00
Q2	2-bin residual household waste	868.80	EPA Approved factor	0.63	547.34		63.00
Q2	3-bin residual household waste	7.69	EPA Approved factor	0.47	3.71		47.02
Q2	2-bin residual commercial waste	232.97	EPA Approved factor	0.75	174.73		75.00
Q2	3-bin residual commercial waste	138.98	EPA Approved factor	0.68	94.51		68.00
Q2	Bulky waste from sorting of MSW skips	183.68	EPA Approved factor	0.50	91.84		50.00
Q2	Oversize residues from MSW skips	1872.40	EPA Approved factor	0.43	805.13		43.00
Q2	Oversize residues from MSW bin collections ("wet waste")	1009.66	EPA Approved factor	0.41	413.96		41.00
Q2	Residues from source separated recyclable waste ("clean MRF")	98.42	EPA Approved factor	0.47	46.26		47.00
Q2	Residual MSW from civic amenity facility	56.58	EPA Approved factor	0.63	35.65		63.01
Q2	Ash residue from MSW incineration	574.44	EPA Approved factor	0.00	0.00		0.00
Q2	Other	160.80	Site Specific factor	0.00	0.00	zero bmw content	0.00
Q2	Other	10.86	Site Specific factor	1.00	10.86	contaminated tree cuttings	100.00
Q3	2-bin residual household waste	1049.16	EPA Approved factor	0.63	660.97		63.00
Q3	3-bin residual household waste	113.80	EPA Approved factor	0.47	53.49		47.00
Q3	2-bin residual commercial waste	172.33	EPA Approved factor	0.75	129.25		75.00
Q3	3-bin residual commercial waste	179.20	EPA Approved factor	0.68	121.86		68.00
Q3	Bulky waste from sorting of MSW skips	316.12	EPA Approved factor	0.50	158.06		50.00
Q3	Oversize residues from MSW skips	2120.26	EPA Approved factor	0.43	911.71		43.00
Q3	Oversize residues from MSW bin collections ("wet waste")	1313.76	EPA Approved factor	0.41	538.64		41.00
Q3	Residues from source separated recyclable waste ("clean MRF")	100.36	EPA Approved factor	0.47	47.17		47.00
Q3	Residual MSW from civic amenity facility	53.70	EPA Approved factor	0.63	33.83		63.00
Q3	Other	1049.40	Site Specific factor	0.00	0.00	zero bmw content	0.00
Q4	2-bin residual household waste	1434.93	EPA Approved factor	0.63	904.01		63.00
Q4	3-bin residual household waste	121.20	EPA Approved factor	0.47	56.96		47.00
Q4	2-bin residual commercial waste	256.65	EPA Approved factor	0.75	192.50		75.00
Q4	3-bin residual commercial waste	538.52	EPA Approved factor	0.68	366.19		68.00
Q4	Bulky waste from sorting of MSW skips	227.50	EPA Approved factor	0.50	113.75		50.00
Q4	Oversize residues from MSW skips	2814.95	EPA Approved factor	0.43	1210.43		43.00
Q4	Oversize residues from MSW bin collections ("wet waste")	1488.24	EPA Approved factor	0.41	577.38		41.00

Q4	Residues from source separated recyclable waste ("clean MRF")	121.86	EPA Approved factor	0.47	67.27		47.00
Q4	Residual MSW from civic amenity facility	85.12	EPA Approved factor	0.63	53.63		63.01
Q4	Other	636.10	Site Specific factor	0.00	0.00	zero bmv content	0.00
		23432.21			10350.17		44.17

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