

MEATH COUNTY COUNCIL



BASKETSTOWN LANDFILL FACILITY

ANNUAL ENVIRONMENTAL REPORT

APRIL 2008 - MARCH 2009

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 2008 to 31st March 2009** 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 have 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) Brendan McGrath	046-9097000
Senior Engineer (MCC) Tim O'Leary	046-9097000
Site Supervisor (MCC) Finbarr Quigley	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 top 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 2009 - March 2010.

6. Reported Incidents and Complaints Summaries

6.1 Incidents

There were a total of 40 incidents, which occurred during the reported period.

These incidents included thirty three (33) instances of exceedances of CO₂ trigger levels (1.5%) for perimeter gas levels and three (7) incidents concerning the shutdown of the on-site gas flare.

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. Other incidents, such as flare shutdown occurrences are reported to the EPA at the earliest opportunity.

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

There were no restoration works carried out in the reporting period. Details of earlier restoration works can be found in previous AER's for the facility.

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 10,078 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

During the reporting period, there were a number (7) of incidents where the Landfill Gas Flare shutdown. Four of these incidents referred to a power failure and the remainder would appear to refer to 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 775m³/hr, recorded from daily inlet monitoring during the reporting period. In the reporting period, the flare operated for 7,916 hours which gives an approximate annual total gas combustion figure of 6,134,900 m³/yr. This compares to approx. 7,436,119 m³/yr of gas produced on site for a total year (8,760hrs in year).

Table 1 Summary of gas combustion values

Reporting Period	Gas Combustion
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 30% methane in the total landfill gas, this estimates a methane production of 1,840,470m³/yr or 1,235,215kg/yr for April 2008 to March 2009. 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.

10.2 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 10,078 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
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	24/10/08 Post-capping
pH	7.16	7.71
BOD ₅ (mg/L)	2.5	7.0
Ammoniacal N (mg/L)	100	166.2

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 weekly 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 33% 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 2008. 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. 2008 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 continued to supply replacement drinking water to residents by tanker during the reporting period. Connection to a mains water scheme is imminent for these residents.
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 (weekly)	27 points North-West North-East East South-East South West East West West North-East	Site Perimeter Gas Monitoring points PR1A - PR4A PR6A, PR7 B8 - B10 PR14A - PR16A PR18 - PR20, PR22 - PR24 Gas Monitoring wells at residential sites GW1 - Murtagh GW2 - McKenna B1 - Walsh B2 & B3 - Murtagh B4 - B7 - McCormack
Weighbridge and site office		
CO2 levels (Continuously)	2 points	Weighbridge Office Site Office

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. Graphical details of the gas concentrations are provided in the time-series graphs in the Appendices.

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 highest peaks in perimeter boreholes were recorded in wells PR1A and PR2A to the North West of the site in which, readings in excess of 6% CO₂ were recorded. To the North East of the site, the highest recorded level was 3.0% CO₂ at PR6A. The levels of CO₂ in the wells to the South West of the site were lower than in other areas with only 2 of the 6 sites exceeding the trigger-level at any time during the reporting period. The highest recorded level from these wells was 2.1% from PR23. The wells immediately to the East of the site (B8, B9 and B10) all had very low (< 1%) CO₂ readings however, the well near McKennas residence, which is >300m from the site had CO₂ levels in excess of the trigger level of 1.5%.

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.

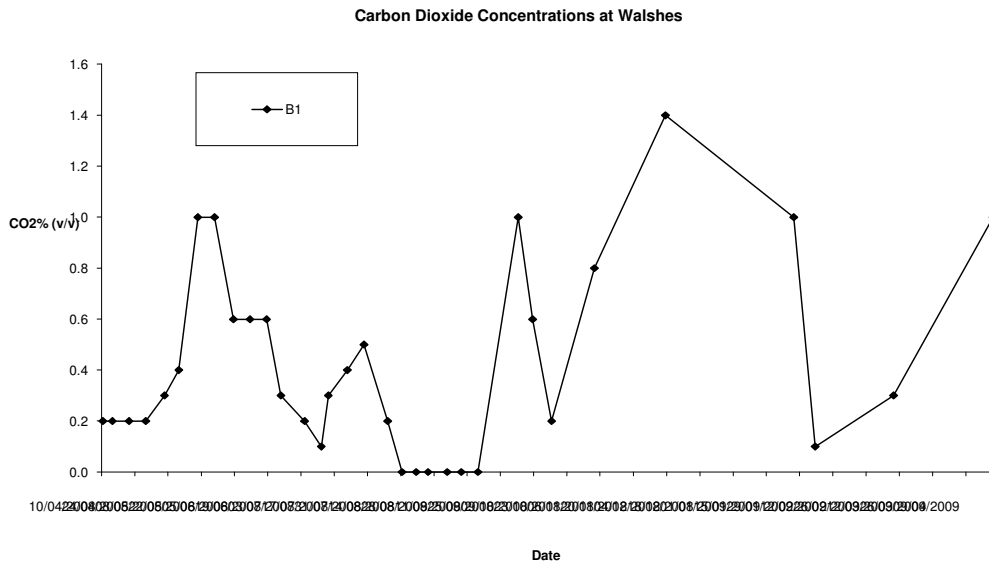
In November, 2008 MCC began monitoring the perimeter gas wells on a monthly basis after obtaining the required permission from the Agency. This change in the frequency of monitoring has not led to any noticeable change in the range of CO₂ readings recorded at

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.

Residents' Gas Boreholes

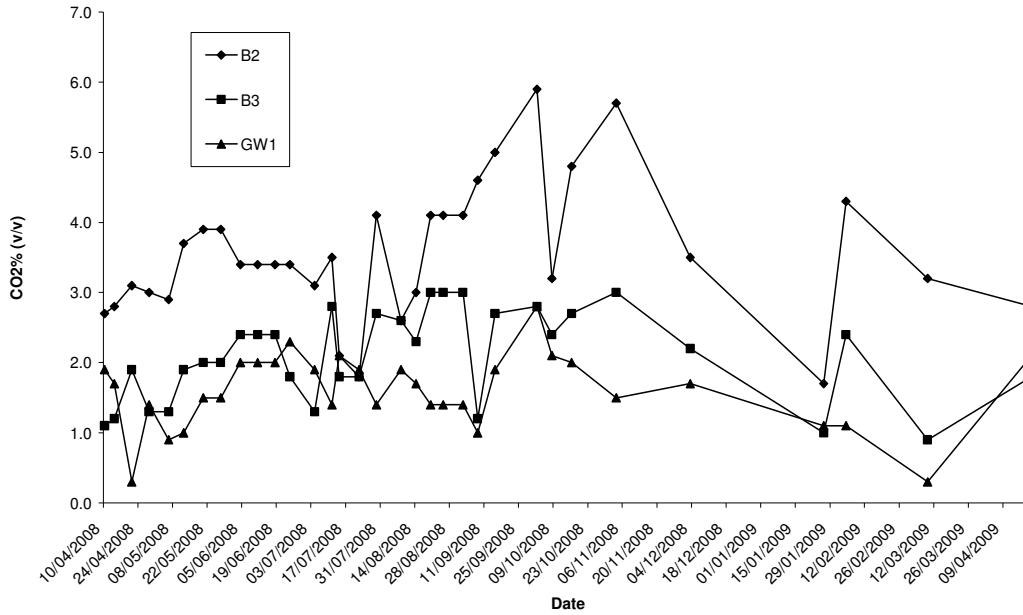
At the boreholes on residents' properties, the following was recorded during this reporting period:

- **B1 Walshe's**; The CO2 level in this borehole did not exceed the threshold limit of 1.5% at any time during the reporting period.



- **B2, B3 and GW1 Murtagh's**; The CO2 concentrations at boreholes B2 and B3 were consistently above the trigger level of 1.5%. Borehole GW1, located less than 50m from the Murtagh residence has lower CO2 readings than B2 and B3 however still demonstrated readings in excess of 2% during the reporting period. There was no obvious seasonal effect evident.

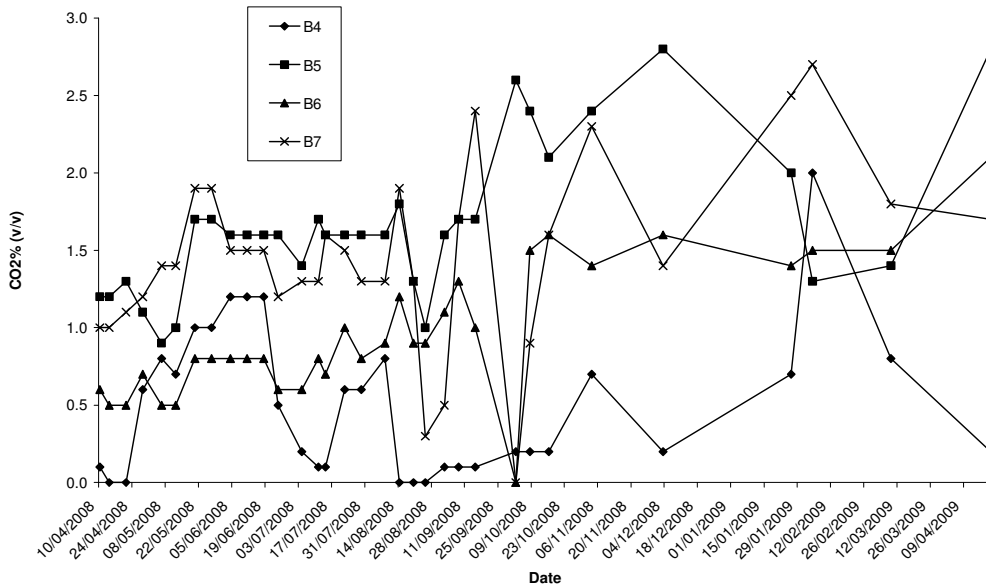
Carbon Dioxide Concentrations at Murtaghs



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

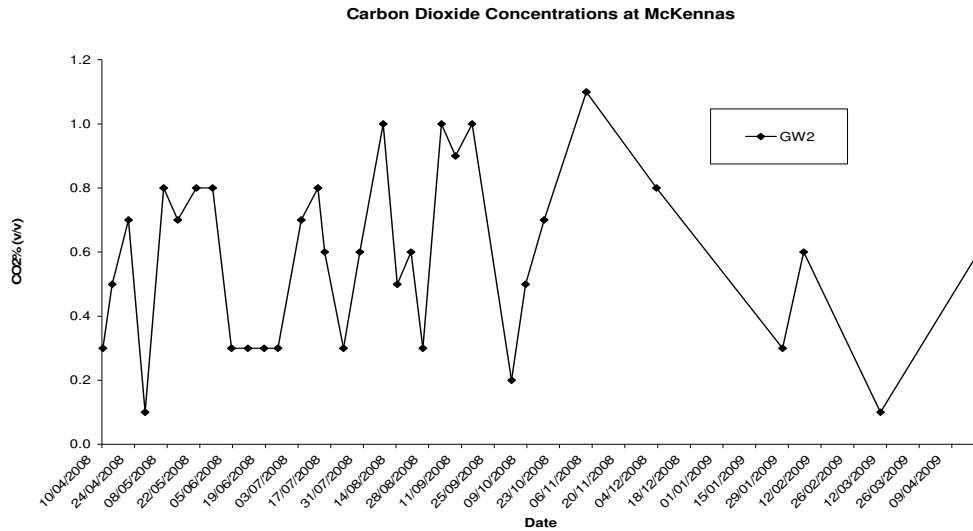
Similar to previous periods, the wells B4, B6 and B7 consistently gave readings below 2.5%, while B5 is regularly above 2%. The highest recorded concentration in these wells was 2.8% at B5.

