

MEATH COUNTY COUNCIL



BASKETSTOWN LANDFILL FACILITY

ANNUAL ENVIRONMENTAL REPORT

APRIL 2011 - MARCH 2012

1. Introduction

This Annual Environmental Report (AER) for Basketstown Landfill has been prepared in accordance with condition 11.3 of the Waste Licence (W0010-02) granted by the E.P.A. to Meath County Council. This AER contains the information as specified in Schedule E of the Waste Licence: *Content of the Annual Environmental Report*.

The reporting period for this AER refers to **1st April 2011 to 31st March 2012** inclusive.

The landfill stopped accepting waste on 22nd December, 2001. An application to the EPA for a Review Licence following site closure was compiled and submitted in October 2002. The Review Licence, W0010-02 was issued by the EPA on 22nd April 2004.

All remaining capping works for Phase 1 and Phase 2 were completed by March 2004. The majority of restoration works and infrastructure were also completed prior to this reporting period and are detailed in previous AER's.

2. Management and Staffing Structures

Up until September 2007, Basketstown Landfill was operated by Meath County Council (MCC) with consultancy support provided by Enviros Consulting Ltd. From September 2007, Meath County Council has managed the site without the assistance of Enviros Consulting Ltd. During the reporting period, MCC maintained a daily presence on the site provided by the site operative. This operative retired from his position in October 2008 and a weekly site inspection is now carried out by the Site Supervisor. It is anticipated that MCC will employ the services of a consultant to supervise any major engineering works as are deemed necessary.

Contact Person	Telephone No
Director of Environment Section (MCC) Tadhg McDonnell	046-9097000
Senior Executive Officer (MCC) Larry Whelan	046-9097000
Executive Engineer (MCC) Declan Grimes	046-9097000
Site Supervisor (MCC) Paul Luke	046-9097000

3. Financial provisions

MCC, as a Local Authority, has made the necessary provisions for the management, restoration and aftercare of the Basketstown landfill site. MCC has assigned responsibility for the landfill aftercare to a full time officer, who holds qualifications as a Landfill Manager. The Council is committed to the ongoing provision of the officers salary, and the funding of monitoring and other costs associated with the upkeep of the Waste Licence.

4. Programme for Public Information

In June 2006 MCC published the latest edition of the newsletter informing the public of developments at Basketstown Landfill. Copies of this newsletter were distributed to all the residents within 0.5km of the landfill. Further copies were made available to the public at MCCs offices in Navan and Trim and in the public library in Trim. No further issues have been published due to the lack of activity at the site.

5.Environmental Objectives & Targets

5.1 Objectives & Targets for coming year

See Appendix I for description of Objectives & Targets for period April 2011 - March 2012.

6. Reported Incidents and Complaints Summaries

6.1 Incidents

In twenty-one of the perimeter gas wells there were readings taken which exceeded the 1.5% CO₂ limit during the reporting period.

These incidents included four (4) instances of persistent exceedances and seventeen (17) isolated incidents of CO₂ trigger levels (1.5%) for perimeter gas levels.

In the past, all incidents recorded on site were reported to the EPA until 7th October, 2003, when the EPA requested MCC to cease notification of weekly CO₂ trigger level exceedances. All incidents continue to be kept on the public file in the site office.

Due to the age of the facility and the settlement of waste some of the gas wells within the landfill are prone to gas line disconnections resulting in repeated flare shut downs. In June 2011 a specialised contractor was appointed by Meath County Council to carry out remedial works to the gas network and condensate system in the landfill. In July 2011 these works were completed.

During the reporting period to EPA was informed 6 times while the flare was not operating for a number of days.

There was no significant impact on the environment arising from any of these incidents.

6.2 Complaints

There were no complaints received in the reporting period which relate to the operation of the facility under the Waste Licence.

7. Restoration works

As mentioned in last years AER the facility was prone to gas well disconnections and condensate/groundwater ingress into the flare. It was decided the work should be carried out to rectify these issues and in July 2011 Irish Biotech Systems were directed to remediate the landfill. A larger 2.7 m³ condensate pot was installed beside the flare to prevent fluid ingress to the flare. The two condensate pumps at the back of the landfill were fixed and a new pneumatic air-line and condensate collection line were put in place. Also, six gas wells that had disconnected were reconnected.

8. Environmental Nuisances

As a fully restored site, nuisances are no longer a problem.

9. Waste Acceptance and Handling

9.1 Waste activities carried out at the facility

Since 21st December 2001, the site has not accepted any waste. There was no soil imported into the site during the reporting period.

9.2 Quantities of waste removed off-site for treatment

During the reporting period 11,854 m³ of Leachate (Contaminated Groundwater) was tankered off-site to Navan Wastewater Treatment Plant, Ferganstown, Navan, Co, Meath for treatment before being discharged into the River Boyne.

10. Emissions Management

10.1 Landfill Gas Management

As mentioned previously during the reporting period, there were a number of incidents where the Landfill Gas Flare shutdown. Along with the disconnections, shut down occurs with electrical power cuts and the occasional instance of poor quality landfill gas causing the flame to extinguish. Every effort is made to ensure that the gas quality is at a high enough level to sustain the Flare. A gas balance exercise is carried out frequently on all 54 Gas Wells to ensure optimum quality gas is being extracted and poor quality gas wells are closed off.

10.1.1 Estimated annual and cumulative quantities of landfill gas emitted from the site

The gas extraction system operated at an inlet flow rate in the region of 550m³/hr, recorded from daily inlet monitoring during the reporting period. In the reporting period, the flare operated for 4,730 hours which gives an approximate annual total gas combustion figure of 2,601,500 m³/yr. This compares to approx. 7,436,119 m³/yr of gas produced on site for a total year (8,784hrs in year).

Table 1 Summary of gas combustion values

Reporting Period	Gas Combustion
2011-2012	2,601,500m ³ /yr
2010-2011	3,346,250m ³ /yr
2009-2010	5,493,750m ³ /yr
2008-2009	6,134,900m ³ /yr
2007-2008	5,999,300m ³ /yr
2006-2007	6,397,100m ³ /yr
2005-2006	6,793,200m ³ /yr
2004-2005	7,884,000m ³ /yr
2003-2004	8,760,000m ³ /yr
2002-2003	9,636,000m ³ /yr

Assuming the figure of 25% methane in the total landfill gas, this estimates a methane production of 650,375 m³/yr or 404,732kg/yr for April 2011 to March 2012. It must be noted that the above figures are approximate values based on best available emission data. Overall, the indications are that gas production at Basketstown is decreasing and that minimal amounts of methane are likely to be released as fugitive emissions.

10.1.2 Circumstances of decrease of gas combustion.

Since 2009 the landfill has been suffering from an increase in the amount of liquid that accumulates in the gas line. This along with the failure of the pneumatic condensate pumps and the repeated disconnections led to the continual problem of flare shutdown and sometimes for a significant length of time. Although remedial works has been carried out and to be carried out, the landfill gas production is in decline and the flare shuts down persistently. A smaller capacity is being sought and when in place should resolve the problem.

10.2 Leachate, groundwater and surface water management

Measures to minimise the volume of leachate generation and to limit its impact on groundwater and surface water are currently in place. Prior to the capping, water entered the waste mass at Basketstown Landfill by two routes, groundwater entry from the surrounding area and rainwater entry through the surface of the site. The waste body was capped in 2003 and rainwater is now diverted to clean surface water ditches surrounding the site, instead of percolating through the waste body. This has reduced the amount of leachate generated. The ingress of groundwater into the waste body however, cannot be eliminated.

10.2.1 Leachate volume

All leachate is collected via two sumps and pumped into the 250m³ concrete holding tank. The two sumps collect leachate/contaminated groundwater from a spring in the centre of the waste body and a ditch located at the southern boundary of the site. Both of these collection pathways are now enclosed and capped and do not collect rainwater. Leachate removal via tanker to Navan Wastewater Treatment Plant has continued throughout the reporting period. The volume of leachate tankered off-site during the reporting period was 8,694 m³.

The amount of condensate produced in the gas extraction pipelines during this reporting period was low being <10m³.

Table 2 Summary of leachate volume removed

Reporting Period	Leachate Volume
2011-2012	8,694m ³
2010-2011	11,640m ³
2009-2010	11,854m ³
2008-2009	10,078m ³
2007-2008	9,565m ³
2006-2007	10,749m ³
2005-2006	6,127m ³
2004-2005	6,100m ³
2003-2004	9,276m ³
2002-2003	16,107m ³

Meath County Council will continue to make very effort to ensure that the maximum amount possible of contaminated water/leachate is removed from the site for treatment.

10.2.2 Leachate Composition

Typical characteristics of the leachate removed off-site for treatment are presented in Table 3.

Table 3 Characteristics of the contaminated water/leachate removed from Basketstown Landfill pre and post capping

Parameter	08/02/02 Pre-capping	04/03/10 Post-capping
pH	7.16	-
BOD ₅ (mg/L)	2.5	3.7
Ammoniacal N (mg/L)	100	133

The comparison of leachate strength before and 6 years after capping of the site shows an increase in concentration for many of the parameters, which is to be expected as less surface water is now available for dilution of the leachate. However, when comparing the Basketstown values against typical leachate concentrations generated at contained landfill sites, where ammoniacal nitrogen concentrations typically may exceed 1500mg/l, it is evident that the leachate collected from this site is quite dilute due to the infiltration of groundwater into the base of the site.

11. Environmental Monitoring and Emissions Summary

11.1 Summary report on emissions

A summary of emissions monitoring undertaken at Basketstown Landfill in the reporting period is outlined in Table 4 below. Further details are provided in the following Section 9.2 and in the Appendix.

Table 4 Summary of Emissions Monitoring

Emission Monitoring + frequency	Significance
Landfill Gas (weekly/monthly)	<p>Carbon Dioxide (CO₂) levels regularly exceeded trigger levels during monthly monitoring at perimeter well locations. Methane levels were below trigger levels at all locations with no readings noted above 0.0% CH₄.</p> <p>Monitoring of the in-waste gas abstraction wells showed concentrations of methane and carbon dioxide in the order of 30% and 25% respectively.</p> <p>Gas monitors located in the site offices have not recorded any methane or carbon dioxide readings > 0% in the reporting period.</p>
Surface water (Quarterly + Annual)	<p>There are no prescribed emission limit values in the Waste Licence for surface water quality parameters. However, a number of surface waters in the vicinity of the site do appear to be experiencing some problems with water quality. Elevated conductivity, chloride and ammoniacal nitrogen results were observed at S5, which is the Tobernabeenog Spring. This is in essence, a groundwater sample where it breaks the surface and represents the quality of the groundwater at this point. This water is collected and sent to the leachate storage tank and treated along with other contaminated waters.</p> <p>The surface waters south of the site at S3 and S4 appear to be experiencing some contamination with elevated levels of ammoniacal nitrogen and chloride during the year. This was borne out in results obtained by the Agency in 2009. This is likely to be caused by the appearance of a spring outside the landfill site, which is contaminated at periods of high rainfall and hence high groundwater levels.</p> <p>Biological Monitoring of the specified sites was carried out in Sept. 2009 and the results forwarded to the Agency.</p>
Groundwater (Quarterly + Annual)	<p>No wells, deemed to be upstream of the landfill, demonstrated any elevated levels of ammoniacal nitrogen. Nearly all the wells downstream of the site demonstrated elevated levels of ammoniacal nitrogen, chloride, total organic carbon and conductivity with the exception of the deep well BH 14.</p> <p>Elevated ammoniacal nitrogen results were obtained for</p>

	boreholes BH7, BH8, BH9, BH 15 and BH18 which are all located downstream of the main body of waste. Water quality in private wells was generally good. MCC has provided mains-supplied drinking water to the residents in the vicinity of the landfill who had been receiving bottled water for the past number of years.
Leachate (Annual)	Results showed elevated ammoniacal nitrogen and chloride levels indicating a low/medium strength leachate.

