# Cavan County Council Corranure Landfill

### **Annual Environmental Report 2011**





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#### 1.0 Introduction

Cavan County Council is the licensee for the Corranure Landfill Facility. The landfill facility is currently closed and is not accepting waste of any type for landfill.

A Civic Amenity (CA) facility is located at the landfill site. The CA facility was operated and managed by Oxigen Environmental until the 16th of April 2011. The CA facility closed for a temporary period in April and reopened on the 18th of August 2011. Since reopening in August the civic amenity facility has been operated and managed by McElvaney Waste and Recycling.

The main activities on-site during 2011 were the management of landfill gas, landfill leachate and environmental monitoring. The facility was managed by Oxigen Environmental until 16th of April. Enviroguide Consulting commenced management of the facility at the end of April 2011. Enviroguide Consulting continue to manage the landfill facility for and on behalf of Cavan County Council. This annual environmental report (AER) has been completed by Enviroguide Consulting.

Waste Licence W0077-04 was granted to Cavan County Council on the 19th of May 2011. The original licence for the facility (Waste Licence Register Number 77-1) was granted on the 12th of June 2001. This is the 10th AER for the facility. The AER is prepared in accordance with the requirements as set out in Schedule F of the Waste Licence. The report format follows guidelines set in "Draft Guidance on Environmental Management Systems and Reporting to the Agency", issued by the EPA in 1999.

The AER details the site activities from the 1st of January 2011 to the 31st of December 2011.

#### 2.0 SITE DESCRIPTION

Corranure Landfill is located approximately 3km North-East of Cavan Town. It is located adjacent to the Cavan-Cootehill Road (R188), in the townlands of Corranure and Lismagratty. The total footprint of the landfill covers an area of 11 hectares.

The original Waste Licence, Waste Licence Register Number 77-1, for the facility was granted in June 2001 to Cavan County Council for the operation of a non-hazardous landfill with a licensed annual intake of 30,050 tonnes.

Cavan County Council applied to the Agency for a review of Waste Licence 77-1 in April 2003. Following this review process, a revised Waste Licence was granted to Cavan County Council by the Agency on the 10th of May 2005. This Licence was for the continued operation and expansion of the landfill and also provided for the operation of a civic amenity site at the facility. The facility boundary was extended to allow for two new lined

cells to be installed (Phase 3 -Cells 3 and 4). The annual waste intake was increased to 90,000 tonnes per annum.

In 2009 the EPA commenced a review of existing EPA waste licences issued for landfill facilities. The purpose of this review was to restrict the acceptance of biodegradable waste at landfills which will assist in complying with the targets set by the EU Landfill Directive, reduce the potential for odours from landfill facilities, reduce greenhouse gas emissions and maximise the use and value of waste prior to it being landfilled. As part of this review process, a review was initiated by the EPA in June 2009 on Waste Licence Register Number W0077-02. A revised Licence (W0077-03) was issued in March 2010. Limits on the acceptance of biodegradable waste were introduced in this Licence.

In September 2007 Cavan County Council entered into a Contract for Sale Agreement with a third party private waste management firm, Oxigen Environmental Ltd. Under the contract terms Cavan County Council proposed to sell lands which included Cell 3 and cell 4 of the landfill site.

Under the terms of the Agreement both parties were required to provide environmental indemnities to each other which were due to become effective on the completion of the sale. The liability in respect of Cells 0, 1 and 2 were to remain with Cavan County Council while liability for Cells 3 and 4 were to transfer to Oxigen Environmental Ltd. upon successful completion of the sale. Under a concessionary agreement with Cavan County Council, the landfill and civic amenity site were operated and managed by Oxigen Environmental since September 2007.

This Contract for Sale Agreement led to two licence applications being made to the Agency in September 2008. Cavan County Council submitted an application to review Waste Licence W077-02 to reduce the size of the landfill facility area of 11 hectares to a revised 7 hectares. This reduced area comprised of Cells 0, 1 and 2. Oxigen Environmental Ltd. concurrently submitted an application for a new waste licence for the development of an integrated waste management facility at the landfill site and to include the lands of Cells 3 and 4. Waste Licence Register number W0248-01 was assigned to the Oxigen Environmental application.

In May 2011, the EPA refused to grant waste Licence Register Number W0248-01 to Oxigen Environmental Ltd. A revised Waste Licence was granted to Cavan County Council, Waste Licence Register Number W077-04. This Licence was for the continued operation of the landfill and civic amenity site at the facility. The revised Licence limited the acceptance of waste for disposal to an intake of 45,000 tonnes per annum, a reduction from the previously authorised 90,000 tonnes per annum. The facility has operated under this licence since May 2011. Since the grant of the revised Waste Licence, the landfill facility has been managed by

Enviroguide Consulting. The Civic Amenity site was closed in April 2011 but reopened in August 2011. Since August 2011 the Civic Amenity Facility is operated and managed by McElvaney Waste and Recycling.

The Civic Amenity Site at the Facility was originally opened in February 2002 and is used by the general public for recycling. At present the Civic Amenity Facility accepts various waste types including segregated recyclables from householders, newspapers and magazines, cardboard, tetra pak, glass bottles and jars, aluminium and steel cans, plastic containers and plastic shrink wrap, wood, textiles/footwear, electrical goods, fluorescent tubes, batteries wet and household, scrap steel, waste engine oil and oil filters, vegetable oil, C& D waste, gypsum material and green waste.

Table 2.1 below shows the waste categories which the facility is licensed to accept under Waste Licence W0077-04:

Table 2.1 Waste Categories and Quantities accepted under Waste Licence W0077-04

WASTE TYPE	MAXIMUM TONNES
	PER ANNUM
DISPOSAL AT LANDFILL	
Municipal (Household & Commercial) Waste	35,000
Construction and Demolition Waste	5,000
Industrial Solid Waste	4,000
Treated Sludge	1,000
TOTAL	45,000
COLLECTION AT CIVIC AMENITY FACILITY	
Non-hazardous waste	3,000
Hazardous household, commercial and agricultural waste	100
TOTAL COLLECTION AT CIVIC AMENITY FACILITY	3,100

Licensed waste disposal and recovery activities are carried out in accordance with the 3rd and 4th Schedule of the Waste Management Act as per Part 1 of Waste Licence W0077-04.

#### 3.0 Emissions from the Facility

From January 1st 2011 until May 2011, all monitoring was carried out in accordance with monitoring requirements as set out in Schedule D of Waste Licence W0077-03 to monitor compliance with the emission limit values as set out in Schedule C of this Licence.

After the grant of revised Waste Licence W0077-04, in May 2011, all monitoring was carried out in accordance with Schedule C: Control & Monitoring of this licence.

Environmental monitoring was carried out in 2011 by the following companies:

- BHP Laboratories, New Road, Thomondgate, Limerick.
- Fitz Scientific, Unit 35, Boyne Business Park, Drogheda, Co. Louth.
- RPS, Lyrr Building, IDA Business & Technology Park, Mervue, Co. Galway.

#### 3.1 Noise Monitoring

Noise monitoring was required to be carried out on an annual basis under waste Licence W0077-03. Under conditions of Licence W0077-04, noise monitoring is to be carried out on a quarterly basis. As the facility is a closed landfill site and there is no waste being accepted for disposal at the facility, a request was submitted to the Agency to request the temporary cessation of noise monitoring until the acceptance of waste for landfill is recommenced. Following agreement from the Agency, no noise monitoring was conducted in 2011. Noise did not give rise to nuisance at the facility at any stage during the year.

#### 3.2 SURFACE WATER

Surface water monitoring is carried out on a monthly and quarterly basis at Corranure Landfill. Surface water monitoring was carried out by BHP Laboratories (January 2011) and Fitz Scientific (February to December). Samples are taken from all monitoring points identified on surface monitoring location Maps 1 & 2 included in Appendix 1 of this report. SW1, SW4 and SW5 are located on the Corranure Stream and SW2 and SW3 on the Lismagratty Stream.

SW1 and SW2, surface water discharge points, are monitored on a monthly basis while SW3, SW4 and SW5, surface water sampling locations, are monitored on a quarterly basis.

Annual monitoring was carried on the 14th of December 2011 by Ftiz Scientific for additional parameters as listed in Schedule C.2.2. Annual monitoring result certificates have been submitted to the Agency as part of the monthly reports for the facility. Monitoring results were within the Emission Limit Values as set out in the Waste Licence with the exception for elevated suspended solids which were recorded in August. Results are discussed further in sections 3.2.1 to 3.2.5 of this report.

Monthly monitoring results are depicted in figures 1 - 5 below.