Carbon Dioxide Concentrations at Galtrim Lodge



- **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

Under Schedule C.3 of the Waste Licence W0010-02, the monitoring of surface water as listed below was required.

Table 6 Surface water Monitoring for period April 2006 - March 2007

Surface Water Monitoring Locations and Frequency			
Visual Inspection	4 points	S3-S6	Weekly
Quality (Chemical)	8 points	S2-S5;S7-S9	Quarterly
(Biological)	10 points		Annual

Wetland Level Quality	1 point	W1	Quarterly Quarterly
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Visual Inspection of surface water sites

Weekly 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 point	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 west 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
S5 (Tobernabeenog Spring)	Flow: Low - ran dry at start of July
	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 analysis

Quarterly laboratory analysis of surface water quality is carried out. All 9 samples (including wetland sample) were collected quarterly by MCC staff and analysed by Alcontrol Laboratories on behalf of Meath County Council. The parameters tested for surface

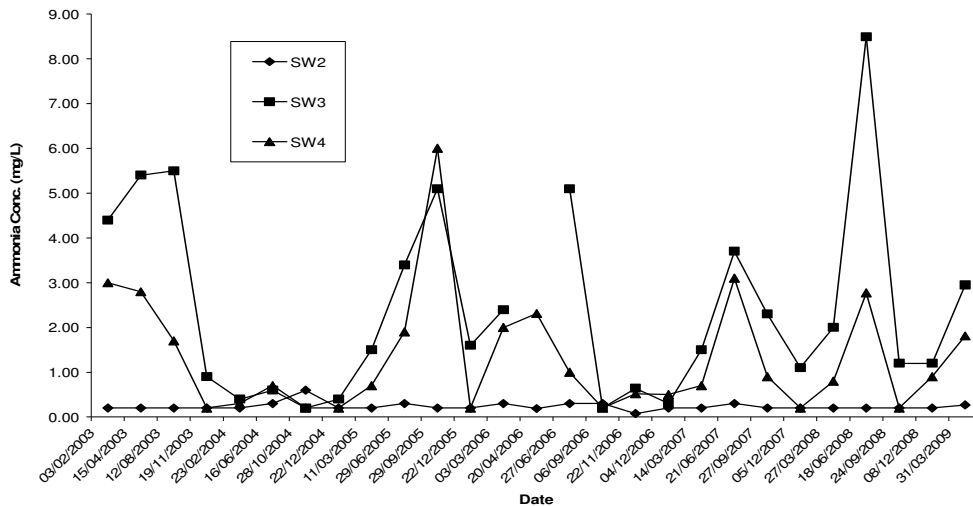
water quality are Ammoniacal Nitrogen, BOD, COD, Chloride, Dissolved Oxygen, Conductivity, Ph and Total Suspended Solids.

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 69 mg/L found in March 2009 confirm this.

The sampling points S3 and S4 however, demonstrated elevated levels in surface waters to the south east of the site during the reporting period. These readings warranted further attention and a historical summary of the Ammoniacal Nitrogen levels in sampling points S2, S3 and S4 has been prepared and illustrated below. 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.

**Ammonia in Surface Waters at Basketstown Landfill
2003 - 2009**



The above diagram illustrates that the Ammonia levels in S3 have at times over the past 5 years been considerably higher than those in S2, which is located <50m upstream on the same river. The ammonia levels in S2 are consistently <1mg/L while the levels in S3 have risen to 8.49mg/L at times over the last 6 years. 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. The levels of ammonia in sampling point S7, located approx. 1.5km d/s of S4 are lower, typically being <0.7mg/L.

The EPA requested that this situation be investigated further and Meath County Council are in the process of appointing a hydro-geological consultant to investigate and report on all options for abatement of the problem.

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.

As part of the requirements of Schedule C.3 of the Waste Licence, MCC undertook a thorough annual examination of surface water quality sites for List I/II Organic Substances, Metals/Non metals, Mercury, Sulphate, Total Alkalinity, Total P/orthophosphate and Total Oxidised Nitrogen. The results from this analysis are illustrated in the Appendices however in

summary, there were no elevated levels of any of the above parameters recorded. All of the list I/II Organic substances were absent from the samples.

Biological Assessment

An annual biological quality survey of the Knightsbrook Catchment was conducted in September 2008. 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 however, a summary of the findings is included below:

The Knightsbrook River continues to have a significant pollution problem (see Map 2). The main channel upstream of its confluence with the Dangan 'River' (Site 4) has however improved significantly from Q1-2 to Q2-3 since 2006. This improvement has also occurred immediately downstream of the Dangan 'River' confluence (Site 5). As yet this improvement has not been reflected further downstream; at 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 but significantly reduced 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 quarterly 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 <0.2mg/L and BOD levels were always <5mg/L. The water quality in this wetland area appears to be consistently good. The level of the wetland was greatly increased during this reporting period as a result of the prolonged wet period experienced in June, July and August 2008.

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. A complete list of dip levels is included in the Appendices. 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 BH15 and BH18 (up to 7.3mg/L N and 8.7mg/L N respectively) which both lie to the south of the site. Both of these sites are located 'downgradient' of the landfill, in relation to groundwater flow regime. However, Chloride levels and Conductivity readings for these sites were recorded as normal during the same period. The ammoniacal nitrogen levels in Boreholes BH13, BH14 and BH16 were all approx. 0.3mg/L or less 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 and LM16A, which are 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 and LM16A are situated upgradient of the landfill and ammoniacal nitrogen levels were at or below 0.3mg/l during the reporting period.

The readings for ammoniacal nitrogen in the shallow contaminated boreholes varied from a reading of 1.1mg/L for BH5 to a reading in excess of 114mg/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

Table 9 Private well monitoring locations

Private Well Monitoring Locations		
Easterly/Northerly perimeter private well supplies	2 points	PW4 (Galtrim Lodge), PW6 (McKennis)
Westerly perimeter private well supplies	5 points	PW3 (Murtaghs), PW7 (Kellys), PW8 (Lennons), PW9 (Morgans), PW10 (Walshes)
On-site well	1 point	PW2

Results from the analysis of private well supplies indicate that the water is generally of a good quality and do not appear to be contaminated by leachate from the landfill. These wells are not being used by their owners at present and are lying stagnant between each quarterly sampling occasion. A number of these wells (PW4, PW7 and PW10) are not functioning due to pump malfunctions and MCC were unable to take samples during the reporting period. The Agency was made aware of this situation. Ammoniacal nitrogen levels remained low at these sites during the reporting period. Elevated levels of Chloride were again recorded at PW8 during the reporting period. This well is located up gradient of the

landfill and the increase in Chlorides is likely to be due to a localised source for example agricultural activity nearby.

MCC provided each of the residences within the monitoring programme with a replacement supply of water for the entire reporting period.

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

11.2.5 Leachate

Table 10 Leachate Monitoring

Leachate Monitoring			
Composition	3 points	GWAB4, LM7 and LM11	Annually
Level	15 points	LM1 - LM15	Weekly

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 monitored in place of LM1
- GWAB3 is monitored in place of LM2
- GWAB5 is monitored in place of LM3
- GWAB7 is monitored in place of LM4
- GWAB8 is monitored in place of LM5
- 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. A complete list of dip levels is included in the Appendices. Leachate levels remained relatively constant throughout the monitoring period, with only minor variations in accordance with the prevailing weather conditions.

Leachate composition analysis

Samples were taken from 2 monitoring points (LM7 and LM11) and sent to Alcontrol Laboratories for analysis. An attempt was made to take a sample from GWAB3, but not enough leachate was extracted to make an appropriate sample. The analytical results indicated that the leachate extracted from both of these sampling points was quite dilute compared to previous samples taken. The results of the analysis can be viewed in the table in the Appendices.

