



ANNUAL ENVIRONMENTAL REPORT

For

**BALBANE LANDFILL SITE
Co. Donegal**

Waste Licence Reference: W0090-1

By

**Donegal County Council
For
Environmental Protection Agency**

Reporting Period:

January to December 2010

March 2011

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1 INTRODUCTION

- 1.1 This Annual Environmental Report (AER) has been prepared to meet the requirements of Condition 11.5 of Waste Licence 90-1 for Balbane Landfill Site, and includes the information listed in Schedule F of the Licence.
- 1.2 Balbane Landfill Site is located approximately 6.5 km north of Killybegs, in the townland of Balbane, County Donegal. The landfill covers an area of approximately 2.9 hectares. The landfill site was developed to operate on the dilute and disperse principle whereby leachate generated by rainfall was allowed to disperse into the surrounding environment.
- 1.3 Donegal County Council submitted an application to the Environmental Protection Agency for the continued operation of the landfill site, as required by the Waste Management (Licensing) Regulations 1997. On the 13th of November 2001 the Environmental Protection Agency granted the Council a Waste Licence (registration number 90-1) for the facility, in accordance with the Third Schedule of the Waste Management Act, 1996.

2 REPORT PERIOD

- 2.1 The report period for this Annual Environmental Report (AER) is from January to December 2010. The site closed in January 2004.

3 WASTE ACTIVITIES CARRIED OUT AT THE FACILITY

- 3.1 In accordance with Condition 1 of the waste licence only those waste types and quantities of waste listed in Schedule A shall be disposed of at the facility unless the prior agreement of the Agency has been obtained. The maximum annual tonnage of individual waste types for disposal is listed in Schedule A of the Waste Licence at 7,500 tonnes from the date of grant of licence for municipal waste and 70,000 tonnes of inert material of the purpose of restoration.
- 3.2 The licensed waste disposal activities in accordance with the Third Schedule of the waste Management Act, 1996 are restricted to those listed as follows:
- **Class 1:** Deposit on, in or under land (including landfill).
This activity is limited to deposition of municipal and inert waste.
 - **Class 4:** Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons. This activity is limited to leachate collection and treatment.
 - **Class 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. This activity is limited to leachate collection and storage prior to treatment.
- 3.3 When operational, access to site was controlled by the Site Manager. All persons availing of the site had to report to the site office at the time of entering and leaving the landfill site. Access was restricted to those times when staff were on duty and the site is now secured to prevent unauthorised entry.

4 QUANTITY AND COMPOSITION OF WASTE RECEIVED AND DISPOSED OF DURING THE REPORTING PERIOD AND EACH PREVIOUS YEAR.

4.1 A temporary computerised weighbridge was installed at the site in 2002 and this was used to record waste data figures until the facility closed in January 2004. No waste has been received at the site since closure. Annual figures for the period 1998-2010 are shown in Table 4.1.

Table 4.1 Waste Quantities Accepted (tonnes)

Waste Types	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Municipal Waste (20 03 01)	3228	3716	4721	4107	5069	2790	187	0	0	0	0	0	0
Street Cleanings (20 03 03)						57	3	0	0	0	0	0	0

5 SUMMARY REPORT ON EMISSIONS, RESULTS AND INTERPRETATION OF ENVIRONMENTAL MONITORING

5.1 ENVIRONMENTAL MONITORING REQUIREMENTS

The locations, frequencies and parameters which are required to be monitored at Balbane Landfill Site are specified in Schedule F of the Waste Licence. Details of these are shown on Drawing Nos 5234.40 /107 and 5234.40/06 and are given in Appendix A.

5.2 MONITORING RESULTS

Results of monitoring for the period for surface water, groundwater, leachate and gas are contained in tabular and graphical format in Appendix B.

5.3 GROUNDWATER

5.3.1 Results are assessed against the Maximum Admissible Concentrations (MAC's) set out in the EC Quality of Water for Human Consumption Regulations 1988, the EC Drinking Water Regulations 2000 and the EPA Interim Report, Towards Setting Guideline Values for the Protection of Groundwater in Ireland. Groundwater locally flows in a south-easterly direction and GW1 reflects baseline conditions upstream of the site. GW4 & GW2 are downstream but in waste. It should be noted that BH2 is also located within waste and is considered to be a leachate well.

5.3.2 Results from this period indicate that leachate continues to be released from the waste body into the local groundwater environment. Levels are generally similar to those detected in the last reporting period, although higher levels were detected in GW4 towards the end of the period (probably due to dry conditions).

5.4 SURFACE WATER

5.4.1 Surface water results are assessed against the Surface Water Quality Standards (SWQS) as laid out in the EC Quality of Surface Water Intended for the Abstraction of Drinking Water Regulations 1989. S1 is upstream of the site, whilst S4 – S7 inclusive are downstream. S2 and S3 were relocated and relabelled at the request of the EPA.

5.4.2 Upstream of the waste body results of analysis shows ammonia and COD levels to be raised above the MAC. Downstream, levels of ammonia are consistently above MAC close to the landfill and reduce gradually further downstream. Other parameters indicative of leachate are also raised relative to the MAC. Downstream results would indicate that leachate continues to be released from the waste body into the local surface water environment but levels are lower than those recorded during the last reporting period.

5.5 LEACHATE

5.5.1 Leachate quality varies during the lifetime of a landfill depending on the stage of decomposition of waste. Results from BH2, the leachate well are presented in Appendix B. Some characteristic parameters have been compared with those of 'typical' raw leachate in Table 5.1 below.

Table 5.1 Raw Leachate Concentrations 2010

PARAMETER	Balbane Landfill Site		From 30 samples from UK/Irish landfills accepting domestic waste Results in mg/l		
	Min.Conc	Max.Conc	Min.Conc	Max.Conc	Mean
Ammonia (mg/N)	9.9	14.77	<0.2	1700	491
BOD	1.2	20.0	4.5	>4800	>834
COD	28	40	<10	33,700	3078
Chloride (mg/l)	230	400	27	3410	1256
Iron (mg/l)	<0.3	<0.3	0.4	664	54.4
Potassium (mg/l)	24	24	2.7	1480	491
Sodium (mg/l)	212	212	12	3000	904
TON (mg/l N)	<0.01	<0.01	/	/	/
Conductivity (μ S/cm)	1272	1573	503	19,200	7789
pH (pH units)	6.3	6.7	6.4	8.0	7.2

5.5.2 Table 5.1 compares raw leachate concentrations detected at Balbane with 'typical leachate composition from 30 samples from UK/Irish Landfills accepting mainly domestic waste' (taken from EPA Manual for Landfill Operational Practices). Parameters measured all compare well with typical leachate ranges shown and with the results issued last period.

5.6 PERIMETER GAS MONITORING

The gas monitoring peizometers on the site at Balbane are located within waste, and are not perimeter wells. As such results (as contained in Apendix B) are indicative of methanogenic gas processes that would be occurring under anaerobic conditions.

5.7 DUST MONITORING

As previously agreed with the Agency, monitoring of dust ceased as there are currently no operations being undertaken on the site. When any activity commences, such as restoration works for example, a dust-monitoring programme will be resumed.

5.8 METEOROLOGICAL MONITORING

Meteorological data is contained in Appendix C.

6 VOLUME OF LEACHATE PRODUCED AND VOLUME OF LEACHATE TRANSPORTED DISCHARGED OFF SITE

- 6.1 A water balance calculation has been undertaken and is presented in Appendix C. It estimates that 6692m³ of leachate will have been generated from this waste body during the period. Due to a lack of collection infrastructure there is not currently any leachate transported off site. Correspondingly it is assumed that all leachate generated disperses into the surrounding environment.

7 REPORT ON DEVELOPMENT WORK UNDERTAKEN DURING THE REPORTING PERIOD, AND A TIME SCALE FOR THOSE PROPOSED DURING THE COMING YEAR.

- 7.1 The restoration of this landfill has been delayed due to lack of funds available to Donegal County Council. The Council met with the Agency in November 2009 and discussed this issue. The Agency requested that the Council investigate the viability of carrying out some focused works to address leachate emissions, this being the significant environmental risk from the site. This was carried out and a proposal for leachate treatment submitted to the Agency for consideration in 1st June 2010. The Council awaits the Agency's response in this matter.

8 REPORT ON RESTORATION OF COMPLETED CELLS / PHASES

- 8.1 The Restoration and Aftercare Plan was submitted to the Agency in October 2004 and approved in November 2004.
- 8.2 Of Donegal County Council's five closed landfill sites Balbane is now scheduled for restoration fourth and next. See also Section 7 above.

9 SITE SURVEY SHOWING EXISTING LEVELS OF THE FACILITY AT THE END OF THE REPORTING PERIOD

- 9.1 A topographical survey of the site was last carried out in December 2002. This was included in the 2002 AER.