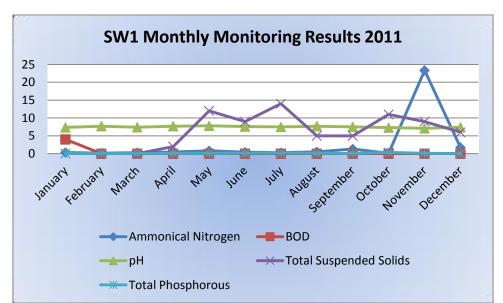
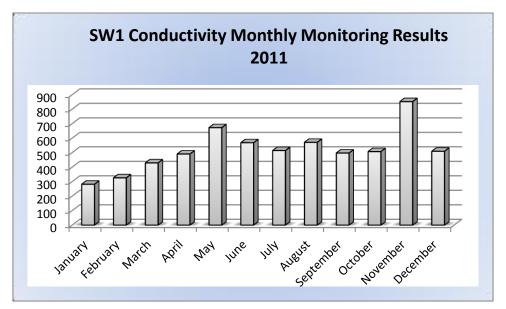


Figure 1: SW1 Monthly Monitoring Results 2011





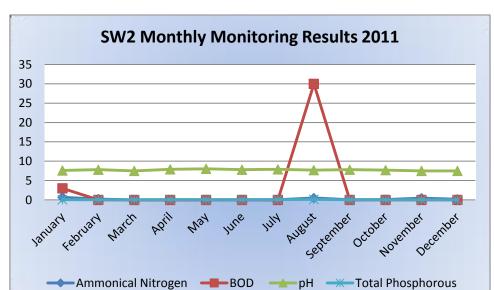
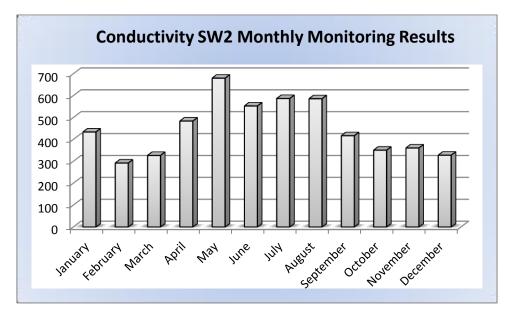


Figure 3: SW2 Monthly Monitoring Results 2011

Figure 4: SW2 Monthly Monitoring Results 2011 Conductivity



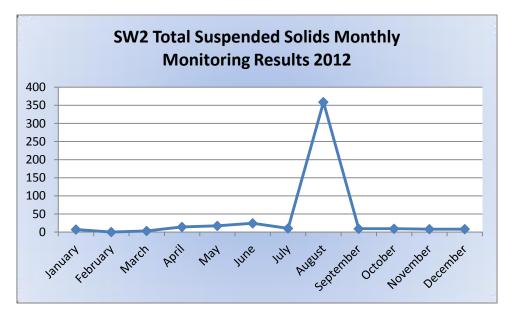


Figure 5: SW2 Monthly Monitoring 2011 for Suspended Solids

The results of analysis carried out were compared to Class A1 limits outlined in 1989 "European Communities (Quality of Surface Water Intended for Abstraction of Drinking Water) Regulations 1989".

#### 3.2.1 BOD

There are no Licence limits for BOD in the Waste Licence for the facility. However, as per the S.I. No. 249 of 1989 "European Communities (Quality of Surface Water Intended for Abstraction of Drinking Water) Regulations 1989", the recommended level for BOD is 5mg/l. All monthly monitoring of SW1 and SW2 were under this recommended limit with the exception of SW2 August Sample which recorded a BOD result of 30mg/l. The suspended solids exceeded the licensed limits on this sample also so this was retested as part of the incident investigation and subsequent test results were all within recommended limits.

Quarterly monitoring results show that the recommended level for BOD was exceeded in Quarter 1 in SW1 (result of 23mg/l). The COD for this same sample was however within the recommended limit of 40mg/l having a result of 11mg/l. The sample taken from SW2 in Quarter 3 (August sample discussed above) had a result of 30mg/l. All quarterly results for SW3, SW4 and SW5 were within the recommended BOD levels.

#### 3.2.2 CONDUCTIVITY

The recommended limit for electrical conductivity is  $1,000\mu\text{S/cm}$ . All monthly results for SW1 and SW2 and all quarterly results for SW1, SW2, SW3, SW4 and SW5 were within this limit.

#### 3.2.3 PH

According to Freshwater Fish Directive (78/659/EEC), pH limits range between 6 and 9. All monthly results for SW1 and SW2 and all quarterly results for SW1, SW2, SW3, SW4 and SW5 were within this range.

#### 3.2.4 SUSPENDED SOLIDS

An emission limit value of 35mg/l is set out in Schedule B.2 of Waste Licences W0077-03 and W0077-04. This limit was exceeded in SW2 in August 2011. This was reported as an incident to the Agency. An incident notification was submitted as a result and a resample was taken. Results from the resample were within the ELV of 35mg/l. All other monthly and quarterly samples at all monitoring points were compliant with this ELV.

#### 3.2.5 AMMONICAL NITROGEN

Recommended concentrations for ammonia in surface water is 0.2mg/l. This concentration level was exceeded at SW1 and SW2 in some monthly samples which have been submitted to the EPA in the monthly reports. Quarterly results at SW4 exceeded this recommended limit in Q3 (0.364) and Q4 (0.337). These results indicate that there is a possible nitrogen enrichment of the waters which is most likely caused by agricultural activities in the surrounding areas.

A range of other parameters were monitored during the annual monitoring at SW1, SW2, SW3, SW4 and SW5. All monitoring results for Boron, Cadmium, Chromium, Faecal Coliforms, Total Coliforms, Copper, Cyanide, Fluoride, Lead, Mercury, Sulphate and Zinc were all within the Class A1 limits as set out in the Surface Water Regulation Limits (S.I. 294 of 1989). The Class A1 limit for total iron were exceeded. SW1 and SW3 exceeded the Class A1 limit for Manganese. SW3 exceeded the Class A1 limit for Orthophosphate and total Phosphate. Agricultural or fertilizer runoff are the most likely source of elevated levels of Orthophosphate and Phosphate in surface water.

#### 3.3 **Dust**

Dust monitoring was carried out using Bergerhoff Instrument according to the VDI 2119 Standard Method. With this method atmospheric deposits are collected in vessels over a 30 day period ±2 days. The collected samples are then concentrated and the residue subjected to gravimetric weight analysis. Collection jars with a volume of 1.5 litres were placed in wire baskets. The top of the jar was positioned 1.5meters above ground level. Results were calculated from the formula correlating the dust collected, sampling period and the collecting surface of the jars. Results from dustfall determination at sites D1 - D5 are illustrated in Figure 6 below. All results were within licence limits.

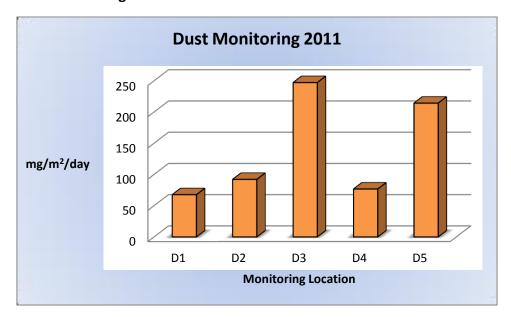


Figure 6: Dust Monitoring 2011

#### 3.4 GROUNDWATER

There are no direct emissions to groundwater from the facility. The old landfill (Cell 0) was designed as a dilute and disperse landfill and is underlain by stiff clays. Cells 1 to 3 are fully lined cells with separate leachate and surface water management systems. Groundwater is monitored on a monthly basis at points GW01 (shallow), GW01 (Deep), GW04, GW05, SA01, GW02, GW03, RC01 and RC02. Results from all monthly monitoring is illustrated in Figures 7 to 14 below.

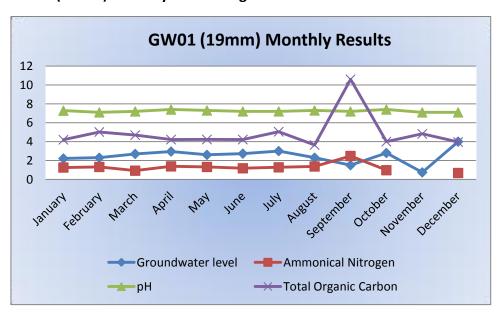


Figure 7: GW01 (19mm) Monthly Monitoring Results 2011

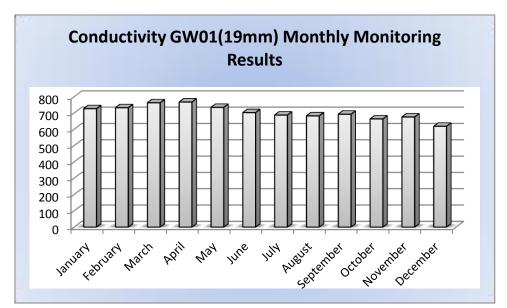
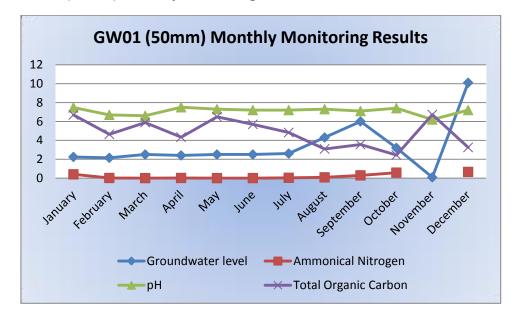