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 & Targets**
- 2. Perimeter Gas & Water Quality Graphs**
- 3. Laboratory Analysis Data**
- 4. Meteorological Data Graphs**
- 5. Sampling Location Maps**
- 6. PRTR Returns Worksheet**

1. Objectives & Targets



Basketstown Landfill

Objectives & Targets 2009

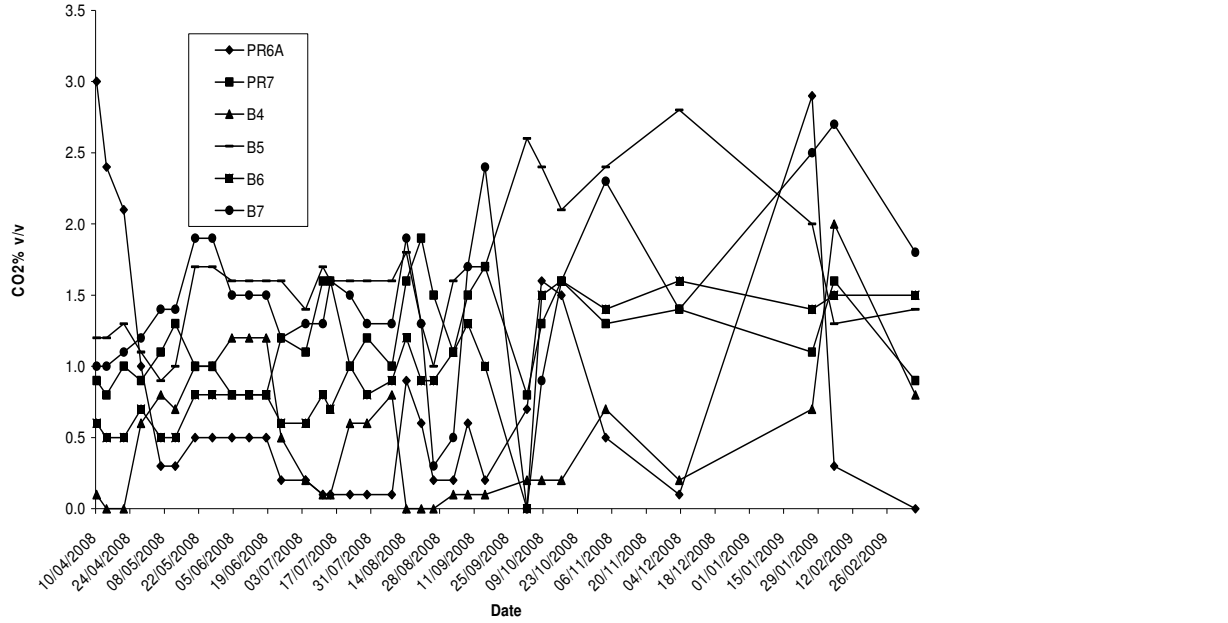
Objectives & Targets Schedule

Schedule of Objectives and Targets set for the period April 2009– March 2010

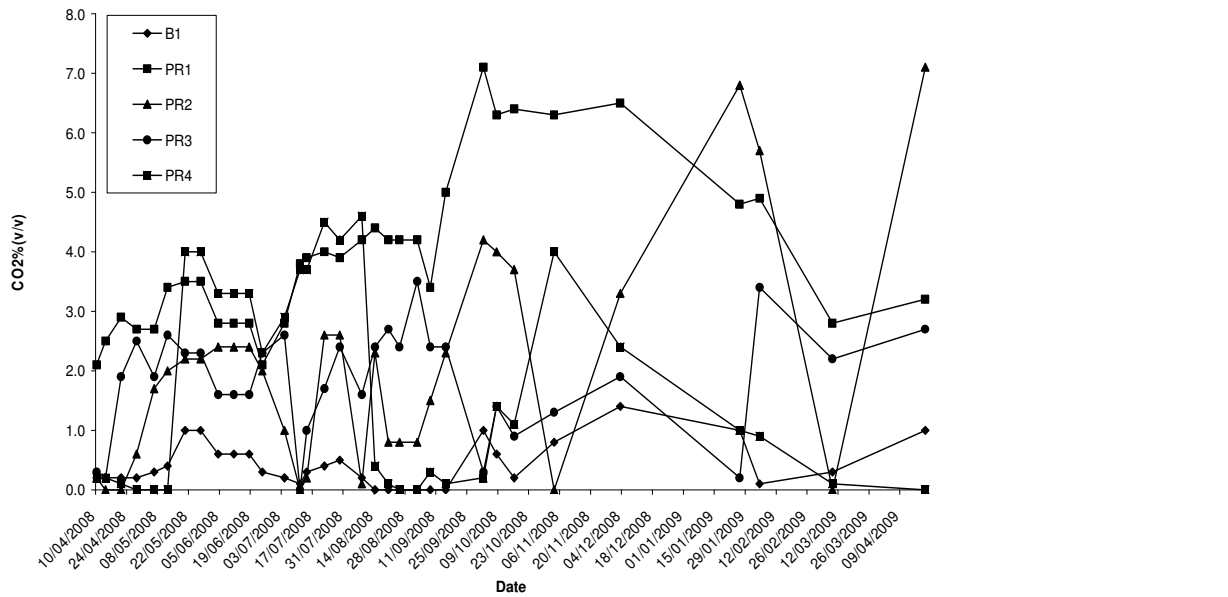
Objective	Reason for Undertaking Project	Project Summary	Target	Actioned by
Infrastructure				
1. Installation of telemetry system - Assess the needs for such a system	To comply with Condition 3.12	Discuss with the Agency the need for such a system	March 2010	MCC
Engineering/ Restoration				
1. Restore Tobernabeenog well	To comply with Condition 3.13	Implement specialists report on restoration	June 2010	MCC
Monitoring/ Records				
1. Prepare Flare Operating Procedure	To ensure other staff can operate Flare	Develop Standard operating Procedure document	December 2009	MCC
Leachate/Water Management				
1 Prepare report on leachate movement off-site	To assess impact from Groundwater source off-site	Appoint consultants to prepare report on behalf of MCC for the attention of the Agency.	End-2009	MCC

2. Perimeter Gas and Water Quality Monitoring Graphs

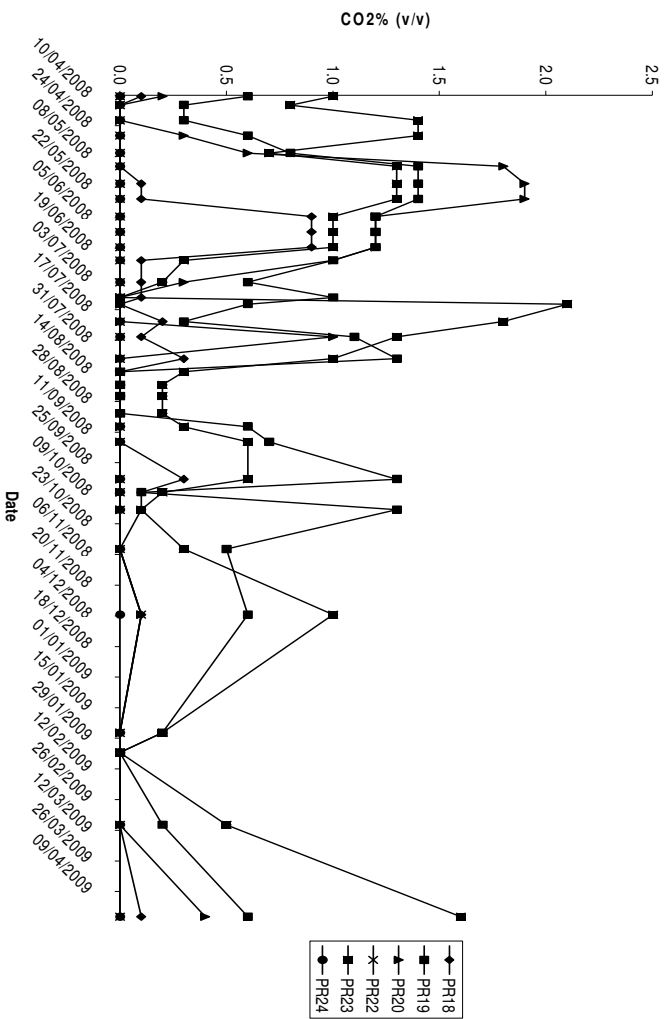
Carbon Dioxide Concentrations - NE of Basketstown Landfill



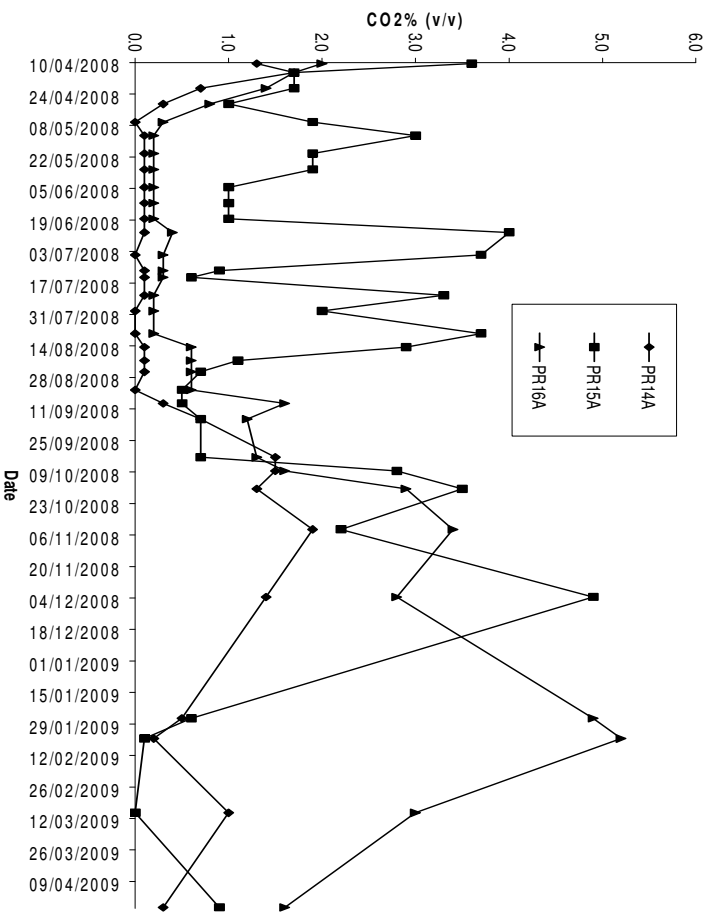
Carbon Dioxide Concentrations - NW Basketstown Landfill



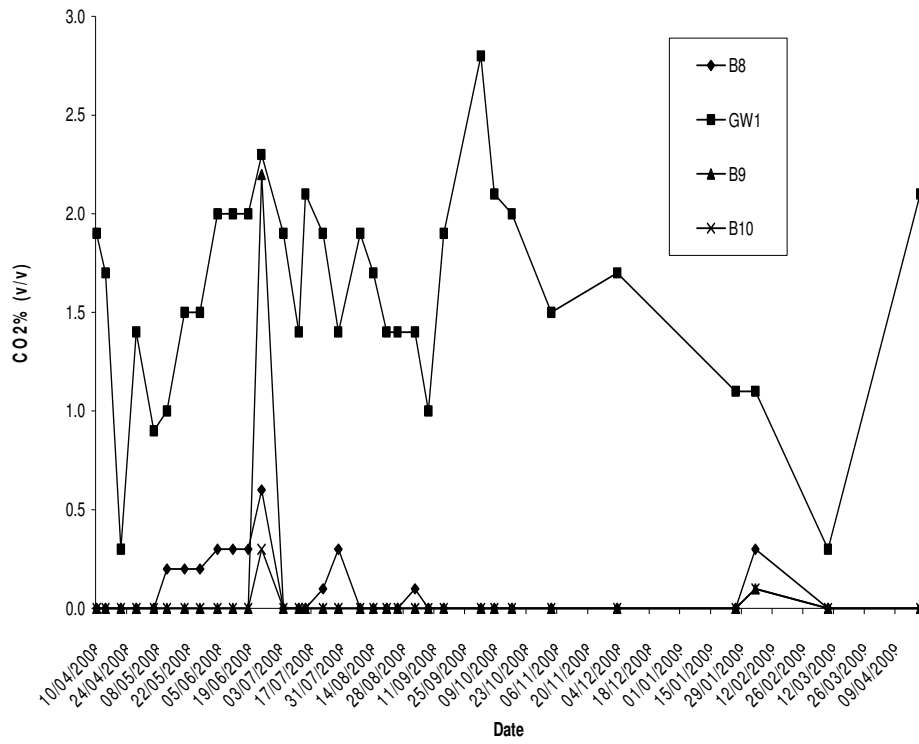
Carbon Dioxide Concentrations - SW Basketstown Landfill