10 ANNUAL WATER BALANCE CALCULATION AND INTERPRETATION

A water balance calculation has been undertaken and is presented in Appendix C. The calculation for monthly water balance is as follows

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

Where

L_o = leachate produced (m^3)

ER = effective rainfall

A = area of cell (m^2)

LW = liquid waste

IRCA = infiltration through restored areas and capped areas (m)

a = absorptive capacity of waste (m^3/t)

W = weight of waste deposited

I = surface area of lagoons (m^2)

11 REPORTED INCIDENTS AND COMPLAINTS SUMMARIES.

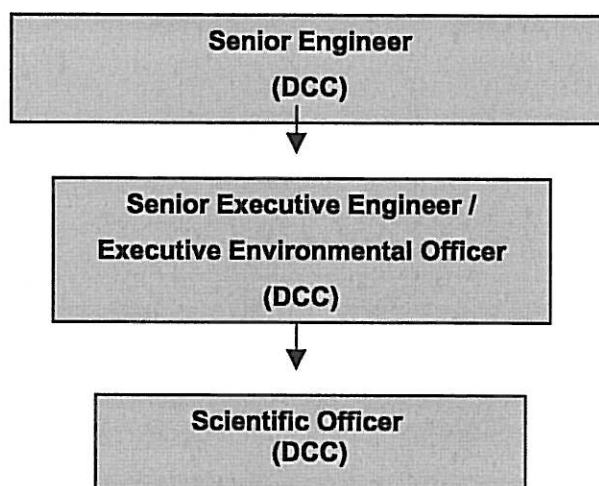
- 11.1 Other than the reporting of on-going emissions exceedances detected in the routine monitoring programme, no incidents occurred during the monitoring period and no complaints were received.

12 REVIEW OF NUISANCE CONTROLS

- 12.1 As the facility is no longer operational, all areas formerly used for the placement of municipal waste have been covered by clay and topsoil. There has been a reduction in the incidence of nuisances resulting from this. However, precautionary measures are employed to ensure the detection and appropriate management of any nuisances that may arise. As part of the Environmental Management System for the site a procedure has been developed to provide for regular inspections of the site as part of the quarterly monitoring programme. Should this inspection reveal the incidence of any type of nuisance (vermin, litter, dust, birds or odours) then appropriate action is initiated.

13 REPORT ON FINANCIAL PROVISIONS MADE UNDER THIS LICENSE, MANAGEMENT AND STAFFING STRUCTURE OF THE FACILITY AND A PROGRAMME FOR PUBLIC INFORMATION

- 13.1 Donegal County Council being a local authority is able to provide the necessary finances to ensure the proper management, development and restoration of Balbane Landfill Site.
- 13.2 Overall responsibility for the ongoing operations and development of the landfill site is held by the Senior Engineer. The Senior Engineer is assisted by a Senior Executive Engineer and an Executive Environmental Officer assigned to the Environment Section of Donegal County Council.
- 13.3 As part of the Environmental Management System (EMS) for the site, a communication programme (in accordance with Condition 2.8 of waste licence) is provided in Section 2 of the EMS to ensure that members of the public can obtain information concerning the environmental performance of the facility at all reasonable times.
- 13.4 The Management Structure at Balbane Landfill site is set out below.

**14 REPORT ON STAFF TRAINING**

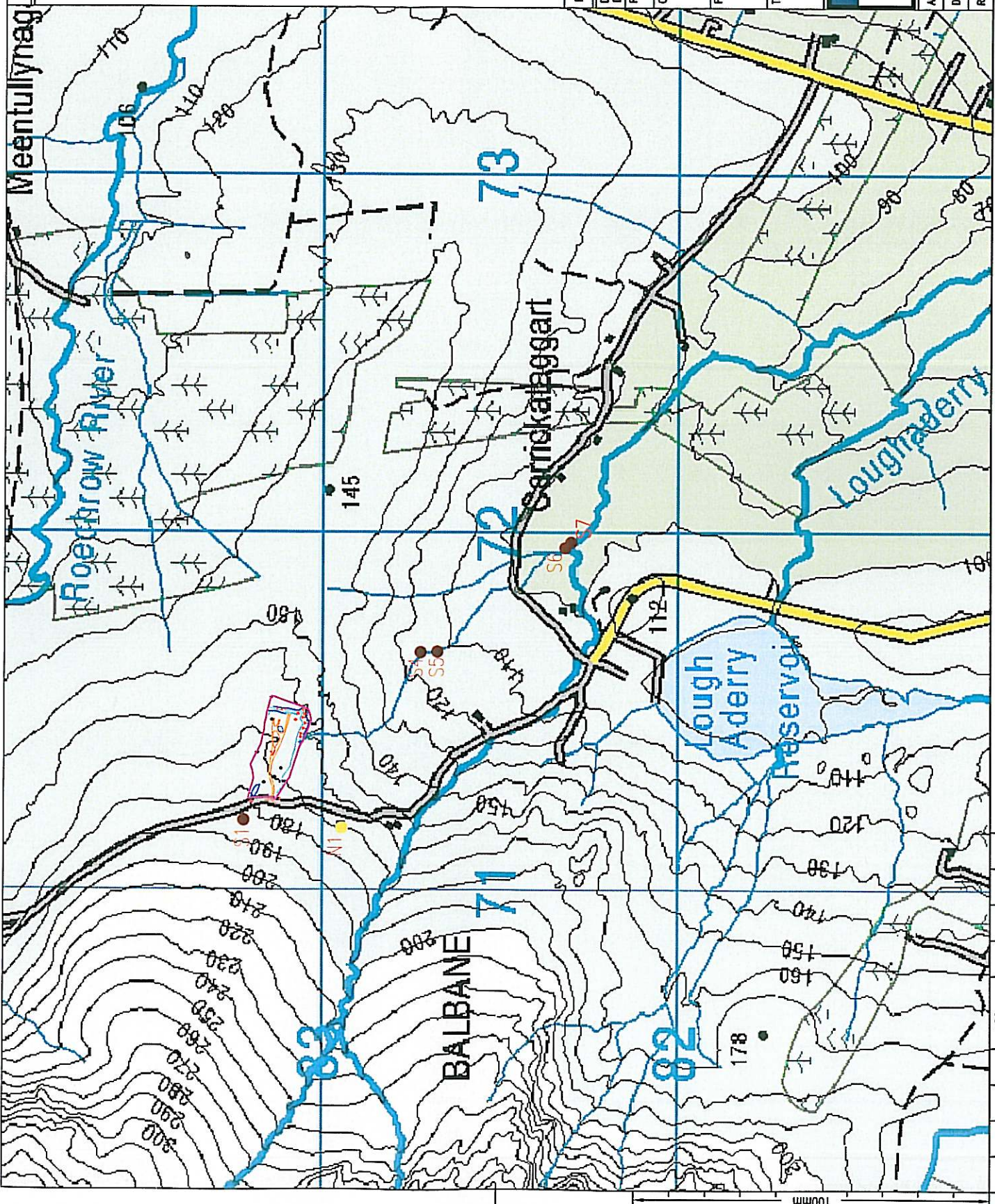
- 14.1 No training has been undertaken as the facility is now closed and there are no operational personnel on the site.

15 RESOURCES AND ENERGY CONSUMPTION SUMMARY

- 15.1 No energy was consumed on the site during the reporting period.

16 REPORT ON ENVIRONMENTAL MANAGEMENT PROGRAMME

- 16.1 An Environmental Management Programme (EMP) was revised in 2004 to take into consideration the closure of the site and was submitted in to the Agency in December 2004 for its agreement. A public communication programme has been initiated in accordance with Condition 2 of the Waste Licence to ensure that information concerning the environmental performance is available at reasonable times. The public may view environmental records at the Donegal County Council headquarters. Details regarding this are contained in Section 2 of the Environmental Management System Manual.