11.2 Environmental Monitoring

Monitoring during this reporting period was carried out in accordance with Schedule C of the Review Waste Licence W0010-02. Sampling and monitoring locations are described in each of the sections below. Location plans showing the monitoring locations are attached.

11.2.1 Landfill Gas

In accordance with Schedule C.1 of the waste Licence W0010-02, the following monitoring has been carried out.

Table 5 Gas Monitoring Points

Perimeter Gas		
CO2 and CH4 levels (monthly)	27 points	Site Perimeter Gas Monitoring points
	North-West	PR1A - PR4A
	North-East	PR6A - PR7
	East	B8 - B10
	South-East	PR14A - PR16A
	South	PR18 - PR20 - PR22 - PR24
		Gas Monitoring wells at residential sites
	West	GW1 - Murtagh
	East	GW2 - McKenna
	West	B1 - Walsh
West	B2 - B3 - Murtagh	
North-East	B4 - B7 - McCormack	

Carbon Dioxide (CO₂)

Perimeter Boreholes

The concentrations for CO₂ as measured in the perimeter boreholes have continued to fluctuate despite the landfill cap being finalised and gas migration control being fully implemented.

There have been several exceedances of the carbon dioxide trigger-level (1.5% volume per volume (v/v)) at a number of the 27 perimeter gas wells, indicating off-site presence of the gas. The persistent exceedances in perimeter boreholes were recorded in wells PR1A and PR4A to the North West of the site in which, readings in excess of 4% CO₂ were recorded. To the North East of the site, a persistent exceedance of CO₂ occurred at B4. The levels of CO₂ in the wells to the South of the site wells, PR15 and PR16 had regular exceedances. The wells immediately to the East of the site (B8, B9 and B10) all had generally very low (< 1%) CO₂ readings however, the well near McKennas residence (GW2), which is >300m from the site had no exceedances.

Some monitoring locations appear to be subject to seasonal and annual fluctuations. This seasonal fluctuation may indicate that the observed increases in CO₂ relates to naturally occurring soil CO₂ that is affected by natural cycles, such as the activity of soil micro-organisms.

In November, 2008 MCC began monitoring the perimeter gas wells on a monthly basis after obtaining the required permission from the Agency. This change in the frequency of monitoring has not led to any noticeable change in the range of CO₂ readings recorded at each site. No methane readings above 0% were recorded since this change in frequency of monitoring. MCC will continue to monitor

the effects of this change in frequency and refer to the EPA if any trends become apparent.

The gas meter required a service and was sent off in late 2010. In January 2011 we were informed that the meter was unserviceable and that we required a new meter, the new meter did not arrive until late April 2011 and there was no other meter available in the mean time and so there are only 9 gas readings for the reporting period.

Residents' Gas Boreholes

At the boreholes on residents' properties, the following was recorded during this reporting period:

- **B1 Walshe's;** The CO₂ level in this borehole never exceeded the threshold limit of 1.5% once during the reporting period.

- **B2, B3 and GW1 Murtagh's;** The CO₂ concentrations at boreholes B2 and B3 were above the trigger level of 1.5% on one occasion between the two of them while Borehole GW1, located less than 50m from the Murtagh residence has CO₂ readings in the region of 1% during the reporting period. There was no obvious seasonal effect evident.

- **B4, B5, B6 and B7 Galtrim Lodge;**

The wells B4, B5, B6 and B7 consistently gave readings above 1.5%, while. The highest recorded concentration in these wells was 4.1% at B4.

- **GW2 McKennas;**

The CO₂ levels at this site were always below the trigger level of 1.5%.

Methane (CH₄)

Methane gas is the main indicator of landfill gas migration. During this reported period, methane was not detected at any of the perimeter monitoring wells. This is a positive trend which it is hoped will be maintained in the future.

11.2.2 Surface Water

Due to staff shortages, Health and Safety issues and equipment malfunction only one round of surface water and groundwater sampling was carried out. A table of results can be seen in the Appendix

Visual Inspection of surface water sites

The visual inspections of surface waters were conducted for monitoring points S3, S4, S5 and S6. An annual summary is provided in the following table:

Table 7 Visual Inspection Summary

Surface water monitoring location	Overview of results
S3 (d/s of the landfill to the south east of the site)	Flow: Low-medium at all times, not stagnant
	Weed growth/algae: weeds present but no algae
	Colour: Mainly clear with colour noted after prolonged rainfall in Winter periods
S4 (the Dangan River, south	Flow: Low-medium at all times, not stagnant
	Weed growth/algae: weeds present but no algae

west of the site)	Colour: Mainly clear with colour noted after prolonged rainfall in Winter periods
S5 (Tobernabeenog Spring)	Flow: Low - ran dry at start of June
	Weed growth/algae: some algal growth noted
	Colour: Mainly clear but orange scum (Iron) deposited at base of well
S6 (u/s of the landfill to the south east of the site)	Flow: Low-medium at all times, not stagnant
	Weed growth/algae: weeds present but no algae
	Colour: Mainly clear with colour noted after prolonged rainfall in Winter periods

Surface water quality issues are exacerbated by animal access points present upstream and along the Dangan River.

Surface Water quality analysis

Laboratory analysis of surface water quality is carried out on all 9 samples (including wetland sample) collected by MCC staff and analysed by Alcontrol Laboratories on behalf of Meath County Council. The parameters tested for surface water quality are Ammoniacal Nitrogen, BOD, COD, Chloride, Dissolved Oxygen, Conductivity, Ph and Total Suspended Solids.

Ammoniacal Nitrogen and Chloride are considered to be useful indicators of leachate strength and are used to identify sampling points where leachate/contaminated waters may be having an impact.

Elevated levels of Ammoniacal Nitrogen were observed in the samples taken at S3, S4 and S5. The sample S5 is taken from a well and is more representative of the interaction between the leachate and the groundwater in that area. This well has been contaminated with leachate for some time and Ammoniacal Nitrogen readings in excess of 90 mg/L found in June 2010 and March 2011 confirm this.

The sampling points S3 and S4 however, as usual demonstrated elevated levels in surface waters to the south east of the site

during the reporting period. It should be noted that S2 is upstream of the land-drain, which flows from the direction of the landfill and S3 is directly downstream of this drain and S4 is a further 4-500m further downstream again.

The ammonia levels in S2 are consistently <1mg/L while the levels in S3 have rise due to the impact of the drain coming from the direction of the landfill. MCC carried out a thorough investigation of this area and found there to be a number of springs which are rising to the surface in a field outside the boundary of the landfill site directly to the south east of the site. At times of sustained heavy rainfall and higher groundwater levels, these springs contain high levels of Ammonia as a result of the interaction between the groundwater and the leachate under the landfill. The springs flow into the adjacent land-drain and into the stream between S2 and S3 thus giving elevated ammonia levels. The springs mentioned above are located in a parcel of land outside of the landfill site. As mentioned earlier animal access might be a contributory factor for the high ammonia.

The levels of ammonia in sampling point S7, located approx. 1.5km d/s of S4 are lower, typically being <0.7mg/L.

Chloride and Conductivity levels were found to be slightly elevated at S3 and S4 in line with the findings above. Other parameters including BOD and COD were generally found to be within acceptable levels at all sites with the exception of S5 for the reasons outlined above.

Biological Assessment

An annual biological quality survey of the Knightsbrook Catchment was conducted on 3rd September 2011. Conservation Services, Ecological & Environmental Consultants were commissioned by Meath County Council to carry out biological sampling and water quality assessment in accordance with EPA Q-rating methodology at ten locations adjacent to the landfill site and on the Dangan and Cloneymeath/Knightsbrook Rivers.

The results of this survey were forwarded to the Agency at a previous date, a summary of the findings is included below:

The Knightsbrook River continues to have a significant pollution problem (see map). The main channel upstream of its confluence with the Dangan 'River' (Site 4) has gone down a Q value from a2-3 to a Q2as has immediately downstream of the Dangan 'River' confluence (Site 5). The Site K02-0300 1km downstream of the Dangan confluence the Q-rating remains a moderately polluted Q2-3. Site K02-0360 5km downstream of the confluence and Site K02-0500 c.12 km downstream remain a moderately polluted Q3.

The results indicate continuing pollution of the Knightsbrook River upstream of the Dangan confluence, which is upstream of any potential landfill impact. The biological monitoring data from sites on the Knightsbrook immediately upstream and downstream of its confluence with the Dangan 'River' contain no evidence that the Dangan 'River' (which flows from the vicinity of the Basketstown Landfill), causes any deterioration in the condition of the Knightsbrook River.

The invertebrate data indicate that the Dangan 'River' continues to be seriously polluted upstream and downstream of the drain which enters at grid reference N858 512 from the vicinity of Basketstown Landfill.

Unless there is some means by which landfill leachate can enter the Knightsbrook River other than via the Dangan River, the results of biological monitoring continue to contain no evidence that the landfill is responsible for the unsatisfactory condition of the Knightsbrook River.

11.2.3 Wetland Area

Results of the laboratory analysis taken from the wetland monitoring point W1 indicate that the water quality is of a relatively high standard. Ammoniacal Nitrogen levels in the reporting period were consistently <0.3mg/L and BOD levels were usually <5mg/L. The water quality in this wetland area appears to be consistently good. The level of the wetland was increased during this prior reporting period as a result of a French Drain being introduced in the exit drain.

11.2.4 Groundwater

Table 8 Groundwater Monitoring Locations

Groundwater Monitoring Locations		
Shallow Boreholes - Upgradient	2 points	LM 16, BH11
Shallow Boreholes - Downgradient	4 points	BH5, BH7, BH8, BH9
Deep Boreholes - Upgradient	2 points	BH13, BH16
Deep Boreholes - Downgradient	3 points	BH14, BH15, BH18

Groundwater Levels

Groundwater levels were measured on a monthly basis using a dip meter. Groundwater levels remained relatively constant throughout

the monitoring period, with only minor variations in groundwater levels in accordance with the prevailing weather conditions.

Groundwater Quality Analysis

Deep groundwater boreholes

Elevated levels of ammoniacal nitrogen were detected at BH5, BH7, BH8 and BH9 all of which lie to the south of the site. These sites are located 'downgradient' of the landfill, in relation to groundwater flow regime. However, Chloride levels and Conductivity readings for these sites were also seem to be elevated. The ammoniacal nitrogen levels in Boreholes BH13, BH14 and BH16 were all less than 1mg/L during the reporting period. BH14 is located less than 10m from the main body of waste and these results suggest that leachate/contaminated water migration is occurring in the upper layers of groundwater close to the landfill site.