Figure 8: GW01 (19mm) Monthly Monitoring Results 2011 for Conductivity





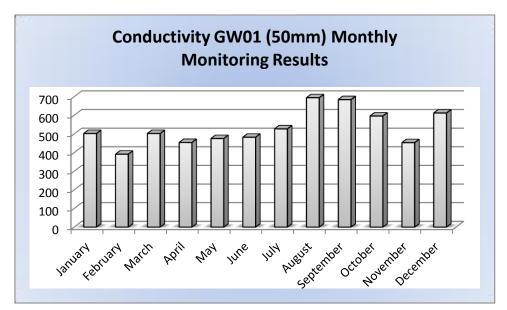
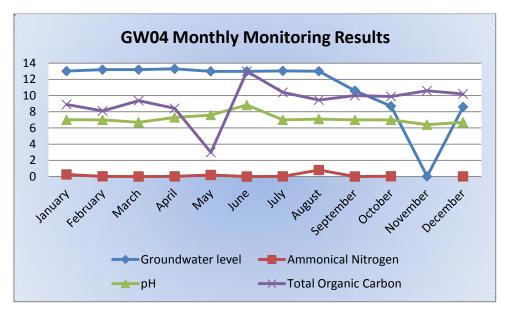


Figure 10: GW01 (50mm) Monthly monitoring Results for Conductivity





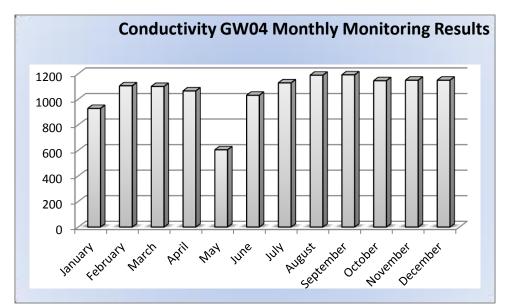
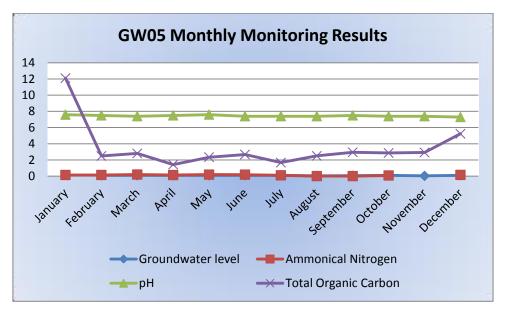


Figure 12: GW04 Monthly Monitoring Results for Conductivity





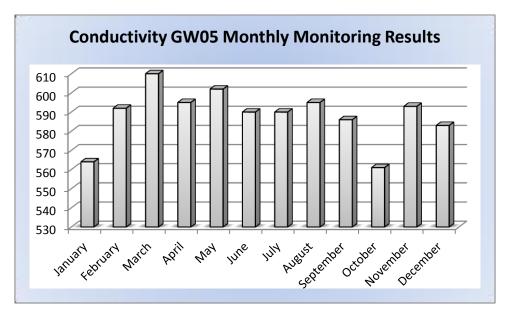


Figure 14: GW05 Monthly Monitoring Results 2011 for Conductivity

Wells SA01, GW02, GW03, RC01 and RC02 were covered at times of sampling so samples could not be obtained.

In addition to the monthly groundwater sampling results depicted in the figures above, annual and quarterly groundwater sampling is carried out for an additional range of parameters. The quarterly and annual results of the analysis conducted on the groundwater are presented in detail in the monthly reports which were submitted to the Agency during the reporting period.

There are no emission limit values set out in the Waste Licence for the facility, therefore, groundwater parameters are compared with the Interim Guideline Values (IGVs) as indicated on the EPA Document "Towards Setting Guideline values for the Protection of Groundwater in Ireland -Interim Report". Total coliform concentrations exceed the IGV at wells GW01 Shallow (5 no/100ml), GW01 Deep (49 no/100ml) and in GW04 (286 no/100ml). Faecal coliform concentrations exceeded the IGV value at well GW04 (17 no/100ml).

The Calcium IGV of 200mg/I was exceeded in well GWO4 (226.80mg/I). The Manganese levels recorded in GW01 (Deep) and GW04 were elevated with results of 321.9ug/I and 136.4ug/I respectively in comparison to the IGV of 50ug/I. Results for all other parameters monitored in the annual monitoring of ground water were within the recommended interim guideline values. The most common sources of these elements in groundwater are naturally occurring from minerals and rocks.

The results of analysis carried out on private wells are compared with limits outlined in S.I. No. 278 of 2007 "European Communities (Drinking Water) (No. 2) Regulations 2007". PW05BT exceeded the parametric value for Total Coliforms, Total Iron and Lead. PW08 and

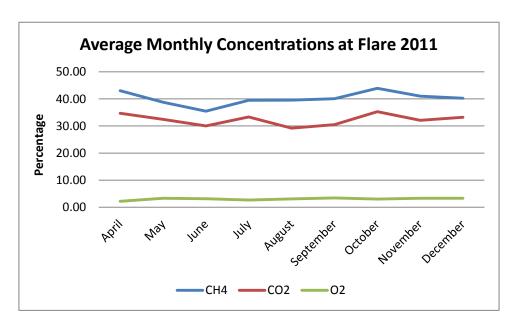
PW15 exceeded the parametric value for Manganese. All other results for parameters tested were within the recommended limits of S.I. No. 278 of 2007.

#### 3.5 LANDFILL GAS

Concentrations of methane (CH4), carbon dioxide (CO2), oxygen (O2), temperature and flow are continuously monitored through the SCADA system. Gas at the flare is also monitored using a GA2000 or GA94 gas monitor. All gas monitoring results are updated on a daily basis and maintained at the facility. Average monthly concentrations for the flare are shown in figure 15 below.

Landfill Gas monitoring was undertaken on a monthly basis at gas extraction boreholes. Analyses were performed on each sample for methane (CH4), carbon dioxide (CO2), oxygen (O2) and pressure. Copies of these sampling results have been submitted to the Agency as part of the monthly reports for the facility.

Figure 15: Gas Monitoring at Flare 2011



#### 3.6 LEACHATE MONITORING

Leachate monitoring was carried out by Fitz Scientific on the 16th of December 2001. Results from the sampling are outlined in table 1 below.

**Table 1: Leachate Monitoring Results 2011** 

Parameter	Unit	Values at Landfill
Alkalinity (as CaCO <sub>3</sub> )	Mg/L CaCO₃	1,526
Arsenic	ug/l	23.25
Boron	mg/l	1439 ug/l
Cadmium	mg/l	0.428 ug/l
Cadmium	ug/l	0.428
Calcium	mg/l	119.6
Chloride	mg/l	291.84
Chromium	mg/l	48.02 ug/l
COD	mg/l	459
Conductivity	μS/cm	3,800
Copper	mg/l	44.2ug/l
Fluoride	mg/l	0.7
Iron	mg/l	3,165 ug/l
Lead	mg/l	6.737 ug/l
Magnesium	mg/l	22.95
Manganese	mg/l	906.2 ug/l
Mercury	mg/l	0.28 ug/l
Nickel	ug/l	28.23
Nitrate	Mg/l as N	0.940
рН	-	7.5
Phosphate	Mg/l	1.603
Potassium	mg/l	95.17
Sodium	mg/l	188.5
Sulphate	mg/l	80.13
TOC	mg/l	118.48
Zinc	mg/l	64.72 ug/l

#### 4.0 WASTE MANAGEMENT RECORDS

#### 4.1 QUANTITY OF WASTE ACCEPTED AT THE FACILITY

The only waste accepted at the facility in 2011 was material that was delivered by public customers to the civic amenity site. In addition to this, in February, 154.06 tonnes of clean rubble was accepted from the Oxigen MRF in Ballymount (W0208-01) for engineering works at the facility. No material was accepted for landfill at the facility.

On entry to the civic amenity facility not all materials are weighed in upon entry to the facility. All materials are weighed out when removing from the facility. As a result weights are only presented in Appendix 2 for all wastes removed from the facility during 2011.

#### 4.2 QUANTITY OF WASTE DISPOSED OF AT THE FACILITY

No waste was disposed of at the facility during 2011. Table 4.2 below shows the tonnages of wastes disposed of at the landfill in previous years since the grant of the original waste licence for the facility.

**Table 4.2: Quantity of Waste Landfilled pre-2011** 

Period	Quantity (Tonnes)
11th March 2002 – 31st June 2002	4,469.25
1st July 2002 – 31st June 2003	36,206.21
1st July 2003 – 31st December 2003	19,911.21
1st January 2004 – 31st December 2004	53,813.44
1st January 2005 – 31st December 2005	45,889.47
1st January 2006 – 31st December 2006	85,869.00
1st January 2007 - 31st December 2007	83,262.91
1st January 2008 - 31st December 2008	87,238.32
1st January 2009 - 31st December 2009	88,932.96
1st January 2010 - 5th February 2010	4956.5
6th January 2010 - 31st December 2010	0
1st January 2011 - 31st December 2011	0
Total	510,549.27

## 4.3 QUANTITY OF RECOVERED WASTE USED IN THE DEVELOPMENT / OPERATION OF THE LANDFILL

Recovered materials such as inert fines, soil & stones, rubble, crushed rubble or ash used to be accepted at the landfill for use as cover material, the construction of haul roads or for on-site landscaping. The recovered materials that were accepted on-site for previous years are outlined in Table 4.3 below.