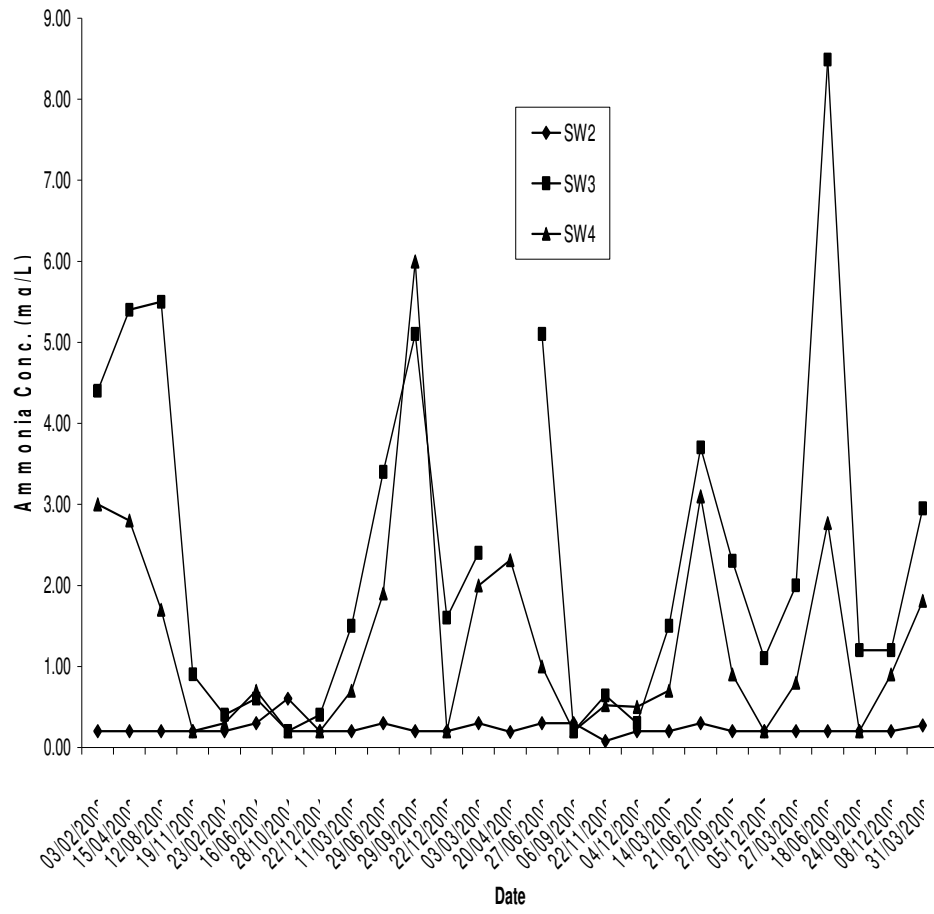
Carbon Dioxide Concentrations - SE Basketstown Landfill



Carbon Dioxide Concentrations - E Basketstown Landfill



Ammonia in Surface Waters at Basketstown Landfill



3. Laboratory Analysis Data

Basketstown Landfill Waste Licence W0010-02

Surfacewater Monitoring Data 2008-2009

Date	Sample Identity	BOD Unfiltered	Total Suspended Solids	Chloride	Dissolved Oxygen	Electrical Conductivity @ 25C	pH	Ammoniacal Nitrogen as N	COD Unfiltered
		mg/l	mg/l	mg/l	mg/l	mS/cm	pH Units	mg/l	mg/l
18/06/2008	S2	<2	<10	14	9.0	0.723	7.59	<0.2	<15
24/09/2008	S2	<2	<10	14	9.3	0.747	7.87	<0.2	18
08/12/2008	S2	2	<10	14	9.2	0.726	7.76	<0.2	<15
31/03/2009	S2	1	6	11.7	9.29	0.664	8.28	0.270	17.7
18/06/2008	S3	2	<10	31	8.2	0.851	7.04	9.0	23
24/09/2008	S3	<2	<10	18	9.4	0.785	7.78	1.2	19
08/12/2008	S3	2	<10	17	9.0	0.771	7.66	1.2	16
31/03/2009	S3	1	6	8.60	8.94	0.740	8.27	2.95	22.1
18/06/2008	S4	<2	13	31	8.9	0.872	7.22	2.9	21
24/09/2008	S4	<2	<10	18	9.7	0.772	7.82	<0.2	<15
08/12/2008	S4	<2	<10	18	9.1	0.787	7.76	0.9	17
31/03/2009	S4	1	6	18.1	9.21	0.728	8.22	1.81	19.1
18/06/2008	S5	4	15	164	3.6	2.054	7.08	57.2	47
24/09/2008	S5	<2	37	123	9.2	1.766	7.72	47.6	29
08/12/2008	S5	2	14	121	8.9	1.744	7.25	46.3	28
31/03/2009	S5	1	15	69.4	8.15	2.14	8.02	69.4	65
18/06/2008	S7	3	<10	27	8.9	0.810	7.67	0.3	22
24/09/2008	S7	<2	13	19	9.7	0.801	7.99	<0.2	<15
08/12/2008	S7	2	<10	19	9.3	0.809	7.75	0.4	18
31/03/2009	S7	1	13	18.6	9.14	.722	8.15	0.701	22.4
18/06/2008	S8	2	<10	31	8.8	0.703	7.42	1.5	<15
24/09/2008	S8	<2	<10	22	9.4	0.707	8.17	0.3	<15
08/12/2008	S8	3	35	26	8.9	0.700	7.83	0.4	<15
31/03/2009	S8	1	20	22.1	9.71	0.622	8.11	0.363	13.0
18/06/2008	S9	2	<10	30	9.0	0.718	7.47	1.4	17
24/09/2008	S9	<2	<10	21	9.4	0.726	8.10	<0.2	<15
08/12/2008	S9	2	12	24	9.2	0.724	7.87	0.3	<15
31/03/2009	S9	1	6	17.5	9.32	0.404	8.48	0.2	34.2
18/06/2008	W1	8	20	23	8.7	0.371	7.73	<0.2	53
24/09/2008	W1	<2	<10	17	9.1	0.374	7.65	<0.2	28
08/12/2008	W1	3	<10	20	9.0	0.420	7.61	<0.2	23
31/03/2009	W1	3	<10	20	9.1	0.421	7.63	<0.2	28

Basketstown Landfill Waste Licence W0010-02

Surfacewater Annual Monitoring Data 2008-2009

Date	Sample Identity	Total Oxidised Nitrogen as N	Dissolved Mercury Low Level	Total Suspended Solids	Total Chromium	Total Phosphorous	Dissolved Boron Low Level	Dissolved Cadmium Low Level
		mg/l	ug/l	mg/l	mg/l	mg/l	ug/l	ug/l
08/12/2008	W1	<0.3	<0.05	<10	<0.05	0.10	8	<0.4
08/12/2008	S2	1.9	<0.05	<10	<0.05	0.08	11	<0.4
08/12/2008	S3	1.7	<0.05	<10	<0.05	<0.05	21	<0.4
08/12/2008	S4	3.3	<0.05	<10	<0.05	0.06	25	<0.4
08/12/2008	S5	1.4	<0.05	14	<0.05	<0.05	471	<0.4
08/12/2008	S7	2.7	<0.05	<10	<0.05	0.09	27	<0.4
08/12/2008	S8	1.8	<0.05	35	<0.05	0.16	26	<0.4
08/12/2008	S9	1.9	<0.05	12	<0.05	0.14	22	<0.4

Date	Sample Identity	Dissolved Manganese Low Level	Dissolved Nickel Low Level	Dissolved Zinc Low Level	Dissolved Potassium	Dissolved Sodium	Fluoride	Sulphate
		ug/l	ug/l	ug/l	mg/l	mg/l	mg/l	mg/l
08/12/2008	W1	62	2	12	3.7	8.2	-	6
08/12/2008	S2	14	6	14	2.9	8.3	-	26
08/12/2008	S3	92	6	16	3.9	10.8	-	30
08/12/2008	S4	73	7	16	4.2	11.4	-	31
08/12/2008	S5	998	26	19	58.7	91.9	-	199
08/12/2008	S7	92	7	15	5.4	11.2	-	29
08/12/2008	S8	<1	3	13	2.9	14.9	-	22
08/12/2008	S9	<1	3	11	3.3	14.3	-	25

Date	Sample Identity	Dissolved Calcium Low Level	Dissolved Copper Low Level	Dissolved Iron Low Level	Dissolved Lead Low Level	Dissolved Magnesium Low Level	ortho Phosphate as PO ₄
		ug/l	ug/l	ug/l	ug/l	ug/l	mg/l
08/12/2008	W1	63980	7	10	<1	4363	0.03
08/12/2008	S2	126600	9	30	<1	7018	0.03
08/12/2008	S3	130400	1	32	<1	7594	0.03
08/12/2008	S4	133300	1	29	<1	7837	<0.03
08/12/2008	S5	152400	<1	34	<1	28110	<0.03
08/12/2008	S7	136300	2	55	<1	8746	0.11
08/12/2008	S8	114800	<1	60	<1	6064	0.04
08/12/2008	S9	120100	<1	27	<1	6674	<0.03