Shallow groundwater boreholes

With the exception of BH11 which is located 'upgradient' of the waste body, all of the shallow boreholes demonstrated elevated levels of ammoniacal nitrogen. This indicates that there exists some level of leachate/contaminated water intrusion in the downgradient wells. BH11 is situated upgradient of the landfill and ammoniacal nitrogen levels of 1.36mg/l during the reporting period.

The readings for ammoniacal nitrogen in the shallow contaminated boreholes varied from a reading of 16.2mg/L for BH5 to a reading in excess of 85.6mg/L which was recorded at BH9. Boreholes BH8 and BH9 are located within 10m of the main body of waste and the high levels of ammoniacal N found in these wells demonstrate that the immediate groundwaters in the vicinity of the landfill

continue to be heavily contaminated by leachate. Elevated levels of Chloride, Conductivity and Total Organic carbon were also observed in line with the monitoring data obtained over the previous number of years.

The results of the water quality analysis carried out on all groundwater samples during the reporting period are presented in the Appendices.

Private well water analysis

In May 2009, MCC provided a piped mains supply of drinking water from the Trim water supply scheme to the residents near Basketstown landfill and therefore, the residents no longer receive a tankered supply of potable water.

During the reporting period, MCC were unable to take samples from these private wells due to a number of factors. In most cases, the pumps are no longer working due to lack of use.

11.2.5 Leachate

Table 10 Leachate Monitoring

Leachate Monitoring			
Composition	2 points	LM7 and LM11	Annually
Level	15 points	LM1 - LM15	Monthly

Leachate levels were monitored at locations LM1-15 however, as a number of the leachate monitoring wells are dry/blocked some changes have been made to the monitoring programme. These changes are listed below:

- GWAB1 is now blocked
- GWAB3 is now blocked

- GWAB5 is monitored in place of LM3
- GWAB7 is monitored in place of LM4
- GWAB8 is now blocked
- GWAB9 is monitored in place of LM6
- MC2 is monitored in place of LM9
- GWAB41 is monitored in place of LM15

These new monitoring points were chosen based on their proximity to the original monitoring points. The changes have been reported to the Agency for approval.

Leachate levels

Leachate levels were measured on a monthly basis using a dip meter. Leachate levels remained relatively constant throughout the monitoring period, with only minor variations in accordance with the prevailing weather conditions.

Leachate composition analysis

Due to staff shortages and equipment malfunction no landfill leachate samples were obtained.

11.2.6 Meteorological monitoring

Meteorological data is collated by Met Eireann at Mullingar Weather Station, approximately 40km west of the site, which is the nearest met station to Basketstown Landfill. As per Schedule C.5 of the waste licence 10-2, *Meteorological Monitoring*, the following parameters are reported:

- Temperature (min & max);
- Evaporation;
- Evapotranspiration;
- Relative Humidity;
- Pressure;

- Wind direction;
- Wind speed; and
- Precipitation.

Graphs illustrating the data for each of these parameters are presented in the Appendices.

APPENDICES

1. Objectives and Targets 2011-2012

2. Perimeter Gas Tables

3. Laboratory Analysis Data

4. Meteorological Data Graphs

5. Sampling Location Maps

1. PRTR Returns Worksheet

Appendix 1

Objectives and Targets 2011-2012

Although Irish Biotech Systems carried out remedial works that would rectify the water problems, it seems that the gas quality is in decline and the existing flare is struggling to operate with the gas it is using. It is hoped that a smaller capacity flare will be sourced and replace the existing set up.

Appendix 2

Perimeter Gas and Water Quality Monitoring Tables

Gas Monitoring:Basketstown Landfill Site,County Meath

DATE 30/05/2011 **TIME** 1200
Sampler P.Luke **INSTRUMENT** GA2000

Location	CH ₄ %	CO ₂ %	O ₂ %		Notes	CH ₄	CO ₂
GA2000	-	-	-	-		Exceedence analysis for trigger level of	Exceedence analysis for trigger level of
Standard	5.0	5.0	5.0	-		1.0	1.5
PR1 A	0.0	2.1	19.3	1001			Exceedence
PR2 A	0.0	0	21.4	1001			
PR3 A	0.0	0.0	21.2	1001			
PR4 A	0.0	2.7	19.1	1001			Exceedence
PR5	0.0				Removed		
PR6 A	0.0	0.0	21.5	1001			
PR7	0.0				Removed		
PR8	0.0				Destroyed		
PR13	0.0				Removed		
PR14 A	0.0	0.0	20.8	1001			
PR15A	0.0	0.1	20.4	1001			
PR16 A	0.0	0.0	20.6	1001			
PR17	0.0				Removed		
PR18	0.0	0.0	21.1	1001			
PR19	0.0	1.1	20.3	1001			
PR20	0.0	1.0	20.5	1001			
PR21	0.0				Removed		
PR22	0.0	0.0	21.1	1001			
PR23	0.0	0.9	20.6	1001			
PR24	0.0	0.0	21.1	1001			
PR28	0.0				Removed		
GW1	0.0	1.4	20.0	1001			
GW2	0.0	0.1	20.9	1001			
B1	0.0	1.1	20.3	1001			
B2	0.0	0.0	21.3	1001			
B3	0.0	0.0	21.3	1001			
B4	0.0	1.7	17.5	1001			Exceedence
B5	0.0	1.1	20.9	1001			
B6	0.0	0.0	21.5	1001			
B7	0.0	0.0	21.6	1001			
B8	0.0	0.1	20.8	1001			
B9	0.0	0.0	20.9	1001			
B10	0.0	0.0	20.9	1001			

Gas Monitoring:Basketstown Landfill Site,County Meath

DATE 26/06/2011 **TIME**1200
Sampler P.Luke **INSTRUMENT** GA2000

Location	CH ₄ %	CO ₂ %	O ₂ %		Notes	CH ₄	CO ₂
GA2000	-	-	-	-		Exceedence analysis for trigger level of	Exceedence analysis for trigger level of
Standard	5.0	5.0	5.0	-		1.0	1.5
PR1 A	0.0	3.0	16.8	1006			Exceedence
PR2 A	0.0	0	21.0	1006			
PR3 A	0.0	0.0	21.0	1006			
PR4 A	0.0	3.2	16.6	1006			Exceedence
PR5	0.0				Removed		
PR6 A	0.0	0.0	21.2	1006			
PR7	0.0				Removed		
PR8	0.0				Destroyed		
PR13	0.0				Removed		
PR14 A	0.0	0.0	20.6	1006			
PR15A	0.0	4.0	15.2	1006			Exceedence
PR16 A	0.0	0.2	20.2	1006			
PR17	0.0				Removed		
PR18	0.0	0.3	20.7	1006			
PR19	0.0	1.1	19.7	1006			
PR20	0.0	1.3	19.3	1006			
PR21	0.0				Removed		
PR22	0.0	0.0	21.2	1006			
PR23	0.0	1.1	20.1	1006			
PR24	0.0	0.0	21.0	1006			
PR28	0.0				Removed		
GW1	0.0	0.0	21.0	1006			
GW2	0.0	0.1	20.7	1006			
B1	0.0	0.9	19.6	1006			
B2	0.0	1.6	19.4	1006			Exceedence
B3	0.0	0.6	20.2	1006			
B4	0.0	1.2	17.6	1006			
B5	0.0	0.6	20.7	1006			
B6	0.0	0.0	21.7	1006			
B7	0.0	0.1	21.0	1006			
B8	0.0	0.0	20.9	1006			
B9	0.0	0.0	20.9	1006			
B10	0.0	0.0	20.9	1006			

Gas Monitoring:Basketstown Landfill Site,County Meath

DATE 27/06/2011 **TIME**1200
Sampler P.Luke **INSTRUMENT** GA2000

Location	CH ₄ %	CO ₂ %	O ₂ %		Notes	CH ₄	CO ₂
GA2000	-	-	-	-		Exceedence analysis for trigger level of	Exceedence analysis for trigger level of
Standard	5.0	5.0	5.0	-		1.0	1.5
PR1 A	0.0	3.3	18.1	1002			Exceedence
PR2 A	0.0	0	21.0	1002			
PR3 A	0.0	0.1	20.7	1002			
PR4 A	0.0	3.9	17.2	1002			Exceedence
PR5	0.0				Removed		
PR6 A	0.0	2.1	18.7	1002			Exceedence
PR7	0.0				Removed		
PR8	0.0				Destroyed		
PR13	0.0				Removed		
PR14 A	0.0	0.0	20.8	1002			
PR15A	0.0	3.9	16.4	1002			Exceedence
PR16 A	0.0	0.4	20.6	1002			
PR17	0.0				Removed		
PR18	0.0	0.1	20.8	1002			
PR19	0.0	1.1	19.8	1002			
PR20	0.0	1.4	19.5	1002			
PR21	0.0				Removed		
PR22	0.0	0.0	21.0	1002			
PR23	0.0	0.8	20.4	1002			
PR24	0.0	0.0	20.9	1002			
PR28	0.0				Removed		
GW1	0.0	0.0	20.9	1002			
GW2	0.0	0.1	20.5	1002			
B1	0.0	0.9	20.0	1002			
B2	0.0	2.8	18.4	1002			Exceedence
B3	0.0	1.6	18.7	1002			Exceedence
B4	0.0	2.0	16.1	1002			Exceedence
B5	0.0	2.5	19.3	1002			Exceedence
B6	0.0	1.7	19.8	1002			Exceedence
B7	0.0	0.4	20.7	1002			
B8	0.0	0.0	20.9	1002			
B9	0.0	0.0	20.0	1002			
B10	0.0	0.0	20.8	1002			

Gas Monitoring:Basketstown Landfill Site,County Meath

DATE 29/08/11

TIME 1400

Sampler P.Luke

INSTRUMENT GA2000

Location	CH ₄ %	CO ₂ %	O ₂ %		Notes	CH ₄	CO ₂
GA2000	-	-	-	-		Exceedence analysis for trigger level of	Exceedence analysis for trigger level of
Standard	5.0	5.0	5.0	-		1.0	1.5
PR1 A	0.0	0.8	20.4	1012			
PR2 A	0.0	0	21.2	1012			
PR3 A	0.0	2.3	19.5	1012			Exceedence
PR4 A	0.0	4.1	17.4	1012			Exceedence
PR5	0.0				Removed		
PR6 A	0.0	3.4	17.4	1012			Exceedence
PR7	0.0				Removed		
PR8	0.0				Destroyed		
PR13	0.0				Removed		Exceedence
PR14 A	0.0	0.0	20.7	1012			
PR15A	0.0	7.4	11.3	1012			Exceedence
PR16 A	0.0	0.8	20.5	1012			
PR17	0.0				Removed		
PR18	0.0	0.6	20.5	1012			
PR19	0.0	1.7	19.5	1012			Exceedence
PR20	0.0	2.0	19.4	1012			Exceedence
PR21	0.0				Removed		
PR22	0.0	0.0	20.7	1012			
PR23	0.0	0.9	20.2	1012			
PR24	0.0	0.0	21.2	1012			
PR28	0.0				Removed		
GW1	0.0	0.8	20.7	1012			
GW2	0.0	0.0	20.9	1011			
B1	0.0	1.0	20.3	1012			
B2	0.0	0.0	21.3	1012			
B3	0.0	0.6	20.5	1012			
B4	0.0	3.5	13.3	1012			Exceedence
B5	0.0	1.0	20.6	1012			
B6	0.0	1.8	20.1	1012			Exceedence
B7	0.0	0.0	20.2	1012			
B8	0.0	0.8	19.7	1012			
B9	0.0	14.8	0.8	1012			Exceedence
B10	0.0	4.5	14.5	1012			Exceedence