**Table 4.3: Quantity of Materials Recovered Pre 2011** 

Period	Quantity (Tonnes)
1st January 2008 - 31st December 2008	56,899.71
1st January 2009 - 31st December 2009	27,188.78
1st January 2010 - 31st December 2010	7,742.81
1st January 2011 - 31st December 2011	154.06

#### 4.4 QUANTITY OF WASTE REMOVED OFF-SITE FOR RECOVERY OR DISPOSAL

All materials that were consigned offsite for onward recovery or disposal were all weighed and recorded at the facility weighbridge. These weights have been summarised and are presented in the PRTR returns for the facility. A copy of the PRTR waste treatment data is included in Appendix 2 of this AER.

## 4.5 STATEMENT ON ACHIEVEMENT OF THE WASTE ACCEPTANCE AND PRE-TREATMENT REQUIREMENTS

It is considered that the waste acceptance and pre-treatment obligations have been met as materials accepted at the CA site were source segregated. No materials were disposed of at the facility.

#### 5.0 TOTAL CONSENTED LANDFILL VOID (M3)

As reported in the AER for the facility for 2010, Cell 4 has been constructed with an estimated total capacity of 314,825m<sup>3</sup>. Filling of this Cell has not commenced to date, therefore the estimated remaining void space remains the same as that reported in 2010 (314,825m<sup>3</sup>). Waste Licence W0077-04 that was granted in May 2011 states that the total permitted landfill capacity is 250,000m<sup>3</sup>. None of the consented landfill void was developed in 2011 as no waste was accepted for landfill at the facility. Therefore no average compaction/ fill densities are reported as part of this AER. All filling of void landfill space will be subject to written agreement from the Agency and will only take place upon details of a fill plan for the cell being submitted to and approved in writing by the Agency.

#### 6.0 Topographical Survey 2011

A topographical survey was carried out by RPS in 2011. A copy of this is included in Appendix 3 of this report.

#### 7.0 UPDATES/AMENDMENTS TO ODOUR MANAGEMENT PLAN

An Odour Management Plan has been prepared by RPS for the facility. There were no updates or amendments to this Odour Management Plan in 2011. The facility is currently a closed landfill which is not giving rise to any offsite odours. Odour monitoring patrols are carried out on a daily basis, following the guidelines as laid out in the Odour Management Plan. An odour patrol route has been mapped. Any odours detected on this route are recorded on the daily odour patrol sheet. If an odour is detected that is considered to be originating at the landfill facility a full investigation will be carried out until the source of the odour is defined and the odour eliminated.

## 8.0 STATEMENT OF COMPLIANCE OF FACILITY WITH ANY UPDATE TO WASTE MANAGEMENT PLAN

The Management of Corranure Landfill is fully committed to meeting all relevant policies and targets set out in the North-East Waste Management Plan. As the facility is a closed landfill site, no materials were accepted for landfill in 2011. However, a Civic Amenity is operated at the facility which provides a recycling platform for members of the public. This CA facility formed an integral part in meeting objectives and targets of the Litter Management Plan for County Cavan.

#### 9.0 COMPLAINTS SUMMARY

During the course of 2011 there were six complaints received at the facility. All complaints were relating to odours emanating from the facility. All complaints were handled in accordance to the Complaints Handling Procedure. It was determined that a number of complaints, once investigated, were found not to be relating to odours from the facility but from surrounding agricultural odours.

An out of hours emergency help line is in operation in order to facilitate any potential complaints and to ensure that they can be investigated and addressed in a timely manner. A complaints folder is maintained on-site detailing all follow up investigations.

#### 10.0 REPORTED INCIDENTS SUMMARY

There was one notified incident during the reporting period. The incident occurred when a surface water sample taken from monitoring point SW2 on the 23/08/11 exceeded the ELV licence limits for suspended solids. The results of the sample were received on the 15/09/11 and the incident was reported to the Agency immediately. A visual inspection of the stream was conducted that day and a re-sample was taken. Results from the re-sample were within licence limits. Surface water monitoring points are continued to be visually inspected on a weekly basis.

#### 11.0 SCHEDULE OF ENVIRONMENTAL OBJECTIVES & TARGETS

Environmental objectives and targets were set in January 2011 by Oxigen Environmental. and reported as part of the AER for 2011. At the time of submitting the AER Oxigen Environmental were responsible for the management of the facility. Enviroguide Consulting were appointed by Cavan County Council to manage the facility in April 2011. Once appointed, Enviroguide reviewed the objectives and targets and updated objectives and targets were set for the remainder of 2011.

Table 2: Objectives & Targets 2011

Objective 1	Target	<b>Completion Date</b>
Gas and Odour Management	To operate and maintain an efficient and effective gas and odour management system which will include	
	<ul> <li>The design and construction of degassing system for Cell 4.</li> </ul>	Ongoing
	<ul> <li>Daily monitoring of the gas system through continual gas monitoring and gas field balancing.</li> </ul>	Ongoing
	<ul> <li>Continual improvements in control measures and collections systems.</li> </ul>	Ongoing
	Commence degassing in the open cell (Cell 4) as soon as possible with horizontal degassing pipes and vertical pin	Dependent on rate of waste
	wells connected to the extraction system.	acceptance
Objective-2	Target	Completion Date
Final cap of Cell 3	<ol> <li>Final cap of Cell 3 to be completed once final settlement of Cell 3B has occurred.</li> </ol>	October '11
	2. Capping works to be completed in staged intervals as volume of earthworks required varies between subcells.	
Objective-3	Target	<b>Completion Date</b>
Construction of Cell 4	Complete construction of the cell.	March'11
	2. Complete and agreed filling plan with Agency	March'11
	3. Attain agreement for Waste acceptance	March'11
Objective-4	Target	<b>Completion Date</b>
Gas Usage Possibilities	Review establishment of power generation as soon as practical from the site.	
	2. Continuous monitoring and study of gas quality and flows so as to establish the feasibility of gas utilisation as an energy resource.	Ongoing
Objective-5	so as to establish the feasibility of gas utilisation as an energy resource.	
Objective-5 Maintenance Programmes	so as to establish the feasibility of gas utilisation as an	Ongoing  Completion Date Ongoing
-	so as to establish the feasibility of gas utilisation as an energy resource.  Target	Completion Date
Maintenance	so as to establish the feasibility of gas utilisation as an energy resource.  Target  1. Wheel wash operation, cleaning.	Completion Date Ongoing
Maintenance	so as to establish the feasibility of gas utilisation as an energy resource.  Target  1. Wheel wash operation, cleaning.  2. Weighbridge operation, cleaning, calibration.	Completion Date Ongoing Ongoing
Maintenance	so as to establish the feasibility of gas utilisation as an energy resource.  Target  1. Wheel wash operation, cleaning.  2. Weighbridge operation, cleaning, calibration.  3. Flare-Operation, cleaning, monitoring, calibration.  4. Maintain stock of all materials including geohess and pipes so as to ensure all planned works are carried out on time and to ensure any necessary site repairs are	Completion Date Ongoing Ongoing Ongoing

#### **PROGRESS ON COMPLETION OF OBJECTIVES AND TARGETS**

#### **Objective 1: Gas and Odour Management**

Monitoring of the gas system is carried out on a daily basis. The gas field is balanced as required to ensure that all gas is controlled so as not to cause any environmental nuisances through odour offsite.

Continual improvements in control measures and collection systems have been made throughout the year. The most notable improvements are:

- The construction of the new, fully enclosed flare;
- The lagging and insulation of gas pipes to prevent against freezing during excessively cold weather conditions.

The design and construction of degassing system for Cell 4 was not completed in 2011. The construction of Cell 4 is currently suspended. No waste has been deposited into Cell 4 therefore no gas extraction system is currently required. Prior to any waste acceptance in Cell 4, full approval will be sought from the Agency. Details of a proposed gas extraction system will be confirmed at this interval.

#### **Objective 2: Final Cap of Cell 3**

The contract for the capping works was awarded to P&S Contractors in 2011. A haul roadway was constructed at the top of Cell 3. A back up open flare was installed at the landfill as a contingency arrangement that may be necessary during the capping works. To date this is the only works that have been completed. The completion date for the capping works has been extended to 2012. Capping works will be completed on a phased basis as the volume of earthworks required varies between subcells.

#### **Objective 3: Construction of Cell 4**

The construction of Cell 4 is at an advanced stage and close to completion. No further works will take place at Cell 4 without prior approval from the Agency.

#### **Objective 4: Gas Usage Possibilities**

Cavan County Council has investigated gas usage possibilities. This is an ongoing project. As part of the objectives and targets for 2012 it is expected that an engine will be installed at the facility for the utilisation of landfill gas for electricity generation.

#### **Objective 5: Maintenance Programmes**

Maintenance programmes were carried out as required during the year at the facility.