NOTES

- SITE BOUNDARY
- S1 SURFACE WATER MONITORING POINT
- N1 NOISE MONITORING POINT

MONITORING TYPE	REF NO	GRID REFERENCE
SURFACE WATER	SW1	171187 353215
	SW4	171657 382720
	SW5	171658 382673
	SW6	171949 382314
	SW7	171965 382287
NOISE	N1	171166 382940

REV	DESCRIPTION	BY	CHECK DATE
A	UPDATED GRID COORDINATES	JD	AMGG JULY 05

DRAWN BY	AMGG	CHECK BY	AMGG	APPROVED	DD
DATE	SEPT 2004	DATE	SEPT 2004	DATE	SEPT 2004
PLOT SCALE	1:10,000	SCHEDULES		SHEET SIZE	A3
CLIENT					
DONEGAL COUNTY COUNCIL					
PROJECT					
BALBANE LANDFILL SITE					
TITLE					
SURFACE WATER MANAGEMENT					

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ARCHITECT	DWG. STATUS
DRAWING No. 5234.40/107	PRELIM
REVISION A	TENDER
	CONST.
	RECORD

100mm

NOTES

KEY

- SITE BOUNDARY
- GW GROUNDWATER MONITORING POINT
- BH LEACHATE MONITORING POINT
- D DUST MONITORING POINT
- BH LANDFILL GAS MONITORING POINT

MONITORING TYPE	REF NO	GRID REFERENCE
LEACHATE & GAS	BH1	171300 383157
	BH2	171339 383110
	BH3	171476 383136
GROUNDWATER	GW1	171246 383183
	GW2	171427 383065
	GW4	171503 383048
DUST	D1	171384 383176
	D2	171314 383128
	D3	171538 383137

GRID COORDINATES DETERMINED FROM SITE SURVEY

REV	DESCRIPTION	BT DATE	AMAGG CHECK DATE
A	UPDATED GRID COORDINATES SITE BOUNDARY ADDED	JULY 05	JULY 05

DRAWN BY	CHECK BY	APPROVED	DD
JD	MAO	DATE	DATE
AUG 2003	AUG 2003	AUG 2003	AUG 2003

PLT SCALE	SCHEDULES	SHEET SIZE
1:1000		A3

CLIENT
DONEGAL COUNTY COUNCIL

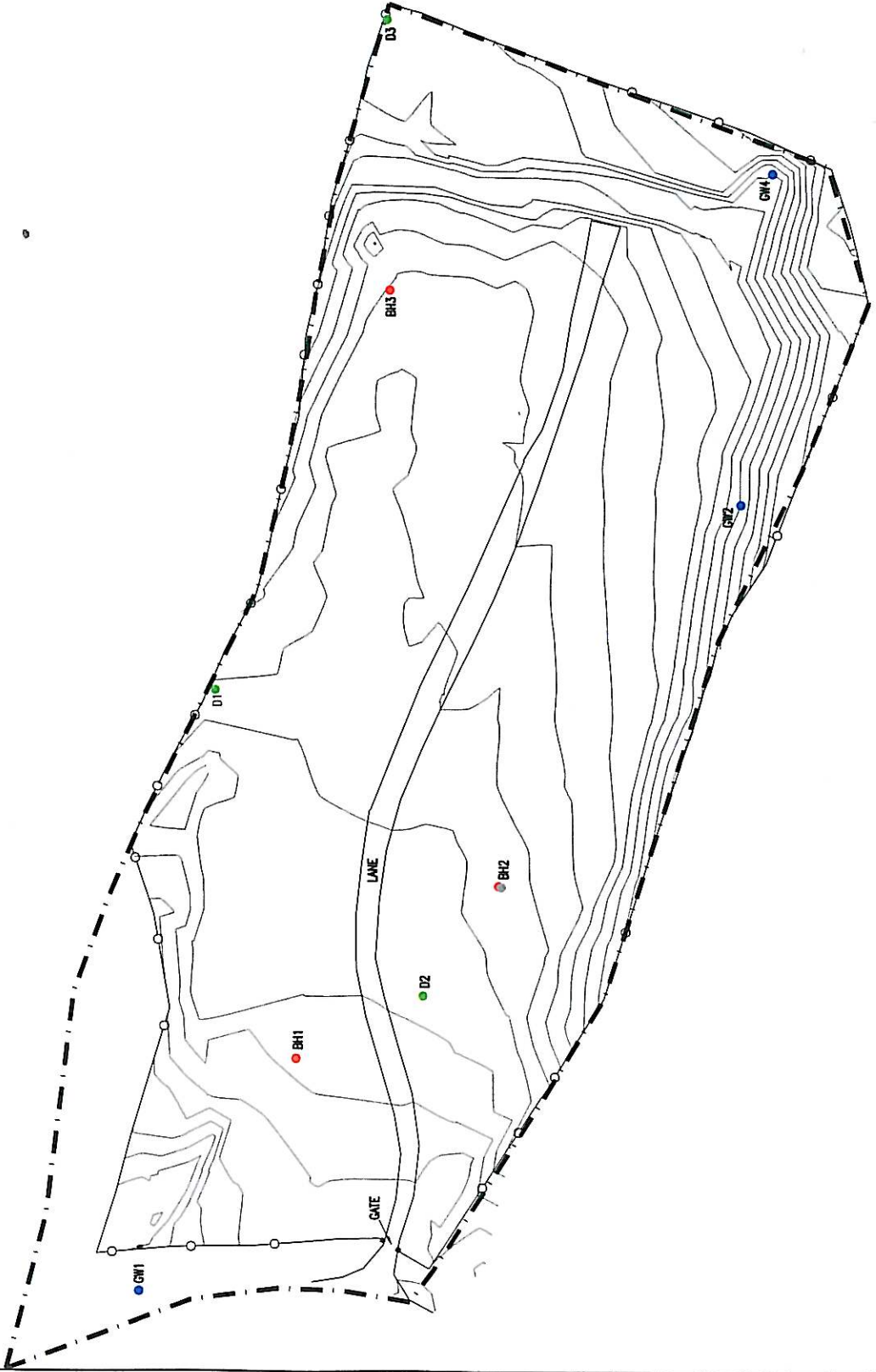
PROJECT
BALBANE LANDFILL SITE

TITLE
MONITORING LOCATIONS

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ARCHITECT	DWG. STATUS
	PRELIM
DRAWING No. 5234.40/06	TENDER
REVISION A	CONST.
	RECORD



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APPENDIX A

**MONITORING LOCATIONS, FREQUENCIES AND
PARAMETERS**

Table A1 Grid References of Monitoring Points

Monitoring Points	Easting	Northing
Boreholes		
GW1	171246.5649	383193.1516
GW2	171427.2239	383055.9240
GW4 Note 1	171503.0898	383048.6637
Surface Water Monitoring		
S1	171187	363215
S4	171657	382720
S5	171658	382673
S6 Note 2	171949	382314
S7 Note 2	171965	382297
Gas Piezometers		
BH1	171300.3033	383157.7656
BH2	171339.4609	383110.6149
BH3	171475.8577	383135.7863
Dust		
D1	171384.5481	383176.7779
D2	171314.6629	383128.5125
D3	171538.3837	383137.6433
Leachate		
BH2	171339.4609	383110.6149

NOTE 1 – GW3 WAS REPLACED BY GW4 WHEN THE LANDFILL MASS EXTENDED PAST THE LOCATION OF GW3

NOTE 2 – SW2 AND SW3 WERE REPLACED BY SW6 AND SW7

Table A2 Groundwater Parameters and Monitoring Frequencies

Monthly	Quarterly	Annually	
Temperature	Chloride	Boron	Magnesium
Groundwater Level	Dissolved Oxygen	Cadmium	Manganese
	Sodium	Calcium	Mercury
	TON	Chromium	Orthophosphate
	TOC	Copper	Zinc
	Phenols	Cyanide	
	Ammoniacal Nitrogen	Fluoride	
	Electrical Conductivity	Lead	
	pH	List I/II substances	
	Iron	Sulphate	
	Potassium		

Table A3 Surface Water Parameters Monitoring Frequencies

Monthly	Quarterly	Annually	
Temperature	Chloride	Iron	Magnesium
pH	Dissolved Oxygen	Cadmium	Manganese
Ammoniacal Nitrogen	COD	Calcium	Mercury
BOD		Chromium	Orthophosphate
Electrical Conductivity		Copper	Zinc
TSS		Sodium	Potassium
		Fluoride	TON
		Lead	Sulphate
		List I/II substances	