Gas Monitoring:Basketstown Landfill Site,County Meath

DATE26/9/11

TIME1200

Sampler P.Luke

INSTRUMENT GA2000

Location	CH ₄ %	CO ₂ %	O ₂ %		Notes	CH ₄	CO ₂
GA2000	-	-	-	-		Exceedence analysis for trigger level of	Exceedence analysis for trigger level of
Standard	5.0	5.0	5.0	-		1.0	1.5
PR1 A	0.0	0.1	20.6	1011			
PR2 A	0.0	1.9	19.5	1011			Exceedence
PR3 A	0.0	1.1	19.7	1011			
PR4 A	0.0	4.5	12.6	1011			Exceedence
PR5	0.0				Removed		
PR6 A	0.0	3.3	16.3	1011			Exceedence
PR7	0.0				Removed		
PR8	0.0				Destroyed		
PR13	0.0				Removed		
PR14 A	0.0	0.0	20.8	1009			
PR15A	0.0	1.1	18.9	1009			
PR16 A	0.0	0.1	20.6	1009			
PR17	0.0				Removed		
PR18	0.0	0.0	20.3	1012			
PR19	0.0	0.0	20.4	1012			
PR20	0.0	1.5	18.6	1012			Exceedence
PR21	0.0				Removed		
PR22	0.0	0.0	20.3	1012			
PR23	0.0	0.0	20.5	1012			
PR24	0.0	0.0	20.9	1011			
PR28	0.0				Removed		
GW1	0.0	0.0	20.8	1011			
GW2	0.0	0.0	20.9	1011			
B1	0.0	0.6	19.9	1011			
B2	0.0	0.0	20.8	1011			
B3	0.0	0.0	20.9	1011			
B4	0.0	4.1	11.5	1011			Exceedence
B5	0.0	0.3	20.7	1011			
B6	0.0	1.6	19.7	1011			Exceedence
B7	0.0	2.6	17.9	1011			Exceedence
B8	0.0	0.0	21.0	1009			
B9	0.0	0.0	20.9	1009			
B10	0.0	0.0	20.9	1009			

Gas Monitoring:Basketstown Landfill Site,County Meath

26/10/2011 TIME1200
 Sampler P.Luke INSTRUMENT GA2000

Location	CH ₄ %	CO ₂ %	O ₂ %		Notes	CH ₄	CO ₂
GA2000	-	-	-	-		Exceedence analysis for trigger level of	Exceedence analysis for trigger level of
Standard	5.0	5.0	5.0	-		1.0	1.5
PR1 A	0.0	1.0	19.9	989			
PR2 A	0.0	1.8	19.1	989			Exceedence
PR3 A	0.0	4.4	16.2	989			Exceedence
PR4 A	0.0	2.5	16.4	989			Exceedence
PR5	0.0				Removed		
PR6 A	0.0	2.2	19.3	989			Exceedence
PR7	0.0				Removed		
PR8	0.0				Destroyed		
PR13	0.0				Removed		
PR14 A	0.0	2.2	20.3	988			Exceedence
PR15A	0.0	0.1	20.9	988			
PR16 A	0.0	0.1	21.0	988			
PR17	0.0				Removed		
PR18	0.0	0.0	21.0	989			
PR19	0.0	0.0	21.0	989			
PR20	0.0	0.0	21.0	989			
PR21	0.0				Removed		
PR22	0.0	0.0	21.0	989			
PR23	0.0	0.1	20.9	989			
PR24	0.0	0.0	21.2	989			
PR28	0.0				Removed		
GW1	0.0	1.0	18.5	989			
GW2	0.0	0.4	19.9	988			
B1	0.0	0.1	21.1	989			
B2	0.0	0.0	21.2	989			
B3	0.0	0.0	21.2	989			
B4	0.0	1.5	16.7	989			Exceedence
B5	0.0	0.4	20.5	989			
B6	0.0	0.0	21.3	989			
B7	0.0	0.2	21.1	989			
B8	0.0	1.8	18.4	988			Exceedence
B9	0.0	0.0	20.9	988			
B10	0.0	0.0	21.0	988			

Gas Monitoring:Basketstown Landfill Site,County Meath

DATE28/11/11

TIME1100

Sampler P.Luke

INSTRUMENT GA2000

Location	CH ₄ %	CO ₂ %	O ₂ %		Notes	CH ₄	CO ₂
GA2000	-	-	-	-		Exceedence analysis for trigger level of	Exceedence analysis for trigger level of
Standard	5.0	5.0	5.0	-		1.0	1.5
PR1 A	0.0	0.0	20.9	1003			
PR2 A	0.0	1.7	19.1	1003			Exceedence
PR3 A	0.0	2.1	16.4	1003			Exceedence
PR4 A	0.0	4.3	15.0	1003			Exceedence
PR5	0.0				Removed		
PR6 A	0.0	0.2	21.2	1003			
PR7	0.0				Removed		
PR8	0.0				Destroyed		
PR13	0.0				Removed		Exceedence
PR14 A	0.0	0.3	21.4	1003			
PR15A	0.0	0.0	21.5	1003			
PR16 A	0.0	2.3	20.8	1003			Exceedence
PR17	0.0				Removed		
PR18	0.0	0.0	21.0	1003			
PR19	0.0	0.3	20.8	1003			
PR20	0.0	0.0	21.1	1003			
PR21	0.0				Removed		
PR22	0.0	0.0	21.1	1003			
PR23	0.0	0.0	21.1	1003			
PR24	0.0	0.0	21.1	1003			
PR28	0.0				Removed		
GW1	0.0	1.3	18.0	1003			
GW2	0.0	0.2	20.6	1003			
B1	0.0	1.3	18.3	1003			
B2	0.0	0.0	21	1003			
B3	0.0	0.0	21	1003			
B4	0.0	2.7	18.4	1003			Exceedence
B5	0.0	0.1	21.1	1003			
B6	0.0	0.0	21.4	1003			
B7	0.0	0.6	20.2	1003			
B8	0.0	1.7	18.8	1003			Exceedence
B9	0.0	4.7	17.5	1003			Exceedence
B10	0.0	1.9	18.5	1003			Exceedence

Gas Monitoring:Basketstown Landfill Site,County Meath

DATE16/1/12

TIME1200

Sampler P.Luke

INSTRUMENT GA2000

Location	CH ₄ %	CO ₂ %	O ₂ %		Notes	CH ₄	CO ₂
GA2000	-	-	-	-		Exceedence analysis for trigger level of	Exceedence analysis for trigger level of
Standard	5.0	5.0	5.0	-		1.0	1.5
PR1 A	0.0	0.5	20.4	1014			
PR2 A	0.0	0.5	20.5	1014			
PR3 A	0.0	1.0	19.5	1013			
PR4 A	0.0	0.7	20.7	1013			
PR5	0.0				Removed		
PR6 A	0.0	0.5	21.1	1013			
PR7	0.0				Removed		
PR8	0.0				Destroyed		
PR13	0.0				Removed		
PR14 A	0.0	0.6	21.2	1012			
PR15A	0.0	0.0	21.2	1012			
PR16 A	0.0	1.4	20.6	1012			
PR17	0.0				Removed		
PR18	0.0	0.0	21.2	1014			
PR19	0.0	0.0	21.3	1014			
PR20	0.0	0.0	21.3	1014			
PR21	0.0				Removed		
PR22	0.0	0.0	21.3	1014			
PR23	0.0	0.3	21.0	1014			
PR24	0.0	0.0	21.3	1014			
PR28	0.0				Removed		
GW1	0.0	1.2	18.4	1014			
GW2	0.0	0.3	20.1	1012			
B1	0.0	1.5	19.9	1014			Exceedence
B2	0.0	0.0	21.2	1014			
B3	0.0	0.0	21.2	1014			
B4	0.0	1.6	20.9	1013			Exceedence
B5	0.0	0.0	21.4	1013			
B6	0.0	0.0	21.5	1013			
B7	0.0	0.2	21.3	1013			
B8	0.0	0.2	20.8	1013			
B9	0.0	0.0	21.1	1013			
B10	0.0	0.0	21.2	1012			

Gas Monitoring:Basketstown Landfill Site,County Meath

DATE7/2/12

TIME1200

Sampler P.Luke

INSTRUMENT GA2000

Location	CH ₄ %	CO ₂ %	O ₂ %		Notes	CH ₄	CO ₂
GA2000	-	-	-	-		Exceedence analysis for trigger level of	Exceedence analysis for trigger level of
Standard	5.0	5.0	5.0	-		1.0	1.5
PR1 A	0.0	1.6	19.7	1029			Exceedence
PR2 A	0.0	1.2	19.8	1029			
PR3 A	0.0	1.0	19.6	1029			
PR4 A	0.0	0.4	21.2	1029			
PR5	0.0				Removed		
PR6 A	0.0	0.1	21.3	1029			
PR7	0.0				Removed		
PR8	0.0				Destroyed		
PR13	0.0				Removed		
PR14 A	0.0	0.8	21.2	1028			
PR15A	0.0	0.1	21.1	1028			
PR16 A	0.0	1.6	20.4	1028			Exceedence
PR17	0.0				Removed		
PR18	0.0	0.0	21.2	1029			
PR19	0.0	0.0	21.2	1029			
PR20	0.0	0.0	21.2	1029			
PR21	0.0				Removed		
PR22	0.0	0.0	21.2	1029			
PR23	0.0	0.2	21.0	1029			
PR24	0.0	0.0	21.4	1029			
PR28	0.0				Removed		
GW1	0.0	0.7	19.6	1029			
GW2	0.0	0.4	20.1	1028			
B1	0.0	0.8	20.7	1029			
B2	0.0	0.0	21.4	1029			
B3	0.0	0.0	21.4	1029			
B4	0.0	0.4	21.3	1029			
B5	0.0	0.9	17.7	1029			
B6	0.0	0.0	21.4	1029			
B7	0.0	0.5	20.6	1029			
B8	0.0	0.0	21.0	1028			
B9	0.0	0.0	21.0	1028			
B10	0.0	0.0	21.0	1028			

Appendix 3.