Basketstown Landfill Waste Licence W0010-02

Groundwater Monitoring Data 2008-2009

Date	Sample Identity	Total Organic Carbon	Chloride	Dissolved Oxygen	Electrical Conductivity @ 25C	pH	Ammoniacal Nitrogen as N
		mg/l	mg/l	mg/l	mS/cm	pH Units	mg/l
18/06/2008	BH11	6	13	9.0	1.144	6.96	0.3
25/09/2008	BH11	8	10	10.7	0.828	7.30	0.5
08/12/2008	BH11	5	10	-	0.999	7.17	0.3
31/03/2009	BH11	6.10	11.2	6.47	0.843	8.27	0.313
18/06/2008	BH13	<2	14	9.1	0.555	7.47	<0.2
24/09/2008	BH13	7	7	9.1	0.661	7.73	<0.2
09/12/2008	BH13	5	10	8.8	0.538	7.87	<0.2
31/03/2009	BH13	4.00	10.7	7.84	0.482	8.47	0.283
18/06/2008	BH14	<2	11	9.1	0.406	7.70	<0.2
24/09/2008	BH14	<2	12	9.2	0.447	7.62	<0.2
09/12/2008	BH14	2	12	9.1	0.446	7.78	<0.2
31/03/2009	BH14	9.97	11.2	6.87	0.407	8.44	<0.2
18/06/2008	BH15	3	11	8.7	0.479	7.44	6.6
25/09/2008	BH15	4	10	9.8	0.481	7.74	7.3
09/12/2008	BH15	4	12	8.2	0.480	7.71	7.2
31/03/2009	BH15	4.06	10.4	6.41	0.423	8.51	6.01
18/06/2008	BH16	<2	15	8.8	0.663	7.25	0.2
25/09/2008	BH16	<2	16	11.1	0.669	7.43	0.2
08/12/2008	BH16	<2	11	-	0.682	7.69	0.4
31/03/2009	BH16						
18/06/2008	BH18	5	12	7.7	0.393	7.49	8.5
25/09/2008	BH18	5	11	9.7	0.400	7.60	8.7
09/12/2008	BH18	6	13	8.8	0.377	7.75	8.6
31/03/2009	BH18	4.88	11.3	8.58	0.355	8.39	7.74
18/06/2008	BH5	5	93	8.9	1.054	7.06	1.1
25/09/2008	BH5	3	93	9.2	1.025	7.18	0.9
09/12/2008	BH5	4	96	7.6	1.054	7.26	1.1
31/03/2009	BH5	5.14	89.6	6.29	0.963	8.02	1.16
18/06/2008	BH7	11	82	8.9	1.432	6.83	7.3
25/09/2008	BH7	11	71	10.3	1.329	6.99	8.6
09/12/2008	BH7	11	66	8.3	1.307	7.11	8.4
31/03/2009	BH7	10.2	47.8	7.06	1.2	8.29	7.28

Date	Sample Identity	Total Organic Carbon mg/l	Chloride mg/l	Dissolved Oxygen mg/l	Electrical Conductivity @ 25C mS/cm	pH pH Units	Ammoniacal Nitrogen as N mg/l
25/09/2008	BH8	3	22	10.3	0.987	7.20	1.6
09/12/2008	BH8	4	24	8.5	0.936	7.19	0.9
31/03/2009	BH8	3.51	22.1	6.56	0.850	8.26	1.13
18/06/2008	BH9	40	420	8.9	3.212	6.96	111.1
25/09/2008	BH9	27	289	9.8	2.718	7.10	114.1
08/12/2008	BH9	18	180	-	1.954	7.30	85.2
31/03/2009	BH9	22.3	266	5.32	2.3	8.01	57.7
19/06/2008	LM16A	3	30	8.9	0.895	7.29	
25/09/2008	LM16A	<2	30	10.9	0.840	7.35	<0.2
09/12/2008	LM16A	3	34	9.3	0.862	7.36	<0.2
31/03/2009	LM16A	3	33.8	8.33	0.768	7.96	0.2

Basketstown Landfill Waste Licence W0010-02

Groundwater Annual Monitoring Data 2008-2009

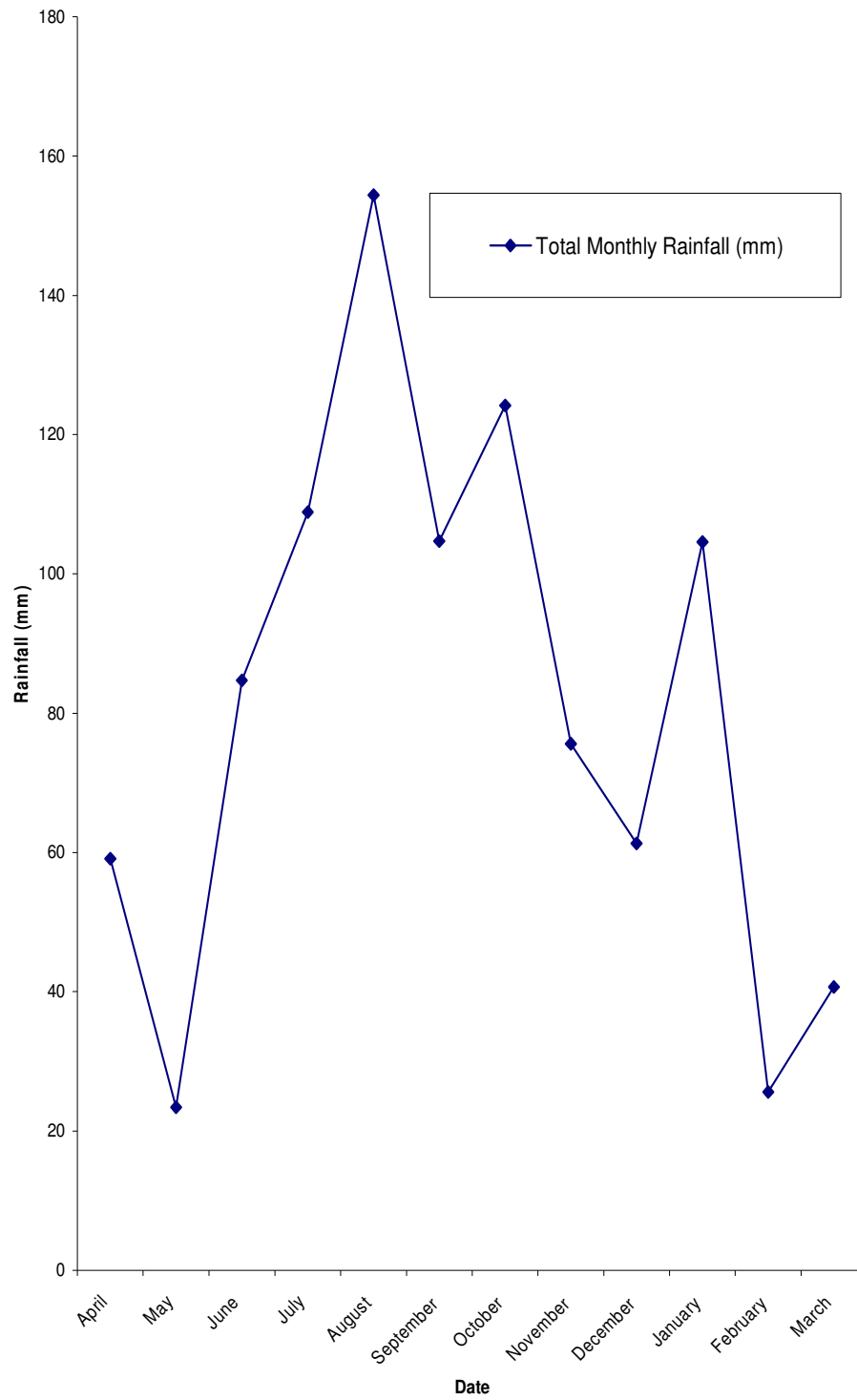
Date	Sample Identity	Total Oxidised Nitrogen as N	Dissolved Mercury Low Level	Dichlorvos**	Mevinphos**	alpha-BHC**	beta-BHC**	gamma-BHC (Lindane)**	Diazinon**	Methyl parathion**	Heptachlor**	Fenitrothion**	Malathion**
		mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
08/12/2008	BH11	<0.3	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
09/12/2008	BH13	<0.3	<0.05	-	-	-	-	-	-	-	-	-	-
09/12/2008	BH14	<0.3	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
09/12/2008	BH15	<0.3	<0.05	-	-	-	-	-	-	-	-	-	-
08/12/2008	BH16	<0.3	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
09/12/2008	BH18	<0.3	<0.05	-	-	-	-	-	-	-	-	-	-
09/12/2008	BH5	<0.3	<0.05	-	-	-	-	-	-	-	-	-	-
09/12/2008	BH7	<0.3	<0.05	-	-	-	-	-	-	-	-	-	-
09/12/2008	BH8	6.8	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
08/12/2008	BH9	<0.3	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
09/12/2008	LM16A	55.9	<0.05	-	-	-	-	-	-	-	-	-	-
Date	Sample Identity	Aldrin**	Parathion**	Heptachlor epoxide**	Endosulfan 1**	p,p'-DDE**	Dieldrin**	Endrin**	Endosulfan 2**	p,p'-DDD**	Ethion**	p,p'-DDT**	Endosulfan sulphate**
		ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
08/12/2008	BH11	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
09/12/2008	BH13	-	-	-	-	-	-	-	-	-	-	-	-
09/12/2008	BH14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
09/12/2008	BH15	-	-	-	-	-	-	-	-	-	-	-	-
08/12/2008	BH16	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
09/12/2008	BH18	-	-	-	-	-	-	-	-	-	-	-	-
09/12/2008	BH5	-	-	-	-	-	-	-	-	-	-	-	-
09/12/2008	BH7	-	-	-	-	-	-	-	-	-	-	-	-
09/12/2008	BH8	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
08/12/2008	BH9	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
09/12/2008	LM16A	-	-	-	-	-	-	-	-	-	-	-	-