APPENDIX B
RESULTS OF MONITORING

Location		Balbane, Killybegs, Co. Donegal											
Sample Type		surface water											
Site No		SW1											
Date of Sample		Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10
Lab No		1132	1646	1871	2184	2877	3048	7	4282	4815	5411	5876	6250
pH		6.1	7.0	6.5	6.8	6.7	6.6	7.3	7.3	6.9	6.9	7.2	7.0
Temp	C	6.2	4.5	9	8.0	13.0	14.0	11.0	14.0	13.0	4.5	10.9	7.5
Electrical Conductivity	uS/cm	42	51	103	122	81	47	51	41	35	94	58	48
Ammonical Nitrogen	mg/l	<0.01	<0.01	0.02	0.59	0.06	0.06	<0.01	0.05	<0.01	<0.01	<0.01	<0.01
COD	mg/l	10	6	11	10	19	28	---	30	46	12	12	10
BOD	mg/l	1.3	1.6	1.0	0.6	1.6	1.0	1.0	0.4	0.4	0.5	1.1	0.9
Dissolved Oxygen	mg/l	9.96	10.68	11.77	9.93	8.00	9.35	9.36	9.28	9.26	8.96	10.98	11.86
SS	mg/l	11	1	1	1	11	1	2	1	1	10	1	1
Residue on Evaporator	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Calcium	ug/l	---	---	---	---	---	2	---	---	---	---	---	---
Cadmium	ug/l	---	---	---	---	---	<0.1	---	---	---	---	---	---
Chromium	ug/l	---	---	---	---	---	<0.1	---	---	---	---	---	---
Chloride	mg/l	13	14	17	14	16	14	---	---	13	16	15	17
Chlorine	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Copper	ug/l	---	---	---	---	---	<0.003	---	---	---	---	---	---
Cyanide	mg/l	---	---	---	---	---	0	---	---	---	---	---	---
Iron	ug/l	---	---	---	---	---	<0.3	---	---	---	---	---	---
Lead	ug/l	---	---	---	---	---	1	---	---	---	---	---	---
Magnesium	ug/l	---	---	---	---	---	15	---	---	---	---	---	---
Manganese	ug/l	---	---	---	---	---	<0.02	---	---	---	---	---	---
Mercury	ug/l	---	---	---	---	---	<0.2	---	---	---	---	---	---
Nickel	mg/l	---	---	---	---	---	9.5	---	---	---	---	---	---
Potassium	mg/l	---	---	---	---	---	1	---	---	---	---	---	---
Sodium	mg/l	---	---	---	---	---	5	---	---	---	---	---	---
Sulphate	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Zinc	ug/l	---	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Total Organic Carbon	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Total Oxidised Nitrogen	mg/l	<0.01	<0.01	<0.01	---	0.040	1	---	---	---	---	---	---
Arsenic	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Barium	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Boron	ug/l	---	---	---	---	---	---	---	---	---	---	---	---
Flouride	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Total Phenols	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Phosphorous	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Selenium	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Silver	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Microtox	Toxic Units	---	---	---	---	---	---	---	---	---	---	---	---
Microtox	Toxic Units	---	---	---	---	---	---	---	---	---	---	---	---
Nitrite	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Phosphate - ORTHO	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Phosphate - TOTAL	mg/l	---	---	---	---	---	0.010	---	---	---	---	---	---
Total Coliforms	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Facal Coliforms	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Depth	m	---	---	---	---	---	---	---	---	---	---	---	---

*** Insufficient Sample / No Access
 --- Not Applicable

Location		Balbane, Killybegs, Co. Donegal											
Sample Type		surface water											
Site No		SW4											
Date of Sample		Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10
Lab No		1133	1647	1872	2185	2878	3049	3887	4283	4816	5412	5877	6251
pH		7.3	7.6	7.0	7.9	7.7	7.0	8	7.3	7.3	7.7	7.5	7.1
Temp	C	6.4	5.0	8.7	8.2	13.4	13.9	11.3	14.0	13.1	5.0	10.6	7.2
Electrical Conductivity	uS/cm	115	210	436	613	435	108	250	115	118	524	320	104
Ammonical Nitrogen	mg/l	1.30	7.48	8.12	1.93	1.67	1.31	1.66	0.83	2.45	12.11	7.46	0.91
COD	mg/l	13	13	12	19	14	31	—	34	35	15	26	12
BOD	mg/l	1.6	1.9	1.2	1.9	0.6	0.3	1.7	0.8	0.3	3.4	2.6	0.6
Dissolved Oxygen	mg/l	10.1	10.8	12.1	10.3	8.4	9.7	9.6	9.6	9.5	10.4	11.1	12.0
SS	mg/l	3	1	1	1	3	1	1	1	3	5	2	2
Residue on Evaporator	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Calcium	ug/l	---	---	---	---	---	8	---	---	---	---	---	---
Cadmium	ug/l	---	---	---	---	---	<0.1	---	---	---	---	---	---
Chromium	ug/l	---	---	---	---	---	<0.1	---	---	---	---	---	---
Chloride	mg/l	21	27	52	80	56	19	---	0	17	46	27	20
Chlorine	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Copper	ug/l	---	---	---	---	---	<0.003	---	---	---	---	---	---
Cyanide	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Iron	mg/l	---	---	---	---	---	0	---	---	---	---	---	---
Lead	ug/l	---	---	---	---	---	<0.3	---	---	---	---	---	---
Magnesium	ug/l	---	---	---	---	---	3	---	---	---	---	---	---
Manganese	ug/l	---	---	---	---	---	18	---	---	---	---	---	---
Mercury	ug/l	---	---	---	---	---	<0.02	---	---	---	---	---	---
Nickel	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	mg/l	---	---	---	---	---	1.5	---	---	---	---	---	---
Sodium	mg/l	---	---	---	---	---	31	---	---	---	---	---	---
Sulphate	mg/l	---	---	---	---	---	1	---	---	---	---	---	---
Zinc	ug/l	---	---	---	---	---	9	---	---	---	---	---	---
Total Alkalinity as CaCO3	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Total Organic Carbon	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Total Oxidised Nitrogen	mg/l	0.43	1.12	3.52	4.25	3.25	0.61	---	---	---	---	---	---
Arsenic	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Barium	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Boron	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Flouride	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Total Phenols	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Phosphorous	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Selenium	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Silver	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Microtox	Toxic Units	---	---	---	---	---	---	---	---	---	---	---	---
Microtox	Toxic Units	---	---	---	---	---	---	---	---	---	---	---	---
Nitrite	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Phosphate - ORTHO	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Phosphate - TOTAL	mg/l	---	---	---	---	---	0.12	---	---	---	---	---	---
Total Coliforms		---	---	---	---	---	---	---	---	---	---	---	---
Facal Coliforms		---	---	---	---	---	---	---	---	---	---	---	---
Depth	m	---	---	---	---	---	---	---	---	---	---	---	---

*** Insufficient Sampl / No Access
 --- Not Applicable

Location		Balbane, Killybegs, Co. Donegal											
Sample Type		surface water											
Site No		SW5											
Date of Sample		Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10
Lab No		1134	1648	1873	2186	2879	3050	3888	4284	4817	5413	5878	6252
pH		7.2	7.7	7.2	8.0	7.8	7.1	8	7.4	7.3	7.8	7.6	7.1
Temp	C	6.4	5.1	8.1	8.2	13.4	13.9	11.4	14.1	13.1	5.0	10.7	7.5
Electrical Conductivity	uS/cm	108	188	401	582	417	107	229	116	120	502	294	104
Ammonical Nitrogen	mg/l	1.30	5.66	7.73	1.61	1.07	0.01	1.54	0.03	2.45	11.40	6.34	0.90
COD	mg/l	11	10	14	21	18	30	—	38	43	19	24	13
BOD	mg/l	1.5	2.0	0.7	1.6	0.6	0.2	1.8	0.8	0.9	4.0	2.3	0.7
Dissolved Oxygen	mg/l	10.0	11.3	12.7	10.7	8.9	9.8	9.8	9.7	9.4	10.8	11.2	12.1
SS	mg/l	4	3	2	1	1	1	5	1	5	2	2	2
Residue on Evaporator	mg/l	—	—	—	—	—	—	—	—	—	—	—	—
Calcium	ug/l	—	—	—	—	—	8	—	—	—	—	—	—
Cadmium	ug/l	—	—	—	—	—	<0.1	—	—	—	—	—	—
Chromium	ug/l	—	—	—	—	—	<0.1	—	—	—	—	—	—
Chloride	mg/l	18	26	45	75	51	19	—	—	16	45	27	20
Chlorine	mg/l	—	—	—	—	—	—	—	—	—	—	—	—
Copper	ug/l	—	—	—	—	—	—	—	—	—	—	—	—
Cyanide	mg/l	—	—	—	—	—	<0.003	—	—	—	—	—	—
Iron	ug/l	—	—	—	—	—	—	—	—	—	—	—	—
Lead	ug/l	—	—	—	—	—	0	—	—	—	—	—	—
Magnesium	ug/l	—	—	—	—	—	<0.3	—	—	—	—	—	—
Manganese	ug/l	—	—	—	—	—	3	—	—	—	—	—	—
Mercury	ug/l	—	—	—	—	—	9	—	—	—	—	—	—
Nickel	mg/l	—	—	—	—	—	<0.02	—	—	—	—	—	—
Potassium	mg/l	—	—	—	—	—	1.5	—	—	—	—	—	—
Sodium	mg/l	—	—	—	—	—	30	—	—	—	—	—	—
Sulphate	mg/l	—	—	—	—	—	1	—	—	—	—	—	—
Zinc	ug/l	—	—	—	—	—	5	—	—	—	—	—	—
Total Alkalinity as CaCO3	mg/l	—	—	—	—	—	—	—	—	—	—	—	—
Total Organic Carbon	mg/l	—	—	—	—	—	—	—	—	—	—	—	—
Total Oxidised Nitrogen	mg/l	0.49	0.85	3.2	3.78	3.27	0.06	—	—	—	—	—	—
Arsenic	mg/l	—	—	—	—	—	—	—	—	—	—	—	—
Barium	mg/l	—	—	—	—	—	—	—	—	—	—	—	—
Boron	ug/l	—	—	—	—	—	—	—	—	—	—	—	—
Flouride	mg/l	—	—	—	—	—	—	—	—	—	—	—	—
Total Phenols	mg/l	—	—	—	—	—	—	—	—	—	—	—	—
Phosphorous	mg/l	—	—	—	—	—	—	—	—	—	—	—	—
Selenium	mg/l	—	—	—	—	—	—	—	—	—	—	—	—
Silver	mg/l	—	—	—	—	—	—	—	—	—	—	—	—
Microtox	Toxic Units	—	—	—	—	—	—	—	—	—	—	—	—
Nitrite	mg/l	—	—	—	—	—	—	—	—	—	—	—	—
Nitrate	mg/l	—	—	—	—	—	—	—	—	—	—	—	—
Phosphate - ORTHO	mg/l	—	—	—	—	—	0.060	—	—	—	—	—	—
Phosphate - TOTAL	mg/l	—	—	—	—	—	—	—	—	—	—	—	—
Total Coliforms	—	—	—	—	—	—	—	—	—	—	—	—	—
Facel Coliforms	—	—	—	—	—	—	—	—	—	—	—	—	—
Depth	m	—	—	—	—	—	—	—	—	—	—	—	—