Laboratory Analysis Data

CERTIFICATE OF ANALYSIS

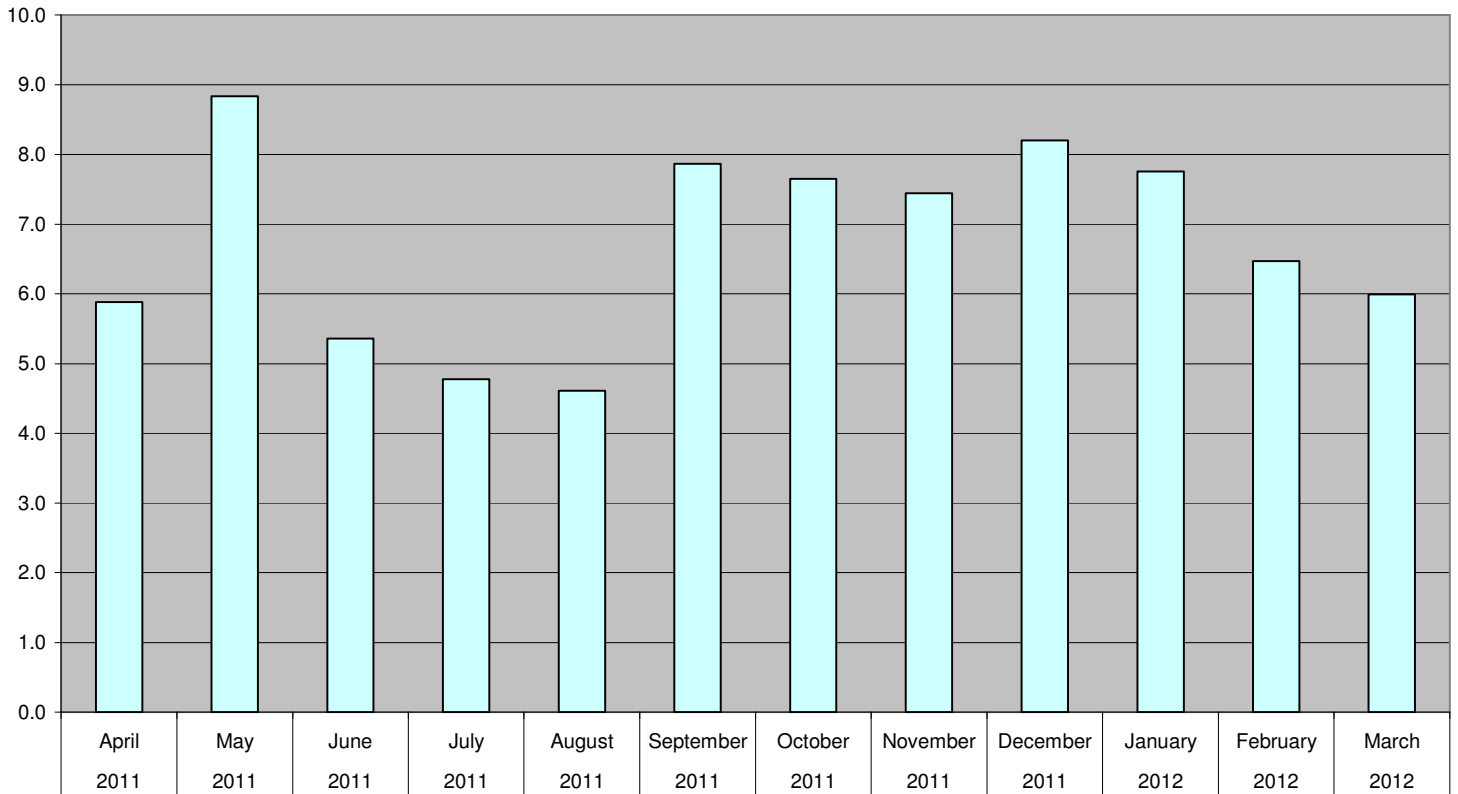
SDG: 110629-59	Location: Basketstown	Order Number: 240263429
Job: D_MTHCC_FL_NVN-13	Customer: Meath County Council	Report Number: 139251
Client Reference: Water Samples 29.06.2011	Attention: Paul Luke	Superseded Report:

Results Legend			Customer Sample R	BH5	BH7	BH8	BH9	BH11	BH13	
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s) AGS Reference							
M	mCERTS accredited.									
S	Non-conforming work.									
AQ	Aqueous / settled sample.									
dis.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.									
*	Subcontracted test.									
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery									
(F)	Trigger breach confirmed									
Component	LOD/Units	Method								
Oxygen, dissolved	<0.3 mg/l	TM048		3.32	4.65	4.68	4.53	4.01	10.9	
				#	#	#	#	#	#	
Organic Carbon, Total	<3 mg/l	TM090		4.87	14.6	15.2	38.6	7.19	3.73	
				#	#	#	#	#	#	
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		16.2	15.9	28.1	85.6	1.36	0.786	
				#	#	#	#	#	#	
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		0.975	1.27	1.35	2.85	0.843	0.288	
				#	#	#	#	#	#	
Chloride	<2 mg/l	TM184		100	73.3	98.3	310	8.6	9.7	
				#	#	#	#	#	#	
pH	<1 pH Units	TM258		7.69	7.51	7.62	7.59	7.52	8.39	
				#	#	#	#	#	#	

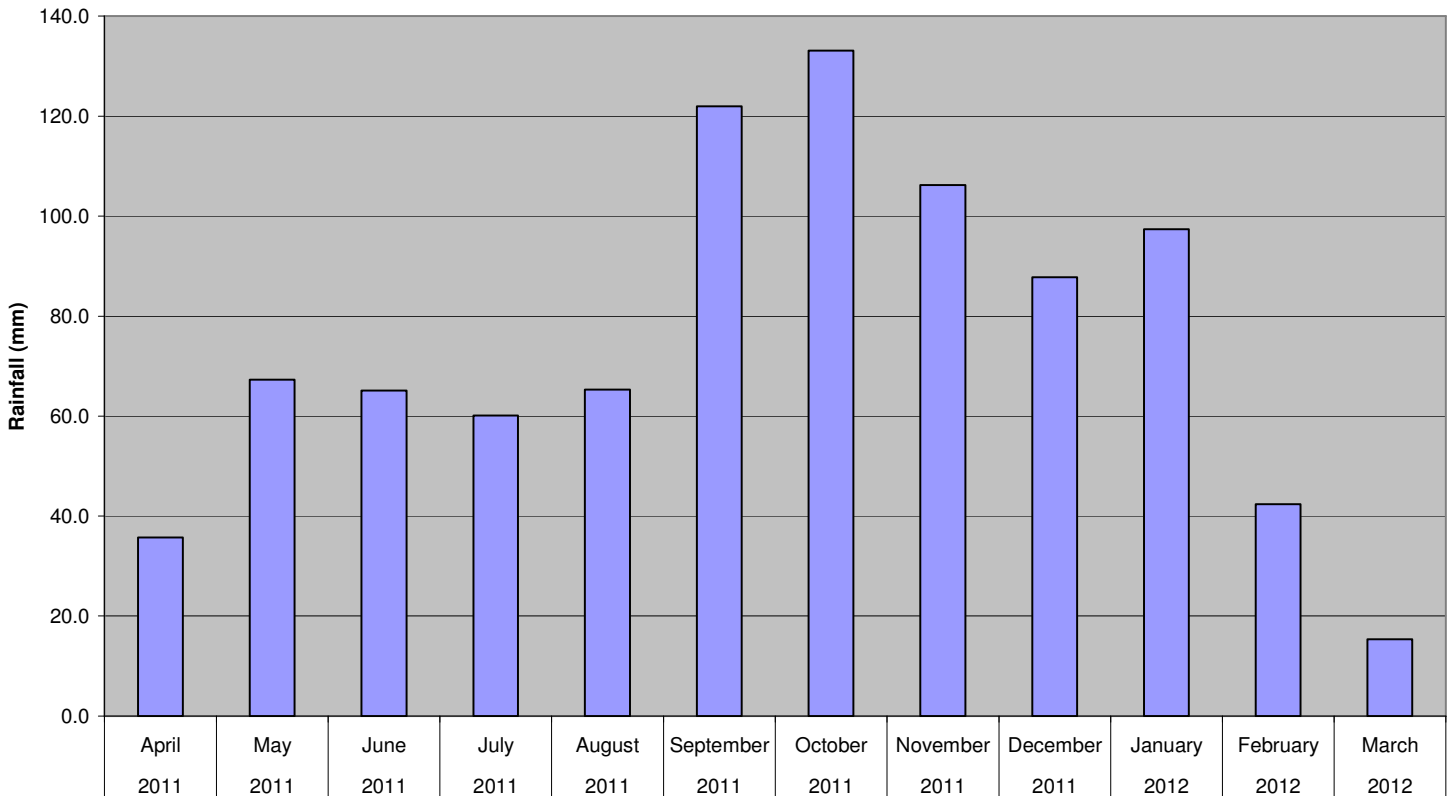
Appendix 4

Meteorological Data Graphs

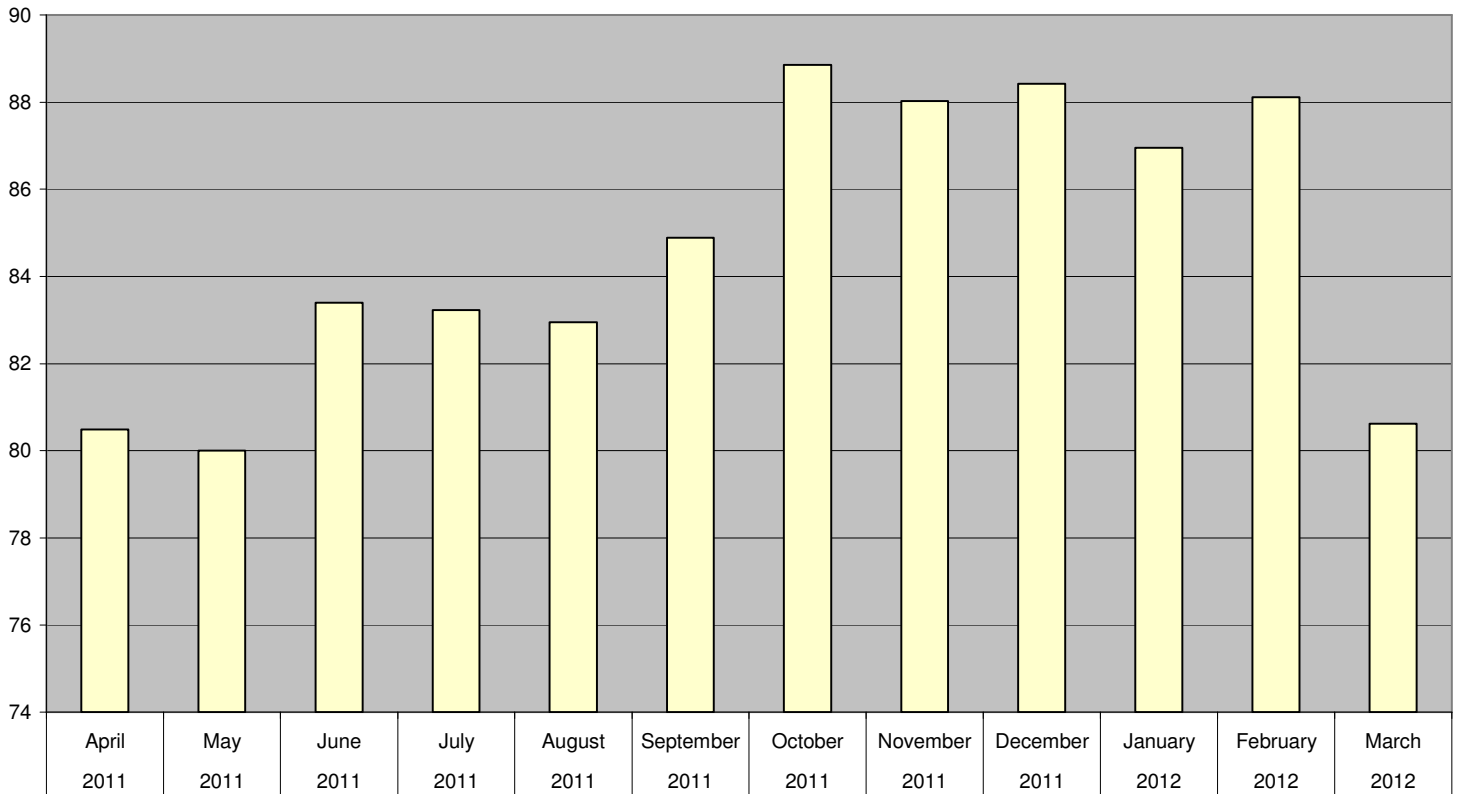
Wind Speed (Knots)