**Table 3: Proposed Objectives & Targets 2012** 

Objective 1	Target	Completion Date				
Capping of Cell 3	Complete final capping works of Cell 3.	31.11.12				
Objective-2	Target	<b>Completion Date</b>				
Gas and Odour Management	Constant upgrade and revision of gas and odour management.	31.12.12				
Objective-3	Objective-3 Target					
Certification of EMS	<ul> <li>Review and update the existing EMS for the facility in accordance with the ISO14001:2004 Standard.</li> <li>Engage with an external certification company for ISO14001:2004.</li> </ul>	01.04.12				
	Complete pre-certification and certification audits in order to achieve ISO 14001:2004 Standard.	31.05.12				
Objective-4	Target	<b>Completion Date</b>				
Gas Utilisation	Proceed with installation of engine for utilisation of landfill gas to generate electricity.	31.12.12				

#### 12.0 Environmental Management Programme

An environmental landfill management plan (ELMP) is in place at the facility in accordance with Condition 2.2.2.3 of the Licence. This programme outlines how the objectives and targets for the facility are going to be met. Responsibility for each target is assigned along with a completion date. An ELMP is completed for each forthcoming year and reviewed during internal audits as part of the EMS for the facility.

#### 13.0 POLLUTANT RELEASE AND TRANSFER REGISTER

A copy of the 2011 pollutant releases data as reported in the PRTR returns is included in Appendix 4 of this report.

#### 14.0 WASTE ANALYSIS

As no waste was accepted for landfill at the facility in 2011, no waste analysis was carried as required in Condition 8.2.16 of the Licence. Should the facility recommence the acceptance of waste, all waste analysis will be conducted as required by Licence conditions.

#### 15.0 METEOROLOGICAL DATA SUMMARY

A 'Davis Weather Station II' is used to record meteorological data at Corranure Landfill. This weather station records:

- > Temperature,
- Sunshine,
- Precipitation, and

Wind force and direction.

The following additional data is recorded at Clones Weather Station and can be obtained as per Schedule C.9 of the Licence.

- > Humidity,
- Atmospheric Pressure, and
- > Evapotranspiration.

An annual summary of metrological data is included in Appendix 5 of this AER.

#### 16.0 TANK AND PIPELINE INSPECTION REPORT

In accordance with Condition 6.10 of the Licence the testing of integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water should be carried out once every three years. All storage tanks (fuel & leachate) and bunds at the facility were inspected and tested on the 24th to 26th of October 2010. All structures were found to be in sound condition with their integrity verified. Inspection of bunds and pipelines will be carried out in compliance with the conditions of the waste licence.

#### 17.0 Energy Efficiency Audit Report Summary

Electricity is used in site offices, canteen and welfare facilities. An energy awareness system is in place whereby all equipment and lighting is powered off when not in use or at the end of each working day. It is proposed to create visual awareness of energy consumption at the facility as part of the review process of the EMS for the facility.

#### 18.0 RESOURCE CONSUMPTION SUMMARY

In 2011, the estimated electricity consumption at the facility was as follows:

Day Time Units: ~218,872 kWhNight Time Units: ~172,414 kWh

#### 19.0 DEVELOPMENTAL/INFRASTRUCTURAL WORKS SUMMARY

An SEW was submitted to the Agency in 2011 for the installation of a replacement 1500m<sup>3</sup>/hr ground flare. The development works also include the enclosure of the flare and housing of all telemetry equipment.

In addition to this gas pipes were insulated to prevent freezing of pipes in the event of another winter of sub zero temperatures. These were the only developmental works that occurred at the facility in 2011. No major infrastructural or developments are proposed for 2012 at this interval.

#### 20.0 Management and Staffing Structure at the Facility

The facility was operated and managed by Oxigen Environmental Ltd. until April 2011 as part of a concession agreement with Cavan County Council which has been in place since 2007. Since April 2011 the facility has been managed by Enviroguide Consulting on behalf of Cavan County Council. Details of the new management structure were submitted to the Agency for approval prior to changes in management taking place. Below is the staffing structure since April 2011.

Landfill Manager: Jim Dowdall

• Deputy Landfill Manager: Gillian Free

• Landfill Gas Manager: Sinead Fox

#### 21.0 PROGRAMME FOR PUBLIC INFORMATION

A programme for public information is in place at the facility. Any interested party requiring to view this public information is advised to make an appointment with the Landfill Manager. A suitable time will be arranged for the viewing of files to take place. A room will be provided to the interested party to view the public information files. Files available as part of the public information programme include the EPA Licence for the facility, the previous year's AERs, monitoring results and monitoring location maps. Any files specific or additional files that are required by the interested party can be requested and will be considered by the Landfill Manager.

In 2011, there were no requests made by any interested parties to view files at the facility.

#### 22.0 FINANCIAL PROVISIONS

The EPA has developed a dedicated financial model to facilitate and streamline the reporting to the EPA of compliance with Section 53(A). This financial model will be completed for Corranure landfill and submitted to the EPA annually as required.

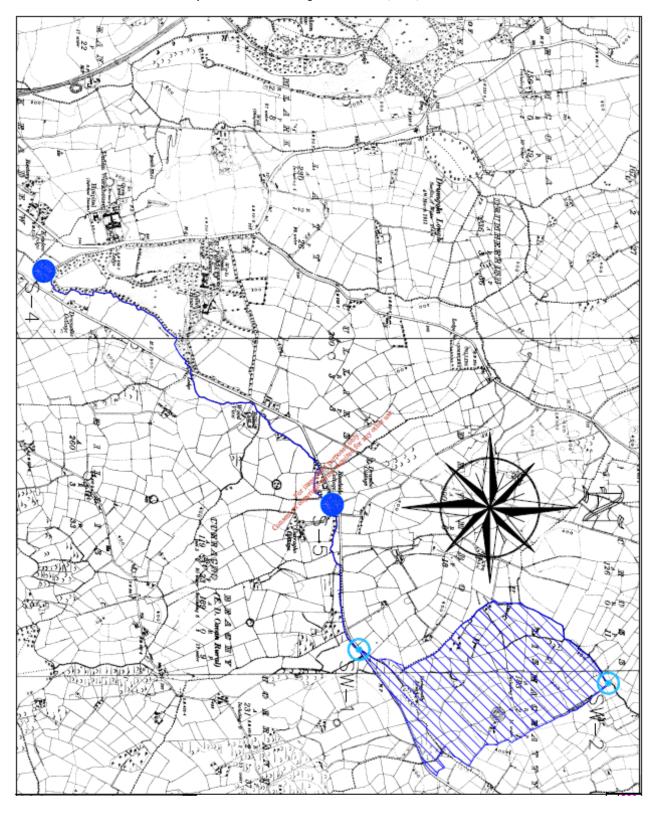
#### 23.0 REVIEW OF ENVIRONMENTAL LIABILITIES

An ELRA and CRAMP has previously been submitted to the Agency for the facility. In 2010 Corranure Landfill was selected to take part in the Agency's Environmental Liability Risk Assessment (ELRA), Closure Restoration and Aftercare Management Plans (CRAMPs) and implementation of Financial Provision (FP) pilot programme. The site was reviewed as part of a programme of assessing twenty IPPC regulated facilities. No review of the environmental liabilities or review of the closure, restoration and aftercare management plan took place in 2011.

#### 24.0 STATEMENT OF COSTS OF LANDFILL INCLUDING LANDFILL LEVY

This facility is currently a closed landfill site. No materials were accepted for disposal at the landfill therefore no costs or landfill levy were assigned.