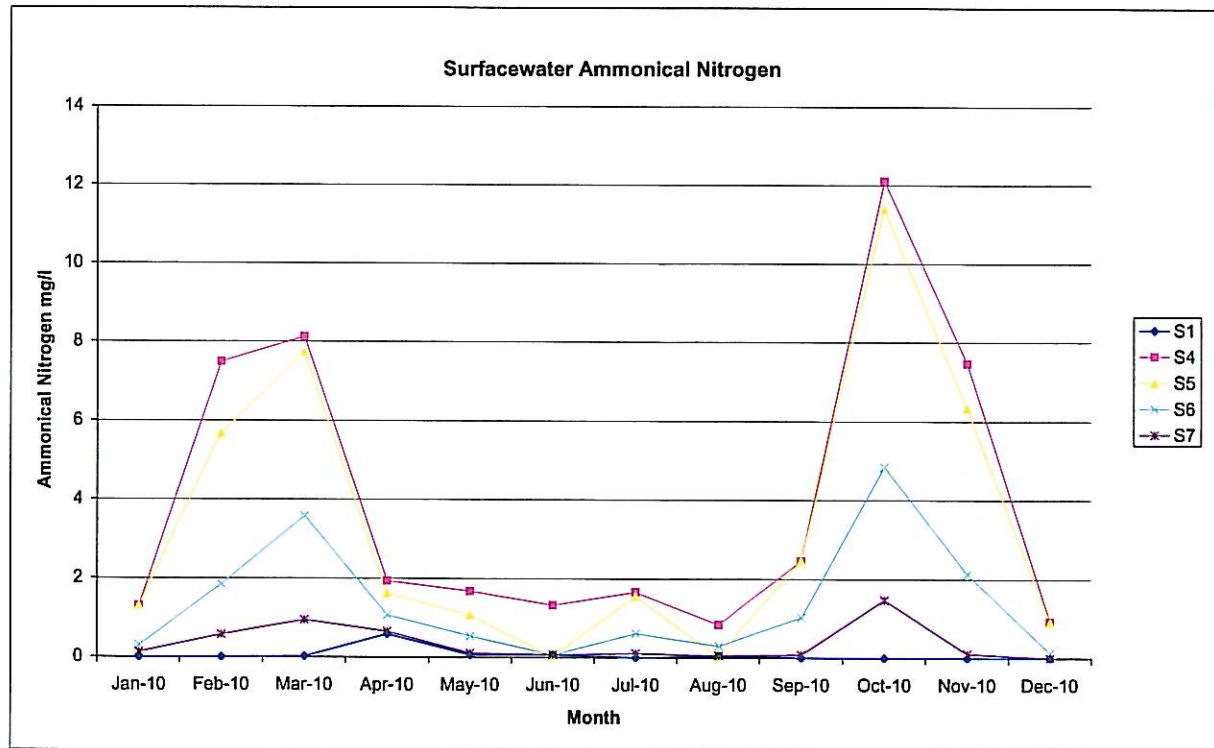
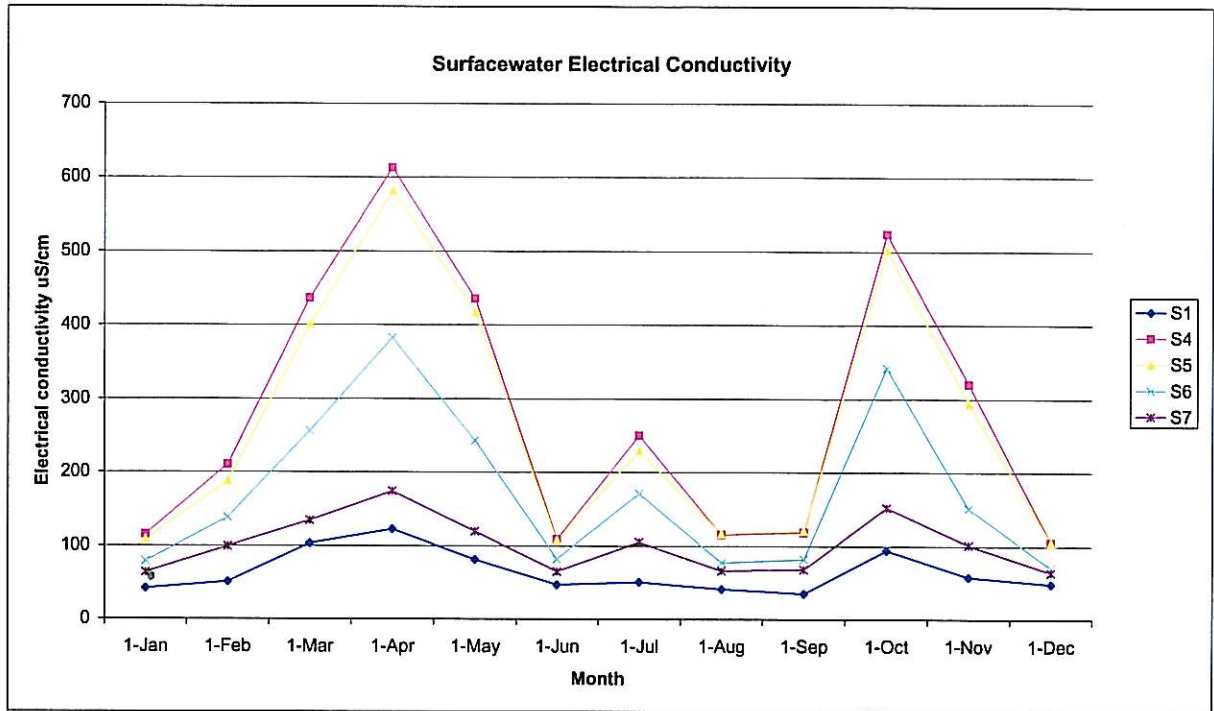
*** Insufficient Sample / No Access
 --- Not Applicable