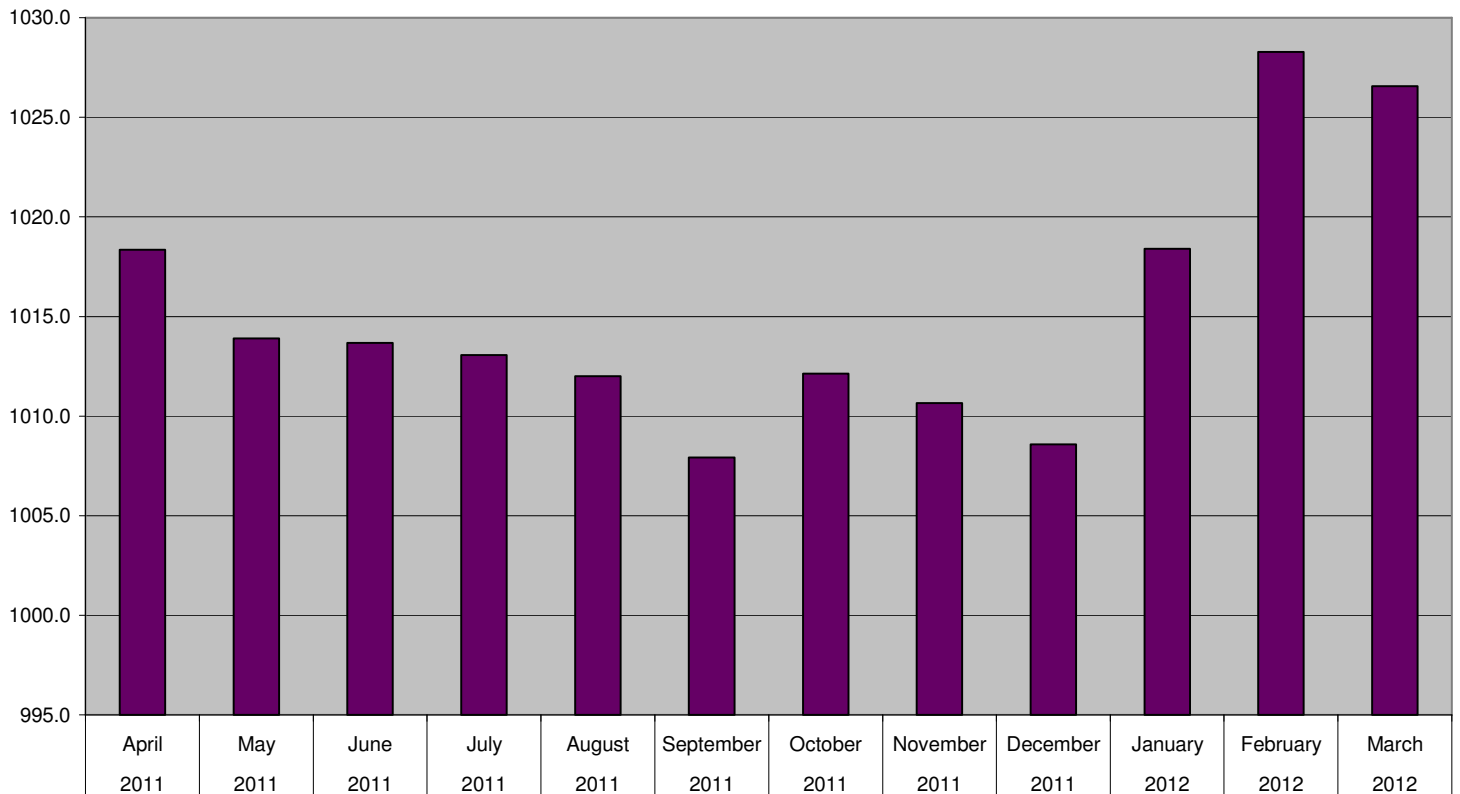
Rainfall



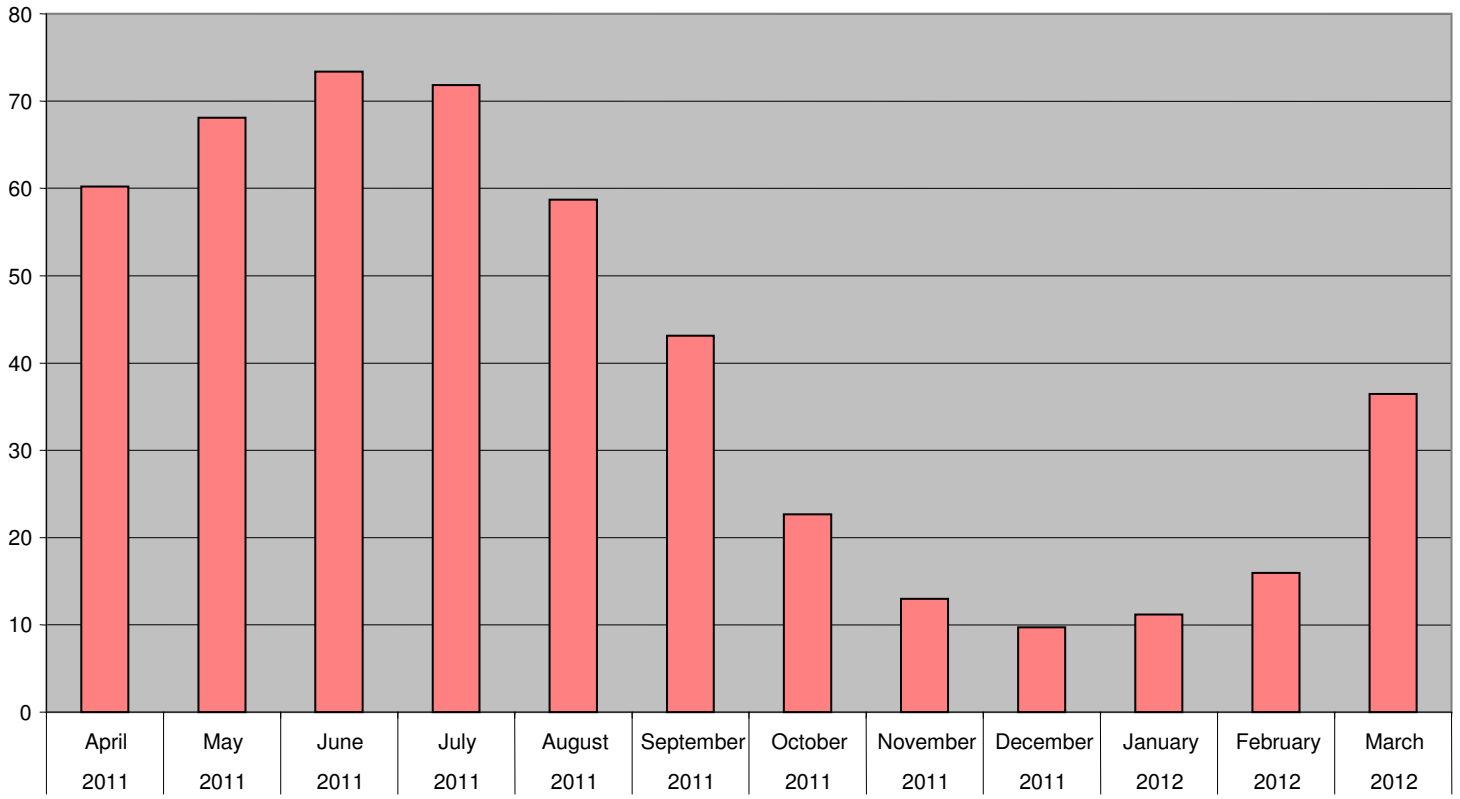
Relative Humidity (%)



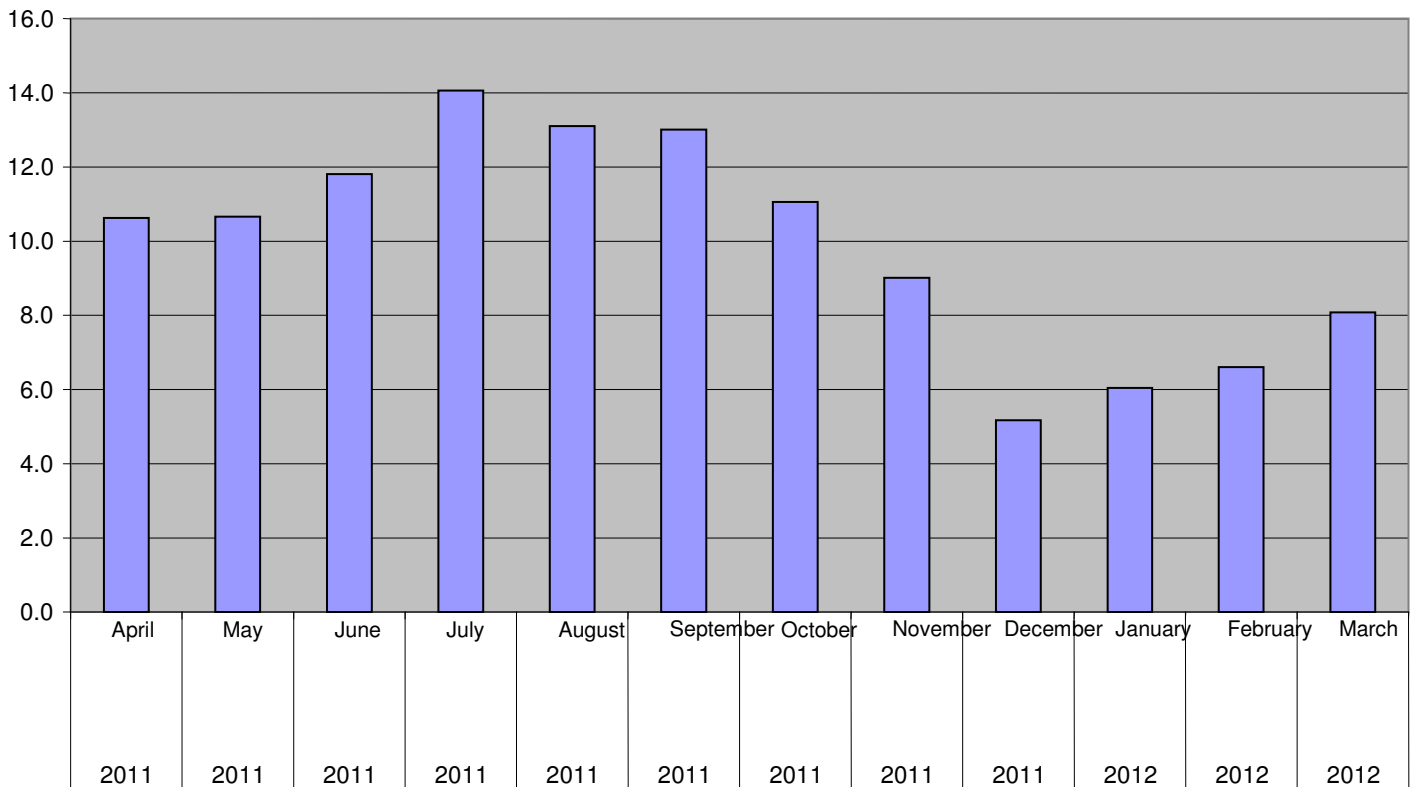
MSL Pressure (hPa)