## APPENDIX 1 SURFACE WATER MONITORING LOCATION MAPS



Map 1: Surface monitoring Locations SW1, SW4, SW5

1.30 :33 0.28 1.31 0.83 = 0.62 0.63

Map 2: Surface Monitoring Locations SW2, SW3

#### APPENDIX 2

PRTR OFFSITE TRANSFERS OF WASTE 2011

Within the Country 15 01 04

Within the Country 15 01 05

Within the Country 15 01 07

Within the Country 15 01 07

No

No

No

No

5. ONSITE TREATM	ENT & OFFSITE TRA			PRTR# : W0077   Facility Name : Corranure Land all quantities on this sheet in Tonnes	riii į riiename : W0	077_2011	(1) PKTK.XIS   RETURN YE	ar:2011		
			Quantity (Tonnes per Year)				Method Used		Haz Waste: Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste: Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer
	F 10/				Waste			1		
Transfer Destination	European Waste Code	Hazardous		Description of Waste	Treatment Operation	M/C/E	Method Used	Location of Treatment		
				waste printing toner other than those			-			
Within the Country	08 03 18	No	0.08	mentioned in 08 03 17		С	Weighed	Offsite in Ireland	Kildarson Ltd,N/A	.,,,,,,lreland Clonminam Industrial Estate
Within the Country	13 02 08	Yes	1.38	other engine, gear and lubricating oils	R1	С	Weighed	Offsite in Ireland	Enva Ireland Ltd., W0184-01	,Portlaoise ,Co. Laoise,.,Ireland Killygarry Industrial
Within the Country	15 01 01	No	68.54	paper and cardboard packaging	R3	С	Weighed	Offsite in Ireland	Cavan Waste Disposal,W0207-01	Park, Killygarry , Cavan , Co Cavan, Ireland Annyalla, Castleblaney , Co.
Within the Country	15 01 01	No	28.24	paper and cardboard packaging	R3	С	Weighed	Offsite in Ireland	Scotch Corner ,W0020-02	Monaghan,.,Ireland Annyalia,Castleblaney,Co.
Within the Country	15 01 02	No	5.32	plastic packaging	R3	С	Weighed	Offsite in Ireland	Scotch Corner ,W0020-02	Monaghan,,,Ireland Killygarry Industrial
Within the Country	15 01 02	No	4.14	plastic packaging	R3	С	Weighed	Offsite in Ireland	Cavan Waste Disposal,W0207-01	Park,Killygarry ,Cavan ,Co Cavan,Ireland
Within the Country	15 01 02	No	0.26	plastic packaging	R3	С	Weighed	Offsite in Ireland	Rehab Glassco Ltd.,WFP- KE-09-0357-01	Unit 4 Oberstown Industrial Park,Caragh Road,Naas,Co Kildare,Ireland Killygarry Industrial
Within the Country	15 01 03	No	71.04	wooden packaging	R3	С	Weighed	Offsite in Ireland	Cavan Waste Disposal,W0207-01	Park,Killygarry ,Cavan ,Co Cavan,Ireland
Within the Country	15 01 04	No	1.14	metallic packaging	R4	С	Weighed	Offsite in Ireland	Scotch Corner ,W0020-02	Annyalla, Castleblaney, Co. Monaghan, ,, Ireland Killygarry Industrial
Within the Country	15 01 04	No	4.01	metallic packaging	R4	С	Weighed	Offsite in Ireland	Cavan Waste Disposal,W0207-01	Park,Killygarry ,Cavan ,Co Cavan,Ireland Annyalla,Castleblaney ,Co.
Within the Country	15 01 04	No	3.64	metallic packaging	R4	С	Weighed	Offsite in Ireland	Scotch Corner ,W0020-02	Monaghan,,,Ireland Killygarry Industrial
ura: a o .	45.04.04		6 **		D4	0	100 : 1 - 1	0.00	Cavan Waste	Park,Killygarry ,Cavan ,C

Waste Licence W0077-04 Page 32

R5

R4

R3

С

С

С

Weighed

Weighed

Weighed

Weighed

Offsite in Ireland Disposal,W0207-01

Offsite in Ireland Disposal,W0207-01

Offsite in Ireland KE-09-0357-01

Offsite in Ireland Disposal, W0207-01

Cavan Waste

Cavan Waste

Rehab Glassco Ltd., WFP-

Cavan, Ireland

Cavan, Ireland

Kildare, Ireland

Cavan, Ireland

Killygarry Industrial

Killygarry Industrial

Park, Killygarry , Cavan , Co.

Unit 4 Oberstown Industrial

Park, Caragh Road, Naas, Co.

Park, Killygarry , Cavan , Co.

6.44 metallic packaging

4.58 composite packaging

25.61 glass packaging

55.38 glass packaging

#### AER Corranure Landfill 2011

									Clonminam Industrial Esta
Within the Country	<b>1</b> 01 07	Yes	0.18 oil filters	R13	С	Weighed	Offeite in Ireland	Enva Ireland LtdW0184-01	,Portlaoise ,Co. Laoise,.,Ireland
within the Country		163	gases in pressure containers (including	ICIS	C	vveigned	Olisite III lielaliu	Liva ireland Ltd., vvo 104-01	Clonminam Industrial Esta Portlaoise .Co.
Within the Country	16 05 04	Yes	0.05 halons) containing dangerous substances	R13	С	Weighed	Offsite in Ireland	Enva Ireland Ltd.,W0184-01	Laoise,.,lreland Unit 21 Duleek Business
Mithin the Country	16.06.01	Vaa	2.54 lead betteries	R4	С	Majakad	Officito in Iroland	The Recycling	Park, Commons, Duleek, Co
Within the Country	10 00 01	Yes	2.54 lead batteries mixture of concrete, bricks, tiles and ceramics other than those mentioned in 17	K4	C	Weighed	Olisite in Ireland	Village,WFP/MH/11/0005/01 Cavan Waste	Killygarry Industrial Park,Killygarry ,Cavan ,C
Within the Country	17 01 07	No	65.28 01 06 mixture of concrete, bricks, tiles and	R13	С	Weighed	Offsite in Ireland	Disposal,W0207-01	Cavan, Ireland
			ceramics other than those mentioned in 17						Annyalla, Castleblaney, Co
Within the Country	17 01 07	No	49.96 01 06	R13	С	Weighed	Offsite in Ireland	Scotch Corner ,W0020-02	Monaghan,,,Ireland Killygarry Industrial
Within the Country	17 08 02	No	gypsum-based construction materials other 13.72 than those mentioned in 17 08 01	R13	С	Weighed	Offsite in Ireland	Cavan Waste Disposal,W0207-01	Park, Killygarry , Cavan , C Cavan, Ireland
					-				Annyalla, Castleblaney, Co
Within the Country	20 01 01	No	12.62 paper and cardboard	R3	С	Weighed	Offsite in Ireland	Scotch Corner ,W0020-02	Monaghan,,,Ireland Annyalla,Castleblaney,Co
Within the Country	20 01 01	No	24.3 paper and cardboard	R3	С	Weighed	Offsite in Ireland	Scotch Corner ,W0020-02	Monaghan,,,Ireland
						, i			Killygarry Industrial
Within the Country	20 01 01	No	76.14 paper and cardboard	R13	С	Weighed	Offsite in Ireland	Cavan Waste Disposal.W0207-01	Park, Killygarry , Cavan , C Cavan, Ireland
vvicinii tile country	200101	110	76.14 paper and caraboard	1110	Ŭ	vveigned	Onoite in inclaire	Dioposai, vvozor o i	504 A Grants
								To the Describer	Drive, Greenogue Business
Within the Country	20 01 10	No	12.1 clothes	R12	С	Weighed	Offsite in Ireland	Textile Recycling Limited N/A	Park, Greenogue Industrial Estate, Dublin 24, Ireland
,					-				504 A Grants
								Tautila Daguelina	Drive, Greenogue Business
Within the Country	20 01 11	No	4.1 textiles	R12	С	Weighed	Offsite in Ireland	Textile Recycling Limited,N/A	Park, Greenogue Industrial Estate, Dublin 24, Ireland
Í						· ·			Cappincur Industrial
			fluorescent tubes and other mercury-					KMK Metals Recycling	Estate, Daingean Road, Tullamore, Co.
Within the Country	20 01 21	Yes	0.85 containing waste	R13	С	Weighed	Offsite in Ireland	Limited,W0113-03	Offaly, Ireland
			discarded equipment containing						
Within the Country Within the Country		Yes No	7.59 chlorofluorocarbons 0.18 edible oil and fat	R4 R9	C C	Weighed Weighed	Offsite in Ireland Offsite in Ireland		.,,,,,lreland .,,,,lreland
within the Country	20 01 25	140	0. To edible oil and fat	KS	C	vveigned	Olisite III Ilelaliu	Agri Fule,.	Orchard Road Industrial
									Estate,Orchard Road
Within the Country	20 01 25	No	0.62 edible oil and fat	R9	С	Weighed	Offsite in Ireland	Envlite Ltd	,Strabane,Co. Tyrone BT8 9FR.Ireland
Within the Country	20 01 23	140	paint, inks, adhesives and resins	13	C	vveigned	Olisite III II elaliu	Trylite Ltd,.	51 TV,II elaliu
Within the Country	20 01 27	Yes	0.04 containing dangerous substances	R5	С	Weighed	Offsite in Ireland	HP Planet Partners,.	.,,,,,,lreland
			paint, inks, adhesives and resins						Clonminam Industrial Esta ,Portlaoise ,Co.
Within the Country	20 01 27	Yes	3.04 containing dangerous substances	R13	С	Weighed	Offsite in Ireland	Enva Ireland Ltd.,W0184-01	Laoise,,,Ireland
			batteries and accumulators included in 16						
			06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing					The Recycling	Unit 21 Duleek Business Park, Commons, Duleek, C
Within the Country	20 01 33	Yes	0.36 these batteries	R4	С	Weighed	Offsite in Ireland	Village,WFP/MH/11/0005/01	
			batteries and accumulators included in 16			-			
			06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing						Kiffa,Crosserlough,Ballyja
Within the Country	20 01 33	Yes	1.0 these batteries	R4	С	Weighed	Offsite in Ireland	Wilton Waste Recycling,.	mesduff,Co. Cavan,Ireland
1			discarded electrical and electronic					, 3,	
			equipment other than those mentioned in					The Decualing	Unit 21 Duleek Business