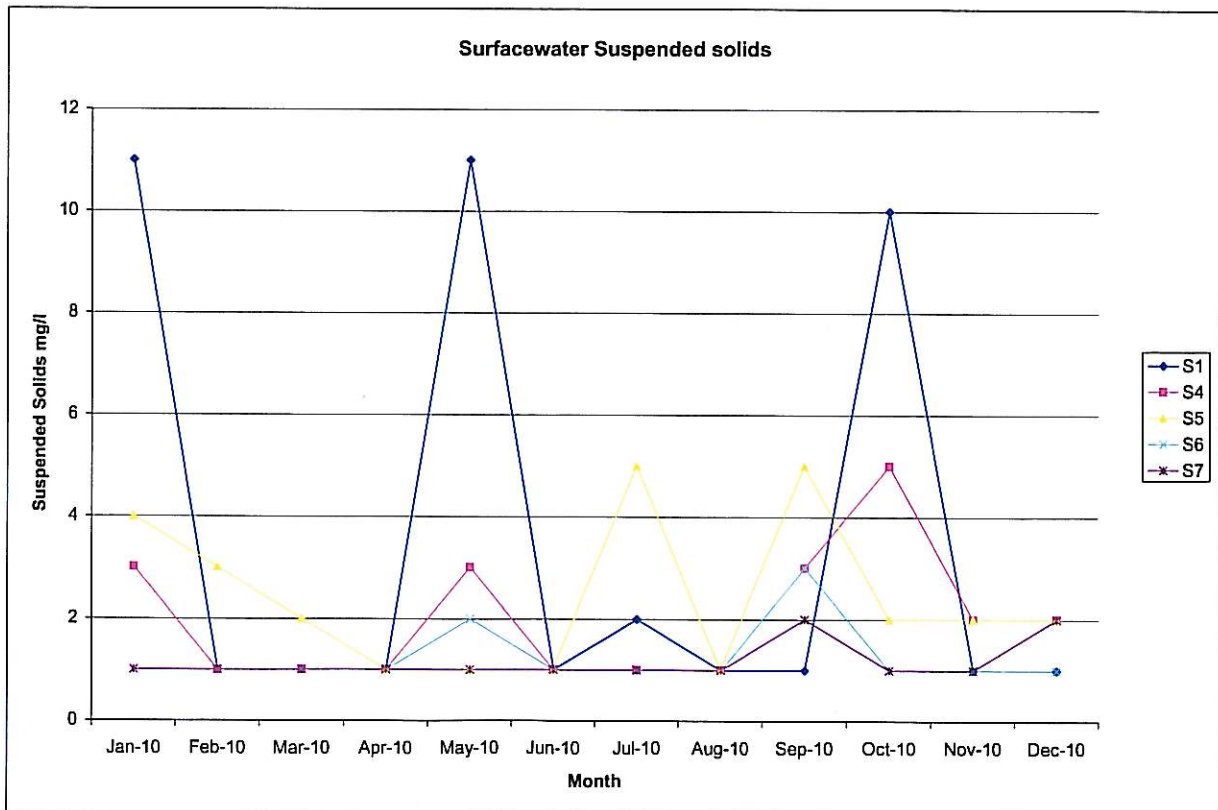
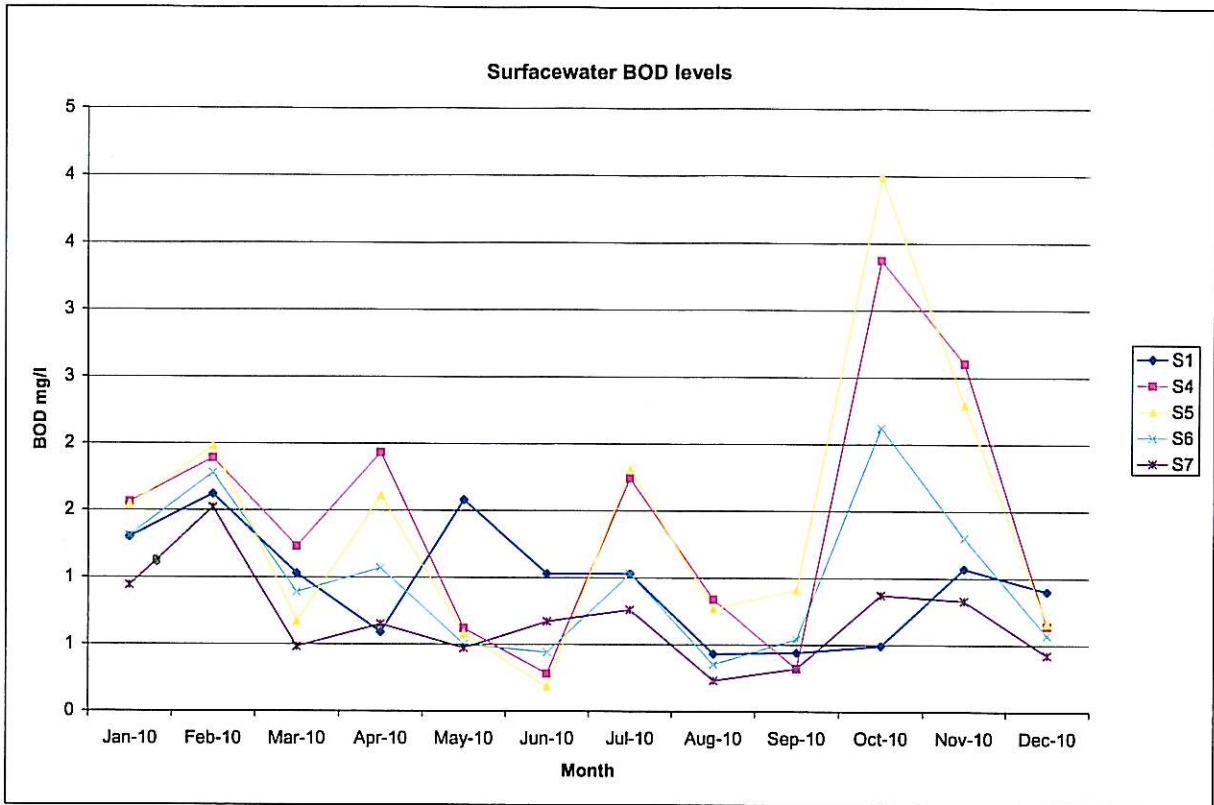
Location		Balbane, Killybegs, Co. Donegal											
Sample Type		surface water											
Site No		SW6											
Date of Sample		Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10
Lab No		1135	1649	1874	2187	2880	3051	3889	4285	4818	5414	5879	6253
pH		6.93	7.53	7.15	7.72	7.47	7.09	7.47	7.11	7.24	7.61	7.64	7.23
Temp	C	6.5	5.0	8.8	8.2	13.3	14.0	11.4	14.2	13.1	5.0	10.7	7.5
Electrical Conductivity	uS/cm	79	138	256	382	243	82	171	77	82	342	151	70
Ammonical Nitrogen	mg/l	0.30	1.85	3.57	1.07	0.54	0.06	0.6	0.29	1.03	4.84	2.13	0.1
COD	mg/l	17	11	12	22	20	38	---	40	55	22	18	10
BOD	mg/l	1.31	1.78	0.89	1.07	0.50	0.44	1.03	0.35	0.54	2.12	1.30	0.57
Dissolved Oxygen	mg/l	10.02	11.07	12.37	10.54	9.6	9.73	9.66	9.58	9.36	10.50	11.47	12.19
SS	mg/l	1	1	1	1	2	1	1	1	3	1	1	1
Residue on Evaporator	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Calcium	ug/l	---	---	---	---	---	5	---	---	---	---	---	---
Cadmium	ug/l	---	---	---	---	---	<0.1	---	---	---	---	---	---
Chromium	ug/l	---	---	---	---	---	<0.1	---	---	---	---	---	---
Chloride	mg/l	17	22	36	49	36	17	---	---	15	35	20	19
Chlorine	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Copper	ug/l	---	---	---	---	---	<0.003	---	---	---	---	---	---
Cyanide	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Iron	ug/l	---	---	---	---	---	0	---	---	---	---	---	---
Lead	ug/l	---	---	---	---	---	<0.3	---	---	---	---	---	---
Magnesium	ug/l	---	---	---	---	---	2	---	---	---	---	---	---
Manganese	ug/l	---	---	---	---	---	6	---	---	---	---	---	---
Mercury	ug/l	---	---	---	---	---	<0.02	---	---	---	---	---	---
Nickel	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	mg/l	---	---	---	---	---	1.0	---	---	---	---	---	---
Sodium	mg/l	---	---	---	---	---	21.2	---	---	---	---	---	---
Sulphate	mg/l	---	---	---	---	---	2	---	---	---	---	---	---
Zinc	ug/l	---	---	---	---	---	5	---	---	---	---	---	---
Total Alkalinity as CaCO3	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Total Organic Carbon	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Total Oxidised Nitrogen	mg/l	0.20	1.20	2.21	3.79	1.21	0.10	---	---	---	---	---	---
Arsenic	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Barium	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Boron	ug/l	---	---	---	---	---	---	---	---	---	---	---	---
Flouride	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Total Phenols	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Phosphorous	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Selenium	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Silver	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Microtox	Toxic Units	---	---	---	---	---	---	---	---	---	---	---	---
Microtox	Toxic Units	---	---	---	---	---	---	---	---	---	---	---	---
Nitrite	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Phosphate - ORTHO	mg/l	---	---	---	---	---	0.06	---	---	---	---	---	---
Phosphate - TOTAL	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Total Coliforms		---	---	---	---	---	---	---	---	---	---	---	---
Facel Coliforms		---	---	---	---	---	---	---	---	---	---	---	---
Depth	m	---	---	---	---	---	---	---	---	---	---	---	---