Potential Evapotranspiration (mm)



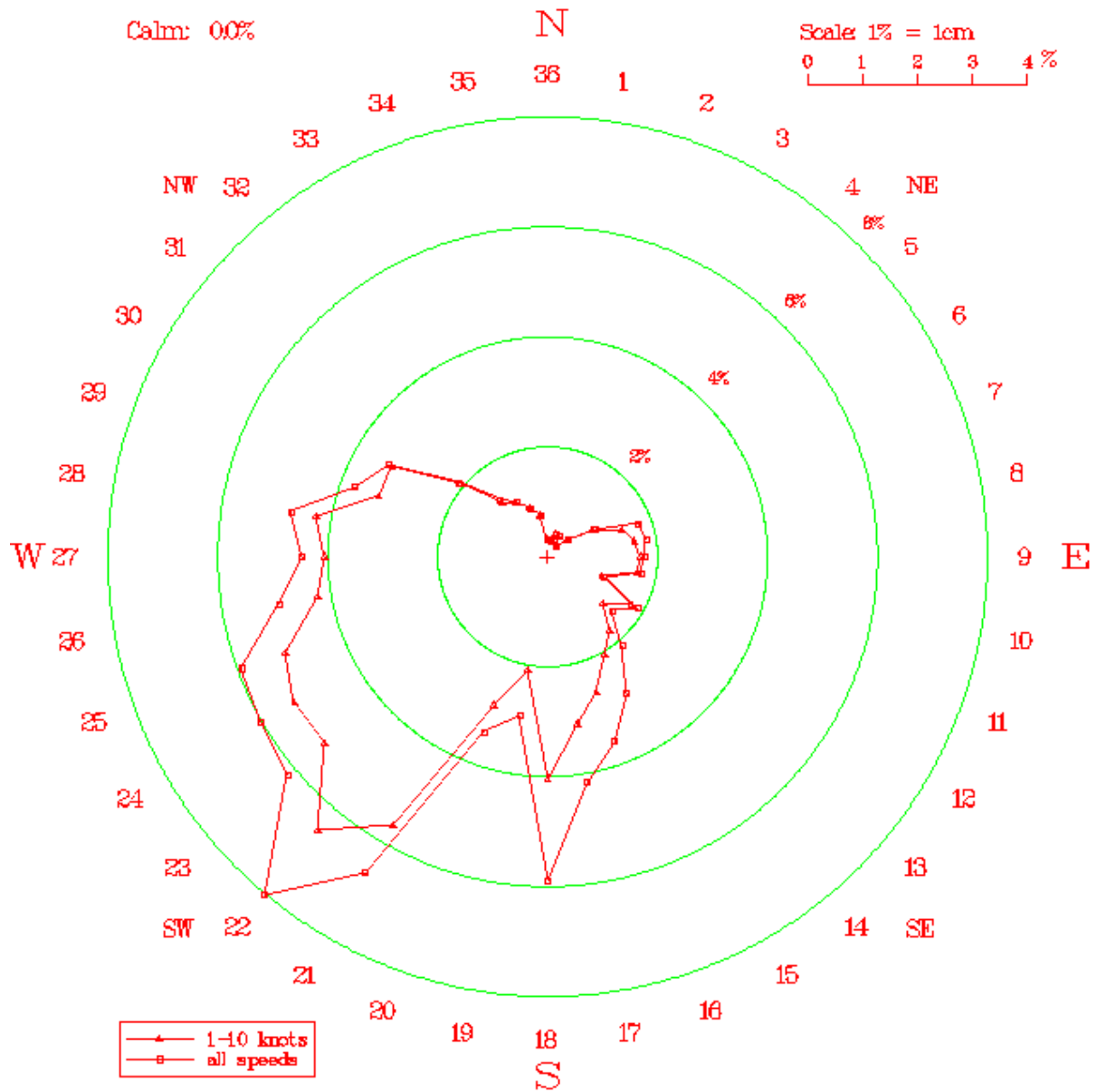
Temperature



Mullingar

2011-2012

Percentage Frequency of Occurrence of Wind Directions



Percentage Frequency of Occurrence of Wind Speeds

+ less than 0.1

0	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	over 48 knots	%
0.0	18.1	32.5	34.6	14.1	0.6	+	0.0	0.0	0.0	0.0	%

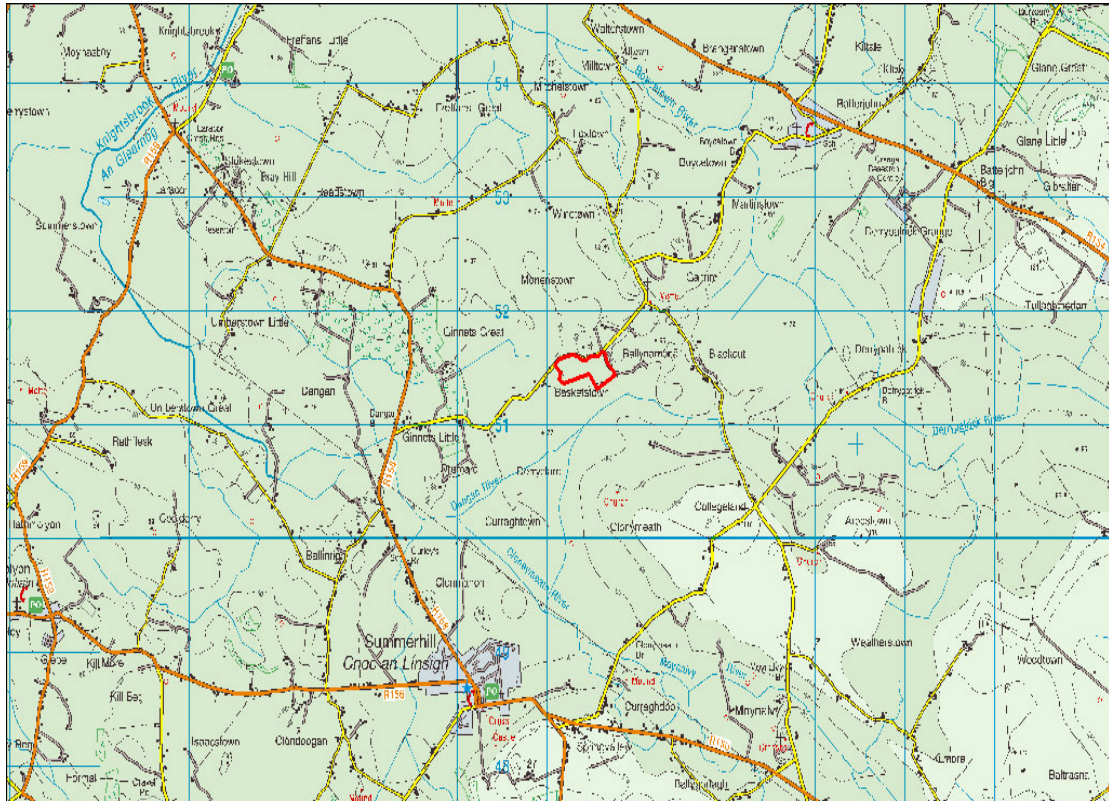
mean wind speed: 6.8 knots
anemometer height: 12m

standard deviation: 3.4 knots

Met Eireann, Glasnevin Hill, Dublin 9.