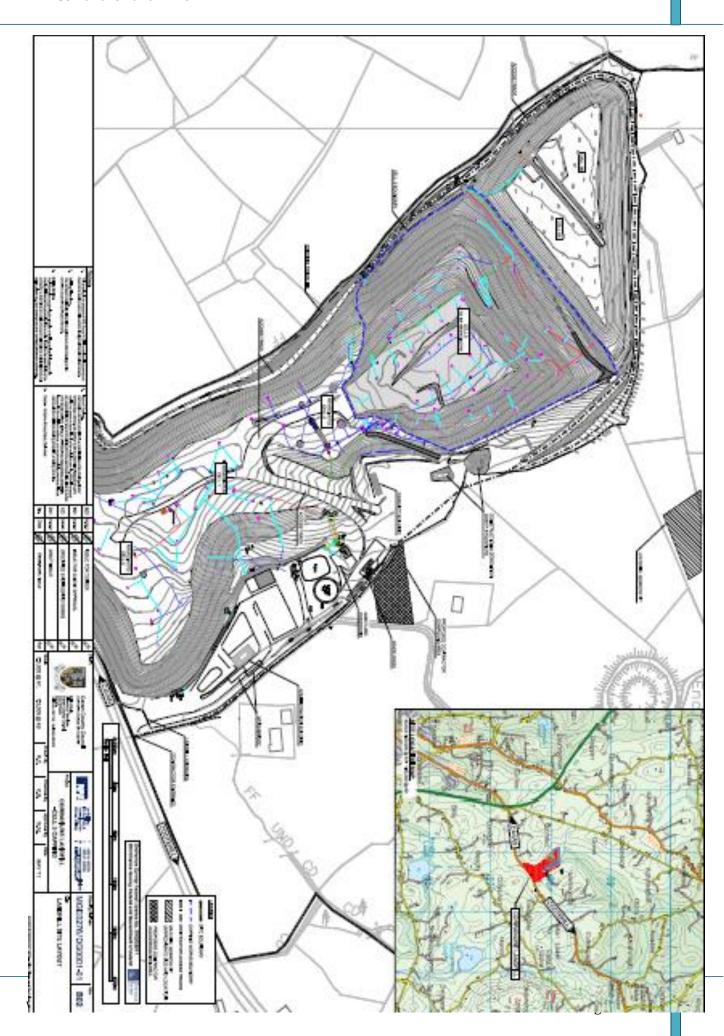
#### AER Corranure Landfill 2011

Whin the Country   1										
batteries and accumulators included in 16 Co 11, 16 Go 12 n 16 Go 3 and unsoned batteries and accumulators containing.  Within the Country 20 01 33 Yes 13 these batteries and accumulators containing discarded electrical and electronic equipment dher than those mentioned in discarded electrical and electronic equipment of the than those mentioned in discarded electrical and electronic equipment of the than those mentioned in equipment of the than those mentioned in discarded electrical and electronic equipment of the than those mentioned in discarded electrical and electronic equipment of the than those mentioned in 15 to 20 to 12 to 20 to 13 and 20 to 13 5 discarded electrical and electronic equipment of the than those mentioned in 15 to 20 to 12 to 20 to 13 and 20 to 13 5 discarded electrical and electronic equipment of electronic equipment of the than those mentioned in 15 to 20 to 12 to 20 to 13 and 20 to 13 5 discarded electrical and electronic equipment of the than those mentioned in 15 to 20 to 12 to 10 to 13 and 20 to 13 5 discarded electrical and electronic equipment of the than those mentioned in 20 to 13 5 discarded electrical and electronic equipment of the than those mentioned in 20 to 13 5 discarded electrical and electronic equipment of the than those mentioned in 20 to 13 5 discarded electrical and electronic equipment of the than those mentioned in 20 to 13 5 discarded electrical and electronic equipment of the than those mentioned in 20 to 13 5 discarded electrical and electronic equipment of the than those mentioned in 20 to 13 5 discarded electrical and electronic equipment of the than those mentioned in 20 to 13 5 discarded electrical and electronic equipment of the than those mentioned in 20 to 13 5 discarded electrical and electronic equipment of the than those mentioned in 20 to 13 5 discarded electrical and electronic equipment of the than those mentioned in 20 to 13 5 discarded electrical and electronic equipment of the than those mentioned in 20 to 13 5 discarded electrical and electro									The Recycling	Park,Commons,Duleek,Co.
Within the Country 20 01 33 Yes 10 hese batteries discarded electrical and electronic equipment other than those mentioned in 20 01 21 and and 20 10 12 an	Within the Country	▼01 33	Yes	batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted	R4	С	Weighed	Offsite in Ireland		
equipment other than those mentioned in 20 of 12 and and 20 of 12 as containing and content of the country 20 of 135	Within the Country	20 01 33	Yes	1.0 these batteries	R4	С	Weighed	Offsite in Ireland		
Within the Country   20 01 36 No				equipment other than those mentioned in						
Within the Country 20 01 36 No 1.51 20 01 21, 20 01 23 and 20 01 35 R4 C Weighed Offsite in Ireland Interec BV,	Within the Country	20 01 35	Yes	discarded electrical and electronic	R4	С	Weighed	Offsite in Ireland	Village,WFP/MH/11/0005/01	Meath,Ireland
Within the Country   20 01 36	Within the Country	20 01 36	No	1.51 20 01 21, 20 01 23 and 20 01 35 discarded electrical and electronic	R4	С	Weighed	Offsite in Ireland	Interrec BV,.	.,.,,,lreland
Within the Country   20 01 36	Within the Country	20 01 36	No	10.58 20 01 21, 20 01 23 and 20 01 35	R4	С	Weighed	Offsite in Ireland	•	Unit 21 Duleek Business
Within the Country Within the Co	Within the Country	20 01 36	No	42.32 20 01 21, 20 01 23 and 20 01 35 discarded electrical and electronic	R4	С	Weighed	Offsite in Ireland	Village, WFP/MH/11/0005/01	Meath,Ireland Unit 1a Tassagh
Within the Country 20 01 38 No 41.9 wood other than that mentioned in 20 01 3 R3 C Weighed Offsite in Ireland Scotch Corner , W0020-02 Amyalla, Castleblaney , Co. Within the Country 20 01 39 No 9.45 plastics R3 C Weighed Offsite in Ireland Scotch Corner , W0020-02 Cavan , Ireland Killygarry , Industrial Cavan Waste Cavan Cavan C	Within the Country	20 01 36	No	The state of the s	R4	С	Weighed	Offsite in Ireland	, ,	Armagh,BT60 3TU,Ireland
Within the Country 20 01 39 No 9.45 plastics R3 C Weighed Offsite in Ireland Killygarry Industrial Cavan Waste Park, Killygarry Cavan Co. Cavan Waste Cavan Waste Cavan Waste Park, Killygarry Cavan Co. Cavan Waste Cavan Waste Cavan Waste Park, Killygarry Cavan Co. Cavan Waste Cavan Covan Cavan Waste Cavan Waste Cavan	Within the Country	20 01 38	No	41.9 wood other than that mentioned in 20 01 37	R3	С	Weighed	Offsite in Ireland	Scotch Corner ,W0020-02	Monaghan,,,Ireland
Within the Country 20 01 39 No 18.32 plastics R3 C Weighed Offsite in Ireland Cavan Waste Cavan Waste Park,Killygarry Industrial Park,Killygarry Industrial Cavan Waste Park,Killygarry Cavan Co.  Within the Country 20 01 40 No 15.48 metals R4 C Weighed Offsite in Ireland Within the Country 20 02 01 No 21.06 biodegradable waste R3 C Weighed Offsite in Ireland Within the Country 20 02 01 No 69.04 biodegradable waste R3 C Weighed Offsite in Ireland Within the Country 20 03 01 No 193.36 mixed municipal waste D15 C Weighed Offsite in Ireland Cillygarry Industrial Cavan Waste North Country 20 03 01 No 937.4 mixed municipal waste D15 C Weighed Offsite in Ireland Cillygarry Industrial Cavan Waste North Country 20 03 07 No 56.97 bulky waste Landfill leachate other than those mentioned Cavan Country Council	Within the Country	20 01 39	No	9.45 plastics	R3	С	Weighed	Offsite in Ireland	Scotch Corner ,W0020-02	Monaghan,.,Ireland Killygarry Industrial
Within the Country 20 01 40 No 37.2 metals R4 C Weighed Offsite in Ireland Disposal,W0207-01 Cavan,Ireland Kiffa,Crosserlough,Ballyjaa mesduff,Co. Cavan,Ireland Kiffa,Crosserlough,Ballyjaa Within the Country 20 01 No 21.06 biodegradable waste R3 C Weighed Offsite in Ireland Wilton Waste Recycling, mesduff,Co. Cavan,Ireland Kiffa,Crosserlough,Ballyjaa mesduff,Co. Cavan,Ireland Kiffa,Crosserlough,Ballyjaa mesduff,Co. Cavan,Ireland Killygarry Industrial mesduff,Co. Cavan,Ireland Killygarry Industrial Park,Killygarry Cavan Co. Weighed Offsite in Ireland Disposal,W0207-01 Cavan,Ireland Killygarry Industrial Park,Killygarry Cavan Co. Weighed Offsite in Ireland Scotch Corner, W0020-02 Monaghan, Ireland Killygarry Industrial Cavan Waste Park,Killygarry Industrial Park,Killygarry Industrial Park,Killygarry Cavan Co. Within the Country 20 03 01 No 937.4 mixed municipal waste D15 C Weighed Offsite in Ireland Disposal,W0207-01 Cavan,Ireland Annyalla, Castleblaney Co. Within the Country 20 03 07 No 56.97 bulky waste D15 C Weighed Offsite in Ireland Scotch Corner, W0020-02 Cavan Country Council Ca	Within the Country	20 01 39	No	18.32 plastics	R3	С	Weighed	Offsite in Ireland	Disposal,W0207-01	Cavan, Ireland
Within the Country 20 01 40 No 15.48 metals R4 C Weighed Offsite in Ireland Wilton Waste Recycling, mesduff, Co. Cavan, Ireland Kiffa, Crosserlough, Ballyjaa mesduff, Co. Cavan, Ireland Annyalla, Castleblaney, Co. Weighed Offsite in Ireland Disposal, W0207-01 Cavan, Ireland Annyalla, Castleblaney, Co. Within the Country 20 03 01 No 937.4 mixed municipal waste D15 C Weighed Offsite in Ireland Disposal, W0207-01 Cavan, Ireland Annyalla, Castleblaney, Co. Within the Country 20 03 07 No 56.97 bulky waste Landfill leachate other than those mentioned Landfill leachate other than those mentioned Country Council	Within the Country	20 01 40	No	37.2 metals	R4	С	Weighed	Offsite in Ireland	Disposal,W0207-01	Cavan, Ireland
Within the Country 20 02 01 No 21.06 biodegradable waste R3 C Weighed Offsite in Ireland Killygarry Industrial Cavan Waste Park,Killygarry Industrial Cavan Waste Park,Killygarry Industrial Cavan Waste Park,Killygarry Cavan Co. Cavan,Ireland Cavan Waste Park,Killygarry Cavan Co. Weighed Offsite in Ireland Cavan Waste Park,Killygarry Cavan Co. Weighed Offsite in Ireland Cavan Waste Park,Killygarry Cavan Co. Weighed Offsite in Ireland Cavan Waste Park,Killygarry Cavan Co. Weighed Offsite in Ireland Cavan Waste Park,Killygarry Cavan Co. Weighed Offsite in Ireland Cavan,Ireland Cavan Co. Weighed Offsite in Ireland Cavan Co. C	Within the Country	20 01 40	No	15.48 metals	R4	С	Weighed	Offsite in Ireland	Wilton Waste Recycling,.	mesduff,Co. Cavan,Ireland
Within the Country 20 02 01 No 69.04 biodegradable waste R3 C Weighed Offsite in Ireland Disposal,W0207-01 Cavan,Ireland Annyalla,Castleblaney ,Co.  Within the Country 20 03 01 No 193.36 mixed municipal waste D15 C Weighed Offsite in Ireland Scotch Corner ,W0020-02 Monaghan,Ireland Killygarry Industrial Cavan Waste Park,Killygarry ,Cavan ,Co.  Within the Country 20 03 01 No 937.4 mixed municipal waste D15 C Weighed Offsite in Ireland Disposal,W0207-01 Cavan,Ireland Killygarry ,Cavan ,Co.  Within the Country 20 03 07 No 56.97 bulky waste D15 C Weighed Offsite in Ireland Scotch Corner ,W0020-02 Monaghan,Ireland Annyalla,Castleblaney ,Co.  Within the Country 20 03 07 No 56.97 bulky waste Landfill leachate other than those mentioned Cavan Country Council	Within the Country	20 02 01	No	21.06 biodegradable waste	R3	С	Weighed	Offsite in Ireland	Wilton Waste Recycling,.	mesduff,Co. Cavan,Ireland
Within the Country 20 03 01 No 193.36 mixed municipal waste D15 C Weighed Offsite in Ireland Scotch Corner ,W0020-02 Monaghan,,Ireland Killygarry Industrial Cavan Waste Park,Killygarry ,Cavan ,Co. Within the Country 20 03 01 No 937.4 mixed municipal waste D15 C Weighed Offsite in Ireland Disposal,W0207-01 Cavan,Ireland Annyalla,Castleblaney ,Co. Within the Country 20 03 07 No 56.97 bulky waste D15 C Weighed Offsite in Ireland Scotch Corner ,W0020-02 Monaghan,,Ireland Cavan Country Council	Within the Country	20 02 01	No	69.04 biodegradable waste	R3	С	Weighed	Offsite in Ireland		Cavan, Ireland
Within the Country 20 03 01 No 937.4 mixed municipal waste D15 C Weighed Offsite in Ireland Disposal,W0207-01 Cavan,Ireland Annyalla,Castleblaney ,Co.  Within the Country 20 03 07 No 56.97 bulky waste D15 C Weighed Offsite in Ireland Scotch Corner ,W0020-02 Monaghan, reland Cavan Country Council	Within the Country	20 03 01	No	193.36 mixed municipal waste	D15	С	Weighed	Offsite in Ireland	Scotch Corner ,W0020-02	Monaghan,,,Ireland
Within the Country 20 03 07 No 56.97 bulky waste D15 C Weighed Offsite in Ireland Scotch Corner ,W0020-02 Monaghan,.,Ireland Cavan Country Council	Within the Country	20 03 01	No	937.4 mixed municipal waste	D15	С	Weighed	Offsite in Ireland	Disposal,W0207-01	Cavan, Ireland
	Within the Country	20 03 07	No		D15	С	Weighed	Offsite in Ireland	Scotch Corner ,W0020-02	
	Within the Country	19 07 03	No		D6	Е	Volume Calculation	Offsite in Ireland		.,,,,,lreland