*** Insufficient Sample / No Access
 --- Not Applicable

Location		Balbane, Killybegs, Co. Donegal											
Sample Type		surface water											
Site No		SW7											
Date of Sample		Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10
Lab No		1136	1650	1875	2188	2881	3052	3890	4286	4819	5415	5880	6254
pH		6.86	7.5	7.4	7.7	7.6	7.1	8	7.2	7.2	8	7.6	7.2
Temp	C	6.9	5.2	8.6	8.1	13.2	14	11	14.0	13.0	4.5	10.5	7.3
Electrical Conductivity	uS/cm	64	99	134	174	119	65	105	66	68	152	101	64
Ammonical Nitrogen	mg/l	0.13	0.57	0.94	0.65	0.11	0.06	0	0.1	0.1	1.47	0.11	<0.01
COD	mg/l	15	9	11	13	10	30	—	36	40	12	18	10
BOD	mg/l	0.94	1.52	0.48	0.65	0.47	0.67	0.8	0.23	0.32	0.87	0.83	0.4
Dissolved Oxygen	mg/l	10.21	11.32	13.04	11.23	9.29	10.02	9.8	9.57	9.43	10.75	11.58	12.11
SS	mg/l	1	1	1	1	1	1	1	1	2	1	1	2
Residue on Evaporator	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Calcium	ug/l	---	---	---	---	---	5	---	---	---	---	---	---
Cadmium	ug/l	---	---	---	---	---	<0.1	---	---	---	---	---	---
Chromium	ug/l	---	---	---	---	---	<0.1	---	---	---	---	---	---
Chloride	mg/l	16	19	21	25	19	16	---	0	14	19	17	13
Chlorine	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Copper	ug/l	---	---	---	---	---	<0.003	---	---	---	---	---	---
Cyanide	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Iron	ug/l	---	---	---	---	---	0	---	---	---	---	---	---
Lead	ug/l	---	---	---	---	---	<0.3	---	---	---	---	---	---
Magnesium	ug/l	---	---	---	---	---	1	---	---	---	---	---	---
Manganese	ug/l	---	---	---	---	---	11	---	---	---	---	---	---
Mercury	ug/l	---	---	---	---	---	<0.02	---	---	---	---	---	---
Nickel	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	mg/l	---	---	---	---	---	0.30	---	---	---	---	---	---
Sodium	mg/l	---	---	---	---	---	17.3	---	---	---	---	---	---
Sulphate	mg/l	---	---	---	---	---	1	---	---	---	---	---	---
Zinc	ug/l	---	---	---	---	---	6	---	---	---	---	---	---
Total Alkalinity as CaCO3	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Total Organic Carbon	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Total Oxidised Nitrogen	mg/l	0.14	0.52	0.53	1.01	0.04	0.21	---	---	---	---	---	---
Arsenic	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Barium	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Boron	ug/l	---	---	---	---	---	---	---	---	---	---	---	---
Flouride	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Total Phenols	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Phosphorous	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Selenium	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Silver	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Microtox	Toxic Units	---	---	---	---	---	---	---	---	---	---	---	---
Microtox	Toxic Units	---	---	---	---	---	---	---	---	---	---	---	---
Nitrite	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Phosphate - ORTHO	mg/l	---	---	---	---	---	0.090	---	---	---	---	---	---
Phosphate - TOTAL	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Total Coliforms	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Facel Coliforms	mg/l	---	---	---	---	---	---	---	---	---	---	---	---
Depth	m	---	---	---	---	---	---	---	---	---	---	---	---

*** Insufficient Sample / No Access
 --- Not Applicable





Location		Balbane, Killybegs, Co. Donegal											
Sample Type		groundwater											
Site No		GW1											
Date of Sample		Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10
Lab No		1137	1937				3053		4528			5881	
pH		6.86	6.62				6.70		6.85			6.73	
Temp	C	7.1	8.1				12.8		14.0			10.7	
Electrical Conductivity	uS/cm	291	481				418		666			442	
Ammonical Nitrogen	mg/l	<0.01	0.09				0.1		0.11			<0.01	
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l	7.45	6.17				4.87		5.70			3.95	
SS	mg/l						0.0						
Residue on Evaporator	mg/l						250						
Calcium	ug/l						66						
Cadmium	ug/l						<0.1						
Chromium	ug/l						<0.1						
Chloride	mg/l	16	15				17		20			15	
Chlorine	mg/l												
Copper	ug/l												
Cyanide	mg/l												
Iron	mg/l	<0.02	0.02				2.87		<0.019			1.19	
Lead	ug/l						<0.003						
Magnesium	ug/l						7						
Manganese	ug/l						6521						
Mercury	ug/l						<0.02						
Nickel	mg/l												
Potassium	mg/l	<2.34	3.11				1.9		2.8			<3	
Sodium	mg/l	18.8	31.30				22.0		32.0			24.7	
Sulphate	mg/l						10						
Zinc	ug/l						17						
Total Alkalinity as CaCO3	mg/l												
Total Organic Carbon	mg/l	4	9.5				8.0		11.50			6.49	
Total Oxidised Nitrogen	mg/l	0.09	0.11				0.20		0.54			0.40	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l						<0.02						
Flouride	mg/l						<0.1		<0.015			<0.02	
Total Phenols	mg/l	<0.025	<0.015				<0.015						
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Microtox	mg/l												
Microtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l												
Phosphate - TOTAL	mg/l						<0.01						
Total Coliforms	mg/l												
Facel Coliforms	mg/l												
Depth	m	0.8	1.3				1.5		2.1			0.8	

*** Insufficient Sample / No Access

--- Not Applicable

VOLATILE ORGANIC COMPOUNDS		<i>Balbane Landfill Site Killybegs, Co. Donegal</i>	
Month:	June		
Location:	GW1		
Lab No:	3053		
PARAMETERS	ug/l	PARAMETERS	ug/l
Dichlorodifluoromethane	<10	1,2-Dibromoethane	<0.5
Chloromethane	<0.5	Tetrachloroethene	<0.1
Vinyl Chloride	<0.5	1,1,1,2-Tetrachloroethane	<2.0
Bromomethane	<0.5	Chlorobenzene	<0.5
Hexachloroethane	<5.0	Ethylbenzene	<0.5
Trichlorofluoromethane	<0.5	p/m-Xylene	<0.5
trans-1,2-Dichloroethene	<0.5	Bromoform	<1.0
Methylene Chloride	<5.0	Styrene	<2.0
Carbon disulphide	<0.5	1,1,2,2-Tetrachloroethane	<0.5
1,1-Dichloroethene	<0.5	o-Xylene	<0.5
1,1-Dichloroethane	<0.5	1,2,3-Trichloropropane	<2.0
4 Methyl 2 Pentanone	<2.0	Isopropylbenzene	<0.5
cis-1,2-Dichloroethene	<0.5	Bromobenzene	<0.5
Bromochloromethane	<0.5	2-Chlorotoluene	<0.5
Chloroform	<1.0	Propylbenzene	<0.5
2,2-Dichloropropane	<0.5	4-Chlorotoluene	<0.5
1,2-Dichloroethane	<0.1	1,2,4-Trimethylbenzene	<0.5
1,1,1-Trichloroethane	<0.5	4-Isopropyltoluene	<0.5
1,1-Dichloropropene	<0.5	1,3,5-Trimethylbenzene	<0.5
Benzene	<0.1	1,3-Dichlorobenzene	<0.5
Carbontetrachloride	<0.5	1,4-Dichlorobenzene	<0.5
Dibromomethane	<0.5	sec-Butylbenzene	<0.5
1,2-Dichloropropane	<0.5	tert-Butylbenzene	<0.5
Bromodichloromethane	<2.0	1,2-Dichlorobenzene	<0.5
Trichloroethene	<0.1	n-Butylbenzene	<0.5
cis-1,3-Dichloropropene	<2.0	1,2-Dibromo-3-chloropropane	<2.0
trans-1,3-Dichloropropene	<0.2	1,2,4-Trichlorobenzene	<0.5
1,1,2-Trichloroethane	<0.5	Naphthalene	<2.0
Toluene	<0.5	1,2,3-Trichlorobenzene	<0.5
1,3-Dichloropropane	<0.5	Hexachlorobutadiene	<0.5
Dibromochloromethane	<1.0		