Date	Sample Identity	p,p'-Methoxychlor**	Azinphos methyl**	Total Solids	Total Suspended Solids	Total Chromium	Total Phosphorous	Dissolved Boron Low Level	Dissolved Cadmium Low Level	Dissolved Calcium Low Level	Dissolved Copper Low Level	Dissolved Iron Low Level	Dissolved Lead Low Level
		ug/l	ug/l	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
08/12/2008	BH11	<0.01	<0.01	740	-	-	<0.05	-	-	-	-	-	-
09/12/2008	BH13	-	-	299	-	<0.05	<0.05	18	<0.4	68790	<1	<2	<1
09/12/2008	BH14	<0.01	<0.01	220	-	<0.05	<0.05	<3	<0.4	67600	6	<2	<1
09/12/2008	BH15	-	-	251	-	<0.05	0.25	<3	<0.4	66960	<1	<2	<1
08/12/2008	BH16	<0.01	<0.01	425	-	-	<0.05	-	-	-	-	-	-
09/12/2008	BH18	-	-	173	-	<0.05	<0.05	<3	<0.4	42570	<1	<2	<1
09/12/2008	BH5	-	-	636	-	<0.05	<0.05	<3	<0.4	146700	<1	<2	<1
09/12/2008	BH7	-	-	883	-	<0.05	<0.05	140	<0.4	194800	<1	<2	<1
09/12/2008	BH8	<0.01	<0.01	508	-	<0.05	<0.05	15	<0.4	141400	<1	<2	<1
08/12/2008	BH9	<0.01	<0.01	842	-	-	0.15	-	-	-	-	-	-
09/12/2008	LM16A	-	-	520	-	<0.05	<0.05	<3	<0.4	133400	<1	<2	<1

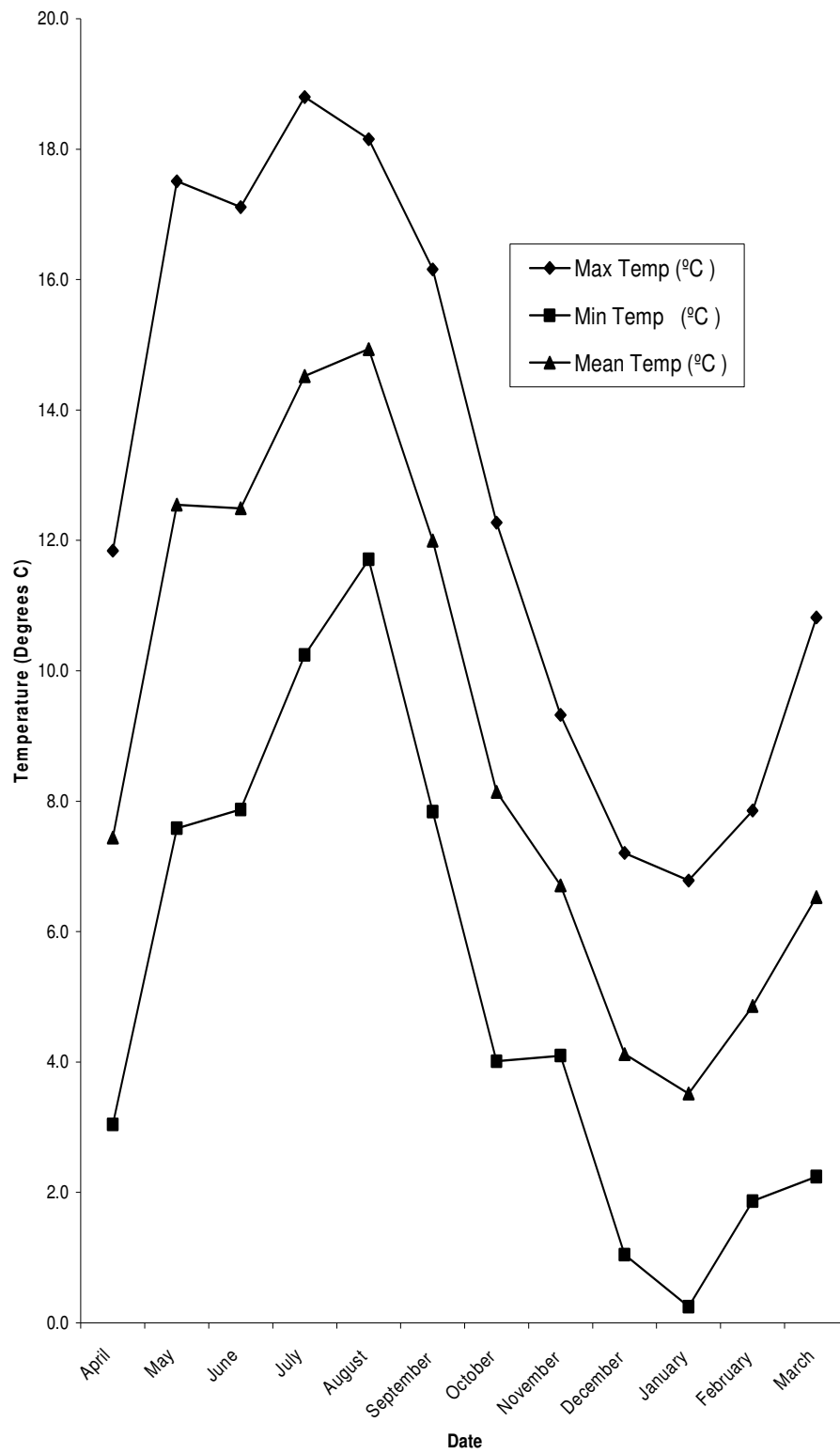
Date	Sample Identity	Dissolved Magnesium Low Level	Dissolved Manganese Low Level	Dissolved Nickel Low Level	Dissolved Zinc Low Level	Dissolved Potassium	Dissolved Sodium	Fluoride	Sulphate	ortho Phosphate as PO ₄
		ug/l	ug/l	ug/l	ug/l	mg/l	mg/l	mg/l	mg/l	mg/l
08/12/2008	BH11	-	-	-	-	-	-	0.3	126	<0.03
09/12/2008	BH13	15780	39	2	17	1.5	13.2	0.4	26	<0.03
09/12/2008	BH14	6276	453	2	18	0.9	12.1	0.6	8	0.65
09/12/2008	BH15	5077	119	1	15	2.4	13.4	0.6	<3	<0.03
08/12/2008	BH16	-	-	-	-	-	-	0.9	51	<0.03
09/12/2008	BH18	4719	487	15	17	3.6	11.5	0.8	<3	0.06
09/12/2008	BH5	19760	329	5	25	1.2	35.1	0.3	22	<0.03
09/12/2008	BH7	15860	574	11	14	8.6	47.8	0.3	203	<0.03
09/12/2008	BH8	14900	354	8	21	5.7	20.1	0.2	129	<0.03
08/12/2008	BH9	-	-	-	-	-	-	0.3	118	<0.03
09/12/2008	LM16A	11970	<1	2	18	0.7	16.3	0.1	23	<0.03

4. Meteorological Data Graphs

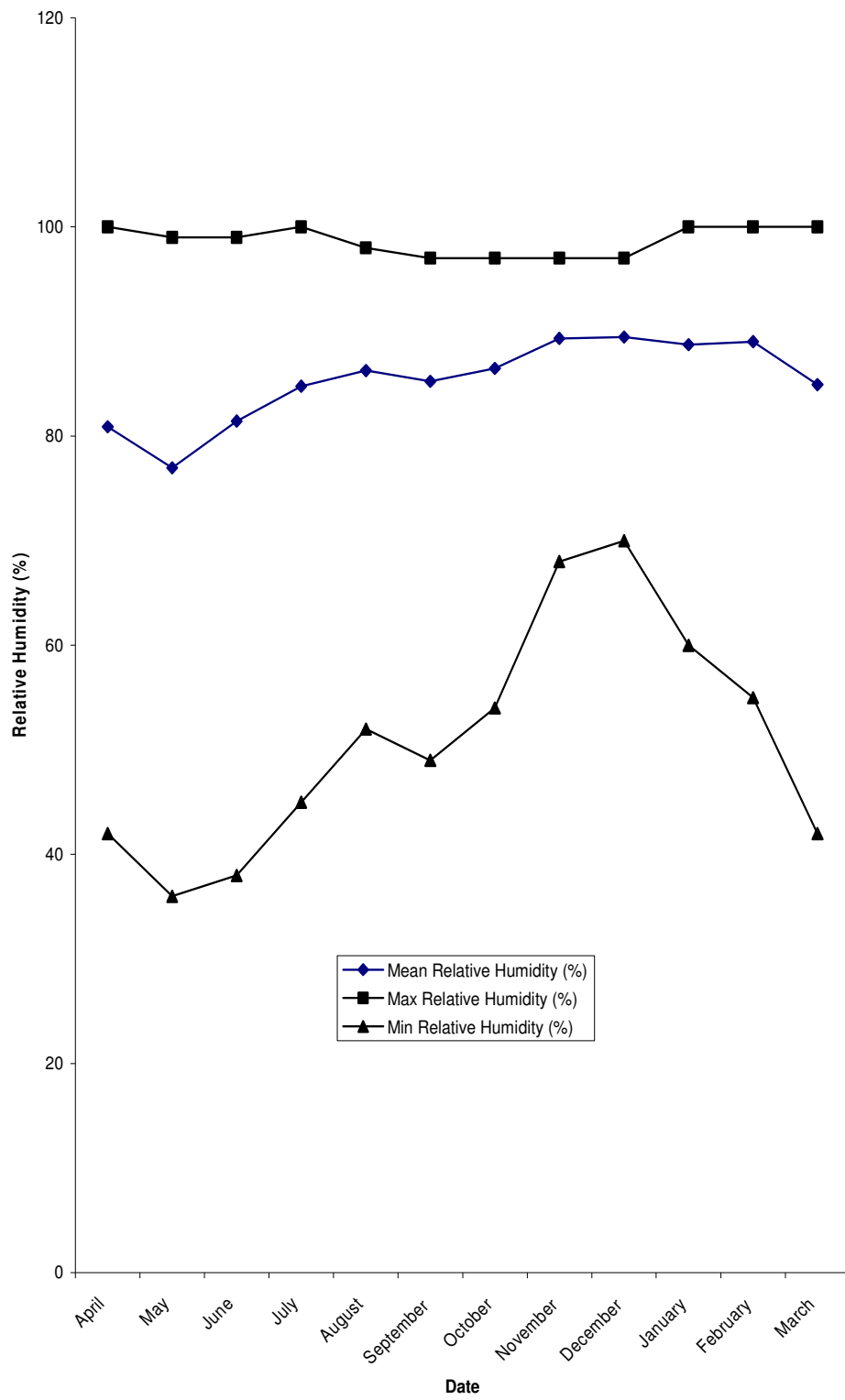
Total Monthly Rainfall (mm) @ Mullingar Station (April 2008 - March 2009)