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#### APPENDIX 3

#### **TOPOGRAPHICAL SURVEY**



#### APPENDIX 4

POLLUTANT RELEASE AND TRANSFER REGISTER



#### Guidance to completing the PRTR workbook

AER Returns Workbook **Environmental Protection Agency** REFERENCE YEAR 2011 1. FACILITY IDENTIFICATION Parent Company Name Cavan County Council Facility Name Corranure Landfill PRTR Identification Number W0077 Licence Number W0077-04 Waste or IPPC Classes of Activity N ▼ class\_name Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another 3.5 and the environment. 3.1 Deposit on, in or under land (including landfill). Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule. Repackaging prior to submission to any activity referred to in a 3.12 preceding paragraph of this Schedule.
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 3.13 concerned is produced. Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule. Exchange of waste for submission to any activity referred to in a 4.12 preceding paragraph of this Schedule 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 4.13 such waste is produced. Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological 4.2 transformation processes). 4.3 Recycling or reclamation of metals and metal compounds. 4.4 Recycling or reclamation of other inorganic materials Use of any waste principally as a fuel or other means to generate 4.9 energy. Address 1 Lismagratty & Corranure Townlands Address 2 Cootehill Road Address 3 Cavan Address 4 County Cavan Cavan Country Ireland Coordinates of Location -7.86062 53.3979 River Basin District GBNIIENW NACE Code 3821 Main Economic Activity Treatment and disposal of non-hazardous waste AER Returns Contact Name Janet O'Shea/Jim Dowdall AER Returns Contact Email Address joshea@enviroguide.ie AER Returns Contact Position Environmental Officer/Landfill Manager AER Returns Contact Telephone Number 049 4327658 AER Returns Contact Mobile Phone Number 085 8511179 AER Returns Contact Fax Number n/a **Production Volume** Production Volume Units Number of Installations Number of Operating Hours in Year Number of Employees User Feedback/Comments Web Address 2. PRTR CLASS ACTIVITIES **Activity Number** Activity Name 5(d) 5(c) 5(d) Landfill Installations for the disposal of non-hazardous waste Landfills 50.1 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

Is the reduction scheme compliance route being

Schedule 2 of the regulations) ?

4.1 RELEASES TO AIR

Link to previous years emissions data

| PRTR# : W0077 | Facility Name : Corranure Landfill | Filename : W0077\_2(

#### **SECTION A: SECTOR SPECIFIC PRTR POLLUTANTS**

RELEASES TO AIR									
	METHOD								
			ethod Used						
No. Annex II	Name		Method Code	Designation or Description					
01	Methane (CH4)	С	ESTIMATE						
03	Carbon dioxide (CO2)	С	ESTIMATE						
ADD NEW ROW DELETE ROW *	* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button								

#### **SECTION B: REMAINING PRTR POLLUTANTS**

RELEASES TO AIR								
POLLUTANT		METHOD						
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description				
ADD NEW ROW DELETE ROW *	* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button							

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

CECTION C: REMAINING TO CECTART EMICOTOR (ASTEQUIRED IN YOUR ELECTION)							
RELEASES TO AIR							
POLLUTANT		METHOD					
				Method Used			
Pollutant No.		Name	M/C/E	Method Code	Designation or Description		
210		Dust	M	ALT	Bergerhoff Method		
ADD NEW DOW	DELETE DOW *	* Select a row by double-clicking on the Pollutant Name (Column R) then click the delete button					

#### Additional Data Requested from Landfill operators

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

Landfill:	Corranure Landfill				
Please enter summary data on the					
quantities of methane flared and / or					
utilised			Method Used		
				Designation or	
	T (Total) kg/Year	M/C/E	Method Code	Description	
				Averages obtained from	
Total estimated methane generation (as per				daily on-site gas	
site model)	1623767.0	M	ESTIMATE	monitoring	
				Averages obtained from	
				daily on-site gas	
Methane flared	1623767.0	М	ESTIMATE	monitoring	
Methane utilised in engine/s	0.0				
Net methane emission (as reported in					
Section A above)	0.0				

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