Appendix 5
Sampling Location Map

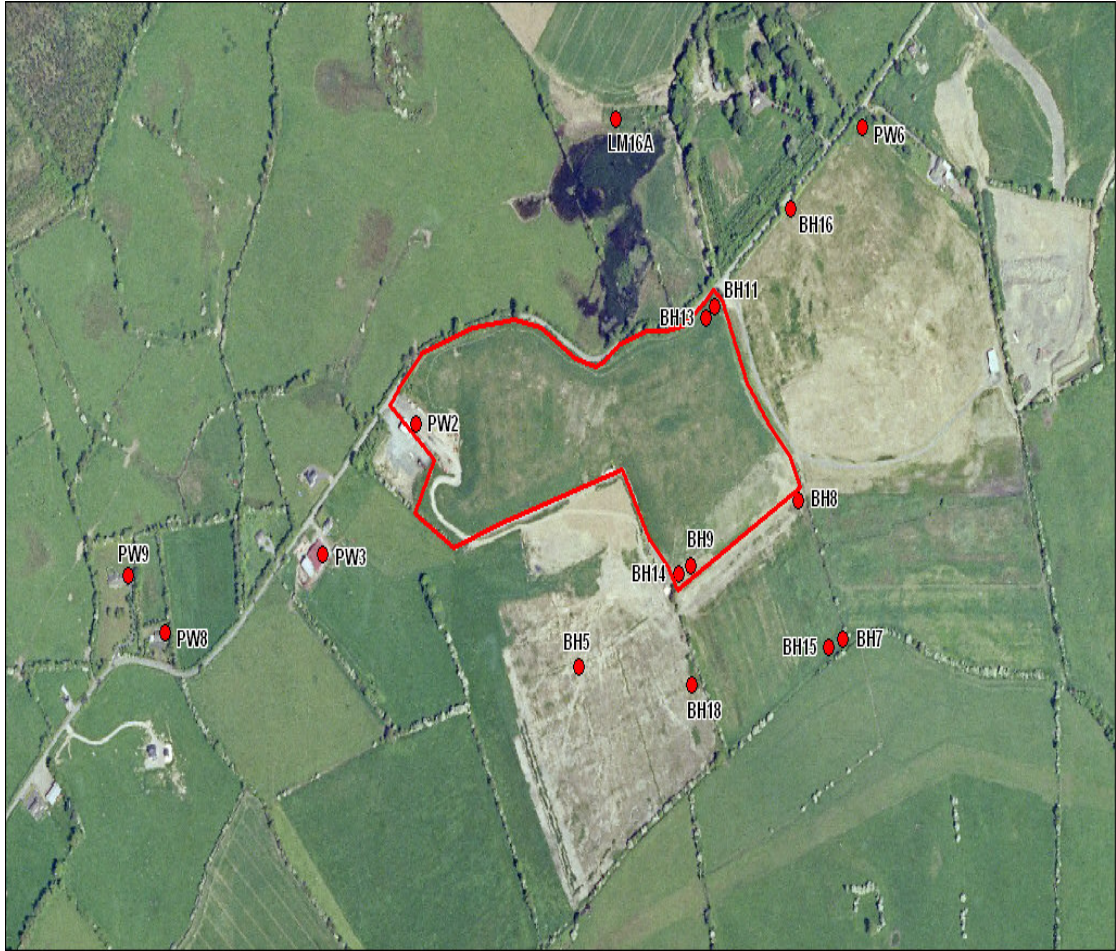
Site Location Maps



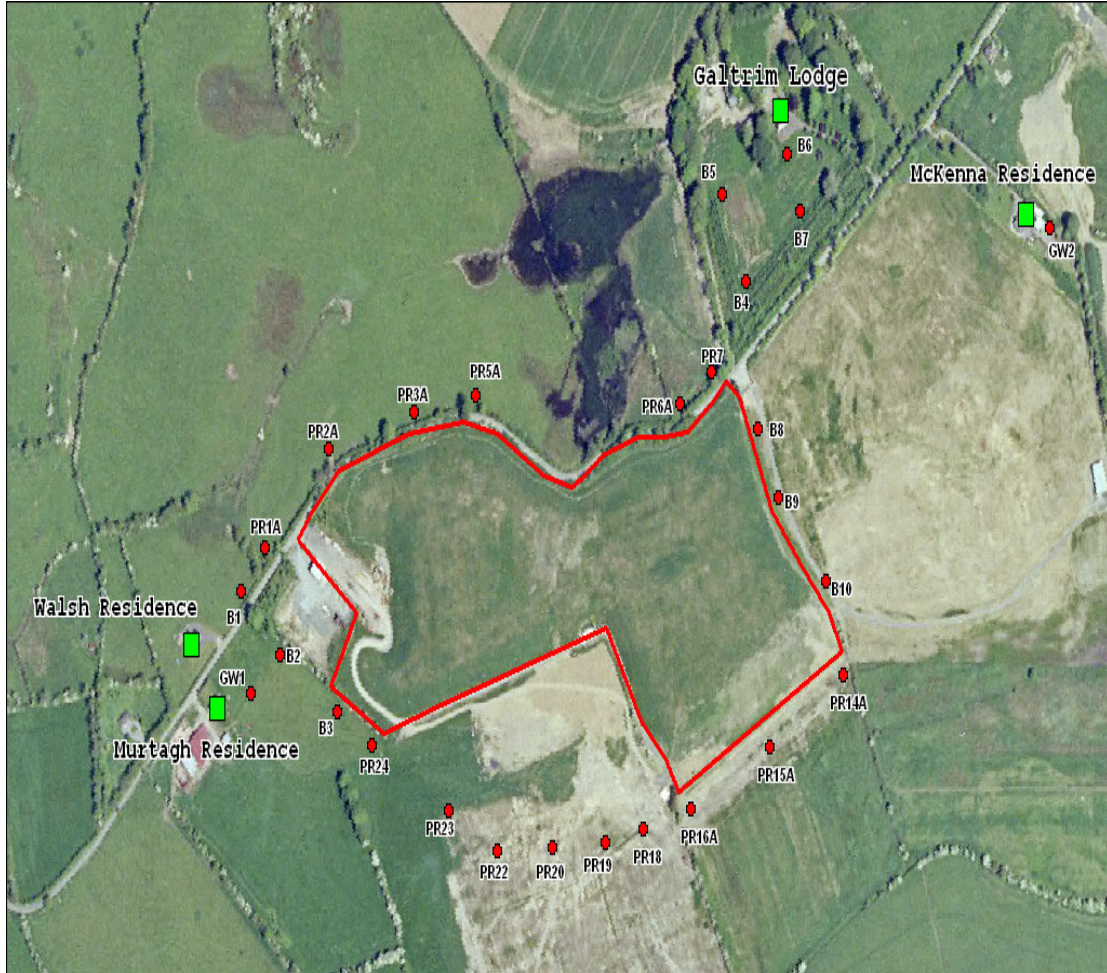
Surface water Monitoring Locations



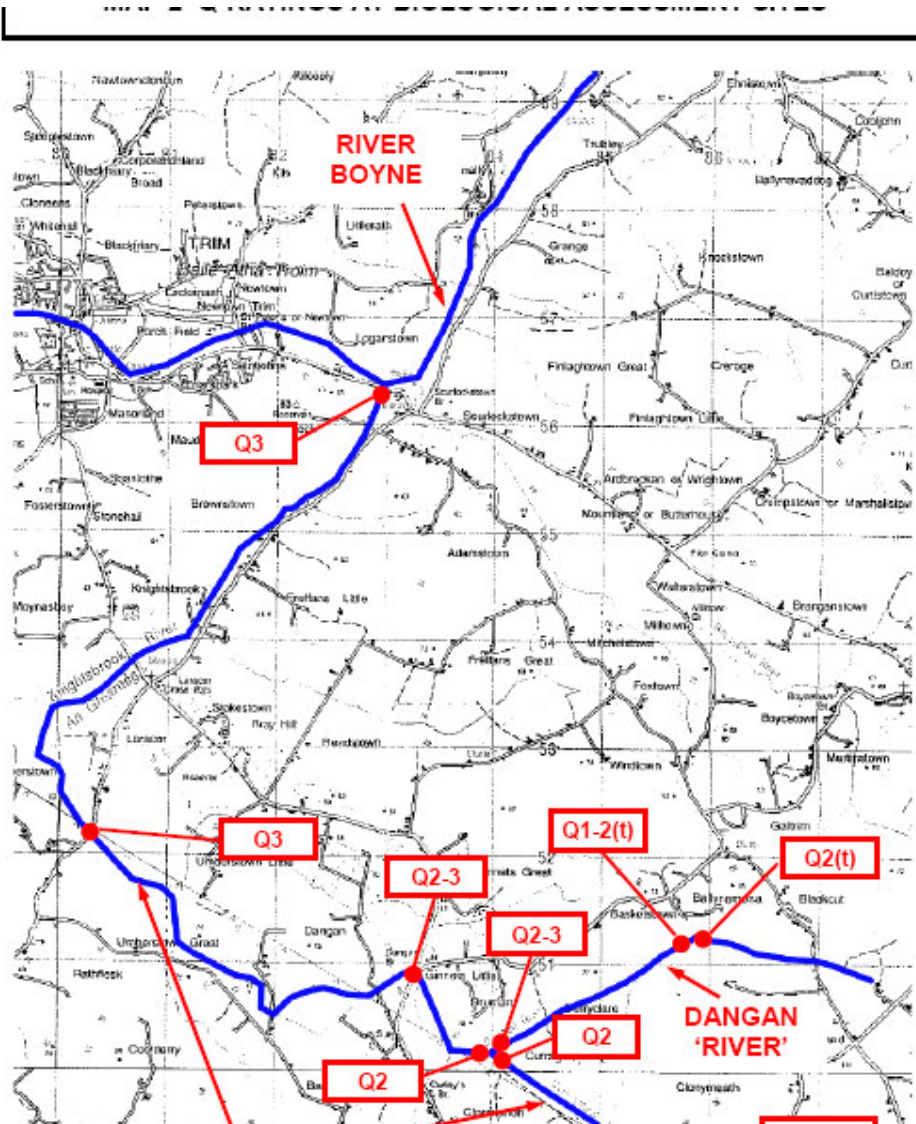
Groundwater Monitoring Locations (including private wells)



Perimeter Gas Monitoring Locations



Biological Sampling Location Map





| PRTR# : W0010 | Facility Name : Basketstown Landfill Facility | Filename : Copy of W0010_2011(1) FINAL.xls | Return Year : 2011 |

21/06/2012 11:22

[Guidance to completing the PRTR workbook](#)

AER Returns Workbook

Version 1.1.13

REFERENCE YEAR	2011
-----------------------	------

1. FACILITY IDENTIFICATION

Parent Company Name	Meath County Council
Facility Name	Basketstown Landfill Facility
PRTR Identification Number	W0010
Licence Number	W0010-02

Waste or IPPC Classes of Activity

No.	class_name
3.1	Deposit on, in or under land (including landfill). 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.
3.13	Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.
3.4	The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system.
4.10	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.
4.13	Use of any waste principally as a fuel or other means to generate energy.
4.9	
Address 1	Basketstown
Address 2	Summerhill
Address 3	Co. Meath
Address 4	
	Meath
Country	Ireland
Coordinates of Location	-6.71329 53.5069
River Basin District	IEEA
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Mr. Declan Grimes
AER Returns Contact Email Address	dgrimes@meathcoco.ie
AER Returns Contact Position	Executive Engineer
AER Returns Contact Telephone Number	046 9097200
AER Returns Contact Mobile Phone Number	
AER Returns Contact Fax Number	
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	0
User Feedback/Comments	
Web Address	

2. PRTR CLASS ACTIVITIES

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

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

Is it applicable?	No
Have you been granted an exemption ?	
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	

4.1 RELEASES TO AIR

[Link to previous years emissions data](#)

| PRTR#: W0010 | Facility Name : Basketstown Landfill Facility | Filename : Copy of W0010_2011(1) FINAL.xls | Return Year : 2011 |

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SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

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

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

SECTION B : REMAINING PRTR POLLUTANTS

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

* 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)

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

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

Additional Data Requested from Landfill operators

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

Please enter summary data on the quantities of methane flared and / or utilised	T (Total) kg/Year	M/C/E	Method Used		Facility Total Capacity m3 per hour
			Method Code	Designation or Description	
Total estimated methane generation (as per site model)	265549.0	C	1	STP	N/A
Methane flared	265549.0	C	1	STP	1500.0 (Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0 (Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0				N/A

4.2 RELEASES TO WATERS

[Link to previous years emissions data](#)

| PRTR# : W0010 | Facility Name : Basketstown Landfill Facility | Filename : Copy of W0010_2011(1) FINAL.xls | Return Year : 2011 |

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SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as this only concerns Releases from your facility

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

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

SECTION B : REMAINING PRTR POLLUTANTS

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

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

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

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

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

4.3 RELEASES TO WASTEWATER OR SEWER

[Link to previous years emissions data](#)

| PRTR# : W0010 | Facility Name : Basketstown Landfill Facility | Filename : Copy of W0010_2011(1

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SECTION A : PRTR POLLUTANTS

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

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

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

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

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

4.4 RELEASES TO LAND

[Link to previous years emissions data](#)

| PRTR# : W0010 | Facility Name : Basketstown Landfill Facility | Filename : Copy of W0010_2011(1) FINAL.xls | Return Year : 2011 |

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SECTION A : PRTR POLLUTANTS

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

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

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

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

| PRTR# : W0010 | Facility Name : Basketstown Landfill Facility | Filename : Copy of W0010_2011(1) FINAL.xls | Return Year : 2011 |

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Please enter all quantities on this sheet in Tonnes

3

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility	Non	Haz Waste : Address of Next Destination Facility	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						Haz Waste : Name and Licence/Permit No of Recover/Disposer	Non Haz Waste: Address of Recover/Disposer						
Within the Country	19 07 03	No	9243.0	landfill leachate other than those mentioned in 19 07 02	D10	M	Weighed	Offsite in Ireland	Meath County Council, Farganstown	Boyne Road, Farganstown., Navan., Meath., Ireland	Wastewater Treatment Plant		

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

[Link to previous years waste data](#)

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