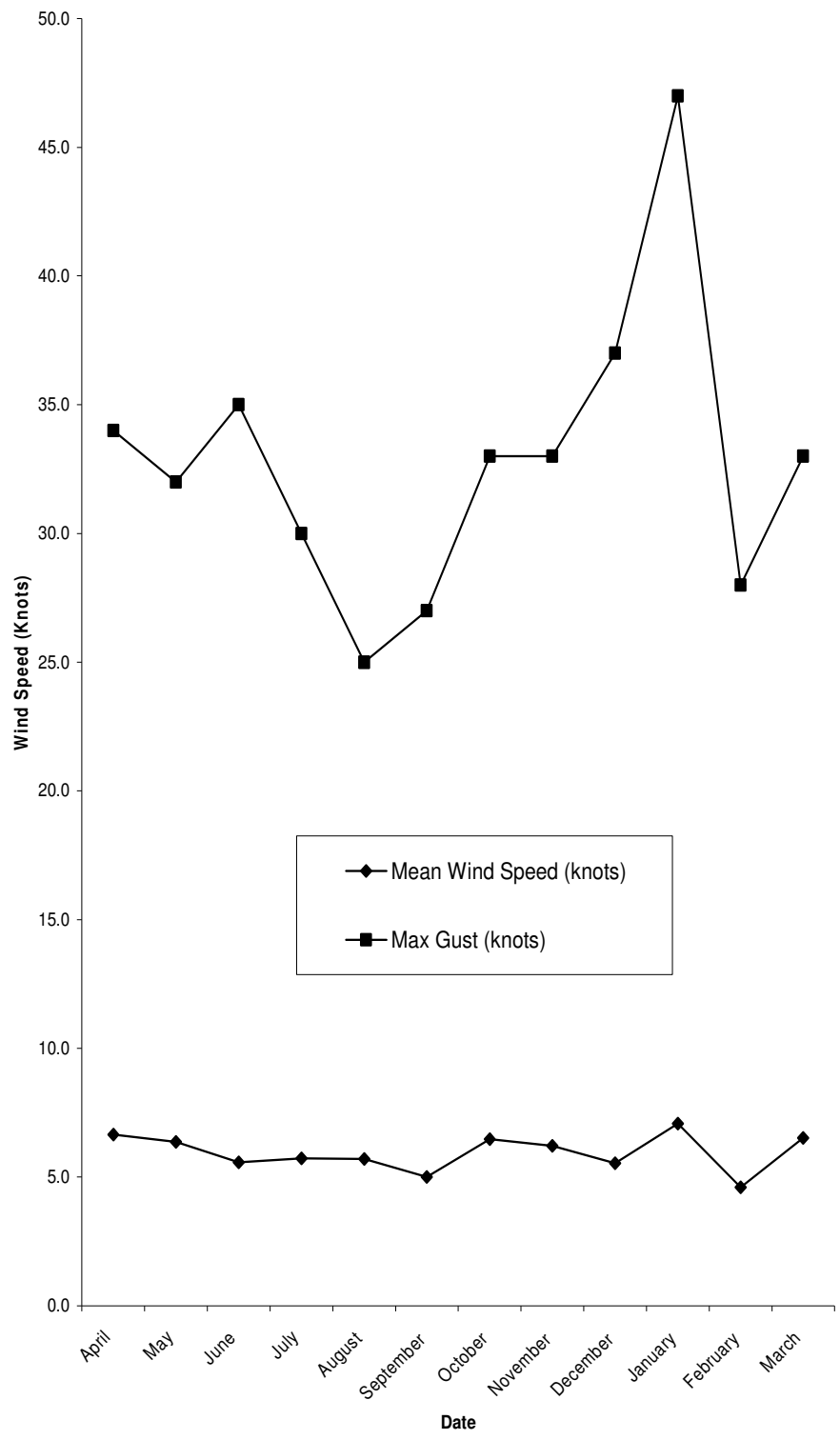
Temperature @ Mullingar Station: April 2008 - March 2009



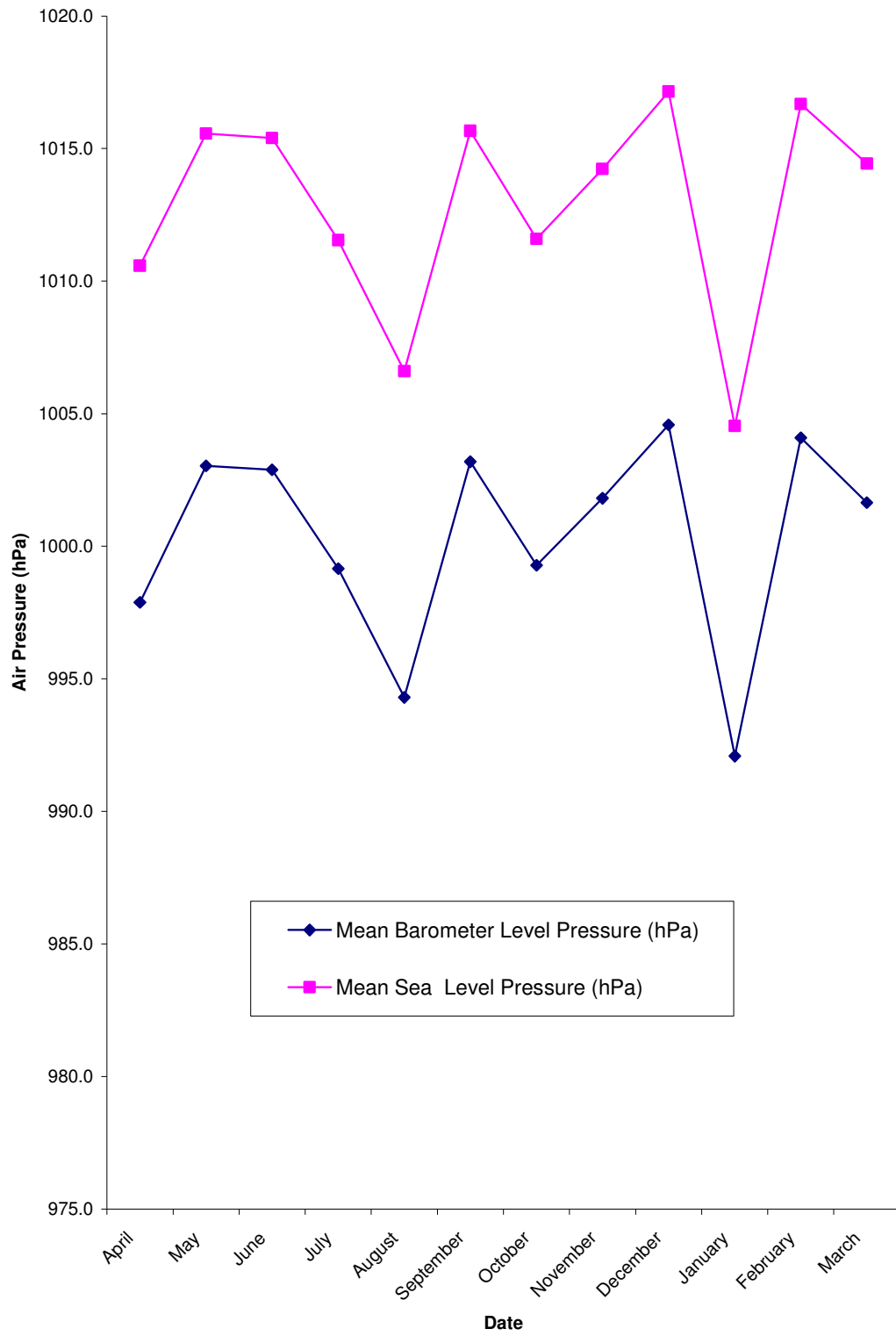
Relative Humidity @ Mullingar Station: April 2008 - March 2009



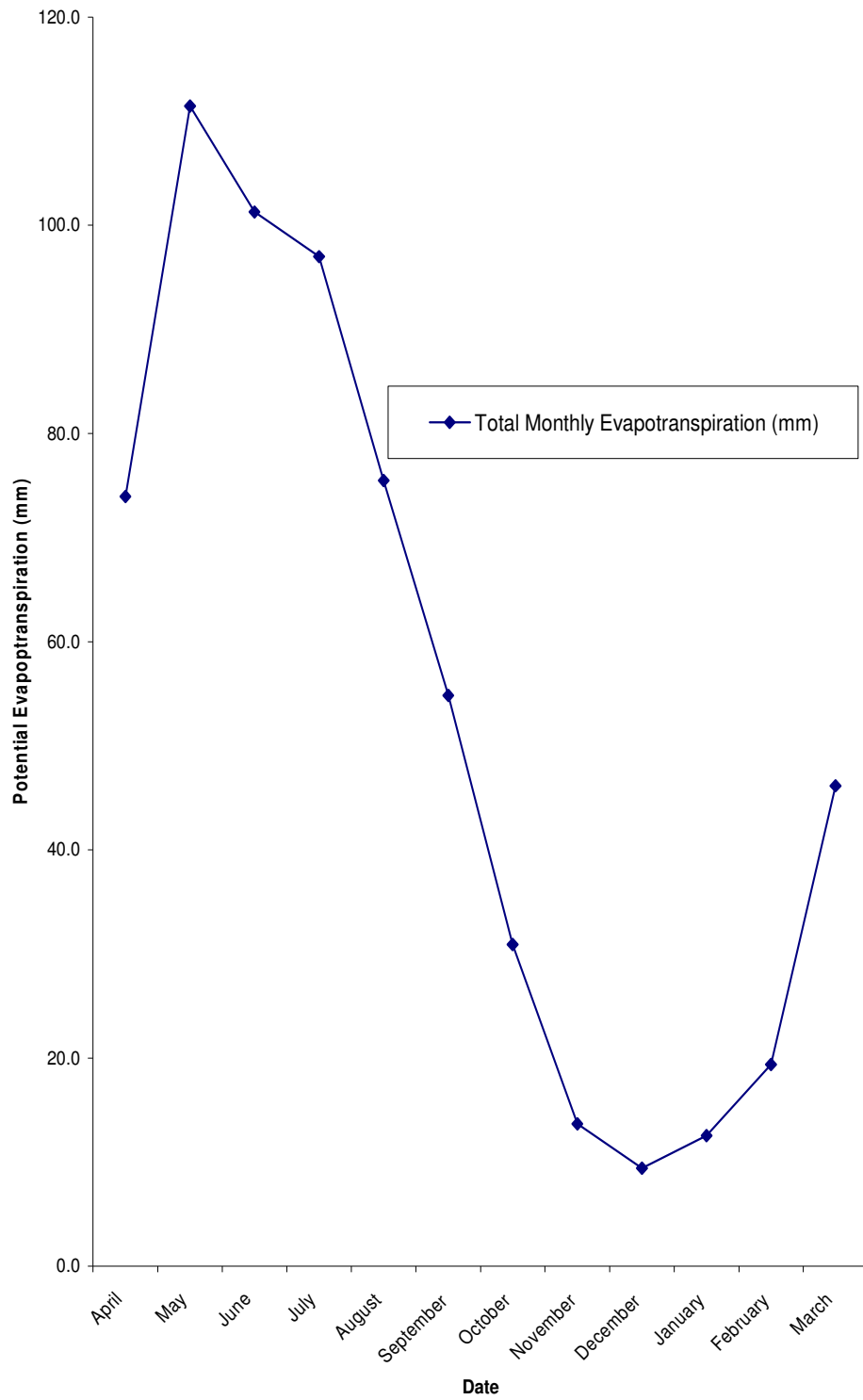
Wind Speed @ Mullingar Station: April 2008 - March 2009



Air Pressure @ Mullingar Station: April 2008 - March 2009

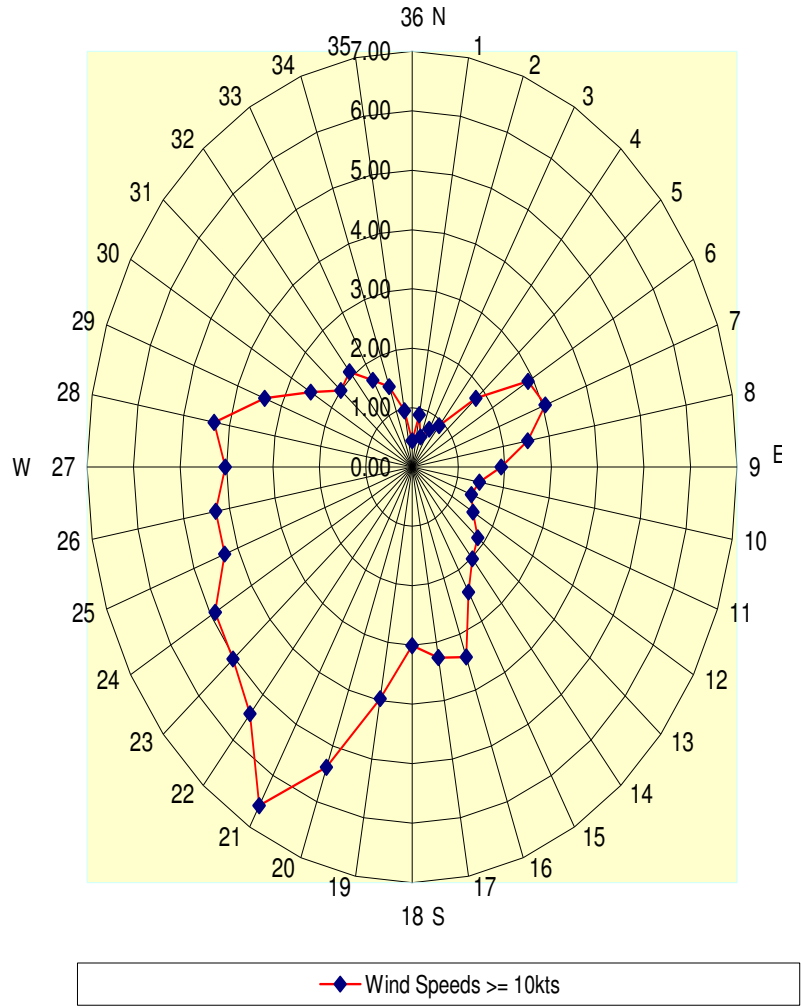


Evapotranspiration @ Mullingar Station: April 2008 - March 2009



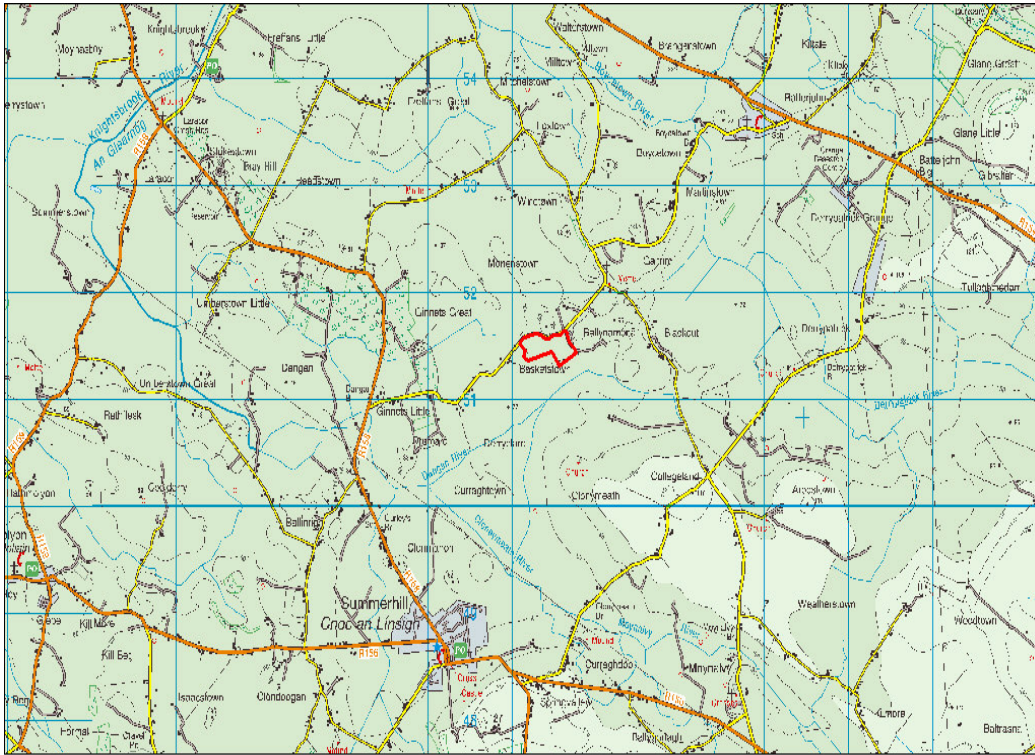
Mullingar
(April 2008- March 2009)

Percentage Frequency of Occurrences of Wind Directions



5. Sampling Location Maps

Site Location Maps



Surface water Monitoring Locations



Groundwater Monitoring Locations (including private wells)



Perimeter Gas Monitoring Locations



6. PRTR Returns Worksheets

Relevant worksheets only



[PRTR# : W0010 | Facility Name : Basketstown Landfill Facility | Filename : w0010_2008.xls | Return Year : 2008]

AER Returns Worksheet

Version 1.1.04

REFERENCE YEAR 2008

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).
	Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.
3.13	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.
4.9	Use of any waste principally as a fuel or other means to generate energy.
4.10	The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system.
4.13	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.

Address 1	Basketstown
Address 2	Summerhill
Address 3	Co. Meath
Address 4	
Country	Ireland
Coordinates of Location	536700.000
River Basin District	IEEA
NACE Code	382
Main Economic Activity	Waste treatment and disposal
AER Returns Contact Name	Finbarr Quigley
AER Returns Contact Email Address	fquigley@meathcoco.ie
AER Returns Contact Position	Site Supervisor
AER Returns Contact Telephone Number	046-9097000/9097211
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
5d	Landfills
5c	Installations for the disposal of non-hazardous waste

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

Is it applicable?	
Have you been granted an exemption?	
If applicable which activity class applies (as per Schedule 2 of the regulations)?	
Is the reduction scheme compliance route being used?	

4.1 RELEASES TO AIR

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR									
POLLUTANT		METHOD			QUANTITY				
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Flare Stack Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year	
01	Methane (CH4)	M	PER	EN13526:2002 with MCERT FID and Hydrocarbon cutter		1766.44	1766.44	0.0	0.0
08	Nitrogen oxides (NOx/NO2)	M	PER	Flue gas analyser		1135.75	1135.75	0.0	0.0
11	Sulphur oxides (SOx/SO2)	M	PER	Flue gas analyser		232.3	232.3	0.0	0.0
				EN13649:2002 in conjunction with ISO16017 European and International standard		43.23	43.23	0.0	0.0
07	Non-methane volatile organic compounds (NMVOC)	M	EN13649:2002			40.68	40.68	0.0	0.0
02	Carbon monoxide (CO)	M	PER	Flue gas analyser					
				NIR analyser with Flue gas analyser		2786320.5	2786320.5	0.0	0.0
03	Carbon dioxide (CO2)	M	PER						

* 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			QUANTITY				
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Flare Stack Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year	
84	Fluorine and inorganic compounds (as HF)	M	ISO15713:2006	International standard		6.95	6.95	0.0	0.0
80	Chlorine and inorganic compounds (as HCl)	M	EN1911:1998	European standard		6.95	6.95	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 AIR									
POLLUTANT		METHOD			QUANTITY				
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Flare Stack Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year	
351	Total Organic Carbon (as C)	M	EN12619:2001	European standard		43.23	43.23	0.0	0.0

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

Additional Data Requested from Landfill operators

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

Landfill: Please enter summary data on the quantities of methane flared and / or utilised	Basketstown Landfill Facility				Facility Total Capacity m3 per hour
	T (Total) kg/Year	M/C/E	Method Code	Designation or Description	
Total estimated methane generation (as per site model)	0.0				N/A
Methane flared	1235215.0	M	PER	EN13526:2002 with MCERT FID and Hydrocarbon cutter	210240.0 (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

4.3 RELEASES TO WASTEWATER OR SEWER

SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER									
POLLUTANT		METHOD			QUANTITY				
No. Annex II	Name	M/C/E	Method Used		Navan Wastewater Treatment Plant		T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description	Emission Point 1	Emission Point 2			
06	Ammonia (NH3)	M	PER	Spectrophotometric analysis	2151.0		2151.0	0.0	0.0
13	Total phosphorus	M	PER	ICP IRIS	0.5039		0.5039	0.0	0.0

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

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

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER									
POLLUTANT		METHOD			QUANTITY				
Pollutant No.	Name	M/C/E	Method Used		Navan Wastewater Treatment Plant		T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description	Emission Point 1	Emission Point 2			
303	BOD	M	PER	5 Day ATU	58.0	58.0	58.0	0.0	0.0
238	Ammonia (as N)	M	PER	Spectrophotometric analysis	2151.0	2151.0	2151.0	0.0	0.0
240	Suspended Solids	M	PER	Gravimetric	115.0	115.0	115.0	0.0	0.0

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