SEMIVOLATILE ORGANIC COMPOUNDS		<i>Balbane Landfill Site Killybegs, Co. Donegal</i>	
Month:	June		
Location:	GW1		
Lab No:	3054		
PARAMETERS	ug/l	PARAMETERS	ug/l
Phenol	<1.0	Benzo(k)fluoranthrene	<1.0
2-Chlorophenol	<1.0	Benzo(a)pyrene	<1.0
2-Methylphenol	<1.0	Indeno(1,2,3-cd)pyrene	<1.0
4-Methylphenol	<1.0	Dibenzo(a,h)anthracene	<1.0
2-Nitrophenol	<1.0	Benzo(ghi)perylene	<1.0
4-Nitrophenol	<5.0	2-Chloronaphthalene	<1.0
2,4-Dichlorophenol	<1.0	2-Methylnaphthalene	<1.0
2,4-Dimethylphenol	<1.0	Isophorone	<1.0
4-Chloro-3-methylphenol	<1.0	Dibenzofuran	<1.0
2,4,6-Trichlorophenol	<1.0	Dimethyl phthalate	<1.0
2,4,5-Trichlorophenol	<1.0	Diethyl phthalate	<1.0
Pentachlorophenol	<1.0	Di-n-butylphthalate	<1.0
1,3-Dichlorobenzene	<1.0	Di-n-octylphthalate	<1.0
1,4-Dichlorobenzene	<1.0	Bis(2-ethylhexyl)phthalate	<1.0
1,2-Dichlorobenzene	<1.0	Butylbenzylphthalate	<1.0
1,2,4-Trichlorobenzene	<1.0	Diphenylamine	<1.0
Nitrobenzene	<1.0	2,4-Dinitrotoluene	<1.0
Anthracene	<1.0	2,6-Dinitrotoluene	<1.0
Hexachlorobenzene	<1.0	Bis(2-chloroethyl)ether	<1.0
Naphthalene	<2.0	4-Bromophenylphenylether	<1.0
Acenaphthylene	<1.0	4-Chlorophenylphenylether	<1.0
Acenaphthene	<1.0	Hexachloroethane	<1.0
Fluorene	<1.0	Hexachlorobutadiene	<1.0
Phenanthrene	<1.0	Bis(2-chloroethoxy)methane	<1.0
Anthracene	<1.0	N-nitrosodi-n-propylamine	<1.0
Fluoranthrene	<1.0		
Pyrene	<1.0		
Benzo(a)anthracene	<1.0		
Chrysene	<1.0		
Benzo(b)fluoranthrene	<1.0		

Location		Balbane, Killybegs, Co. Donegal											
Sample Type		groundwater											
Site No		GW2											
Date of Sample		Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10
Lab No		1138		1938			3054		4529				
pH		6.15		5.97			6.80		6.43				
Temp	C	7.10		8.1			12.8		14.20				
Electrical Conductivity	uS/cm	62		74			76		92				
Ammonical Nitrogen	mg/l	<0.01		0.05			0.05		0.02				
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l	4.67		7.88			9.12		7.31				
SS	mg/l												
Residue on Evaporator	mg/l						910						
Calcium	ug/l						9						
Cadmium	ug/l						<0.1						
Chromium	ug/l						<0.1						
Chloride	mg/l	13		20			14		11				
Chlorine	mg/l												
Copper	ug/l						<0.003						
Cyanide	mg/l						<10						
Iron	mg/l	<0.02		<0.019			0.17		<0.019				
Lead	ug/l						<0.3						
Magnesium	ug/l						0.7						
Manganese	ug/l						7.4						
Mercury	ug/l						<0.02						
Nickel	mg/l												
Potassium	mg/l	<2.34		<2.34			0.7		<2.34				
Sodium	mg/l	6.22		7.40			6.1		5.86				
Sulphate	mg/l						<1.0						
Zinc	ug/l						6						
Total Alkalinity as CaCO3	mg/l												
Total Organic Carbon	mg/l	1.0		<3.0			1.0		<3				
Total Oxidised Nitrogen	mg/l	0.05		<0.01			0.01		0.40				
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l						<0.02						
Flouride	mg/l						<0.1						
Total Phenols	mg/l	<0.025		<0.015			<0.015		<0.015				
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Micrtox	Toxic Units												
Micrtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l						<0.01						
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facal Coliforms													
Depth	m	3.9		3.6			3.8		3.3				

*** Insufficient Sample / No Access
 --- Not Applicable

VOLATILE ORGANIC COMPOUNDS		<i>Balbane Landfill Site Killybegs, Co. Donegal</i>	
Month:	June		
Location:	GW2		
Lab No:	3054		
PARAMETERS	ug/l	PARAMETERS	ug/l
Dichlorodifluoromethane	<10	1,2-Dibromoethane	<0.5
Chloromethane	<0.5	Tetrachloroethene	<0.1
Vinyl Chloride	<0.5	1,1,1,2-Tetrachloroethane	<2.0
Bromomethane	<0.5	Chlorobenzene	<0.5
Hexachloroethane	<5.0	Ethylbenzene	<0.5
Trichlorofluoromethane	<0.5	p/m-Xylene	<0.5
trans-1,2-Dichloroethene	<0.5	Bromoform	<1.0
Methylene Chloride	<5.0	Styrene	<2.0
Carbon disulphide	<0.5	1,1,2,2-Tetrachloroethane	<0.5
1,1-Dichloroethene	<0.5	o-Xylene	<0.5
1,1-Dichloroethane	<0.5	1,2,3-Trichloropropane	<2.0
4 Methyl 2 Pentanone	<2.0	Isopropylbenzene	<0.5
cis-1,2-Dichloroethene	<0.5	Bromobenzene	<0.5
Bromochloromethane	<0.5	2-Chlorotoluene	<0.5
Chloroform	<1.0	Propylbenzene	<0.5
2,2-Dichloropropane	<0.5	4-Chlorotoluene	<0.5
1,2-Dichloroethane	<0.1	1,2,4-Trimethylbenzene	<0.5
1,1,1-Trichloroethane	<0.5	4-Isopropyltoluene	<0.5
1,1-Dichloropropene	<0.5	1,3,5-Trimethylbenzene	<0.5
Benzene	<0.1	1,3-Dichlorobenzene	<0.5
Carbontetrachloride	<0.5	1,4-Dichlorobenzene	<0.5
Dibromomethane	<0.5	sec-Butylbenzene	<0.5
1,2-Dichloropropane	<0.5	tert-Butylbenzene	<0.5
Bromodichloromethane	<2.0	1,2-Dichlorobenzene	<0.5
Trichloroethene	<0.1	n-Butylbenzene	<0.5
cis-1,3-Dichloropropene	<2.0	1,2-Dibromo-3-chloropropane	<2.0
trans-1,3-Dichloropropene	<0.2	1,2,4-Trichlorobenzene	<0.5
1,1,2-Trichloroethane	<0.5	Naphthalene	<2.0
Toluene	<0.5	1,2,3-Trichlorobenzene	<0.5
1,3-Dichloropropane	<0.5	Hexachlorobutadiene	<0.5
Dibromochloromethane	<1.0		

SEMIVOLATILE ORGANIC COMPOUNDS		<i>Balbane Landfill Site Killybegs, Co.Donegal</i>	
Month:	June		
Location:	GW2		
Lab No:	3054		
PARAMETERS	ug/l	PARAMETERS	ug/l
Phenol	<1.0	Benzo(k)fluoranthrene	<1.0
2-Chlorophenol	<1.0	Benzo(a)pyrene	<1.0
2-Methylphenol	<1.0	Indeno(1,2,3-cd)pyrene	<1.0
4-Methylphenol	<1.0	Dibenzo(a,h)anthracene	<1.0
2-Nitrophenol	<1.0	Benzo(ghi)perylene	<1.0
4-Nitrophenol	<5.0	2-Chloronaphthalene	<1.0
2,4-Dichlorophenol	<1.0	2-Methylnaphthalene	<1.0
2,4-Dimethylphenol	<1.0	Isophorone	<1.0
4-Chloro-3-methylphenol	<1.0	Dibenzofuran	<1.0
2,4,6-Trichlorophenol	<1.0	Dimethyl phthalate	<1.0
2,4,5-Trichlorophenol	<1.0	Diethyl phthalate	<1.0
Pentachlorophenol	<1.0	Di-n-butylphthalate	<1.0
1,3-Dichlorobenzene	<1.0	Di-n-octylphthalate	<1.0
1,4-Dichlorobenzene	<1.0	Bis(2-ethylhexyl)phthalate	<1.0
1,2-Dichlorobenzene	<1.0	Butylbenzylphthalate	<1.0
1,2,4-Trichlorobenzene	<1.0	Diphenylamine	<1.0
Nitrobenzene	<1.0	2,4-Dinitrotoluene	<1.0
Anthracene	<1.0	2,6-Dinitrotoluene	<1.0
Hexachlorobenzene	<1.0	Bis(2-chloroethyl)ether	<1.0
Naphthalene	<2.0	4-Bromophenylphenylether	<1.0
Acenaphthylene	<1.0	4-Chlorophenylphenylether	<1.0
Acenaphthene	<1.0	Hexachloroethane	<1.0
Fluorene	<1.0	Hexachlorobutadiene	<1.0
Phenanthrene	<1.0	Bis(2-chloroethoxy)methane	<1.0
Anthracene	<1.0	N-nitrosodi-n-propylamine	<1.0
Fluoranthrene	<1.0		
Pyrene	<1.0		
Benzo(a)anthracene	<1.0		
Chrysene	<1.0		
Benzo(b)fluoranthrene	<1.0		

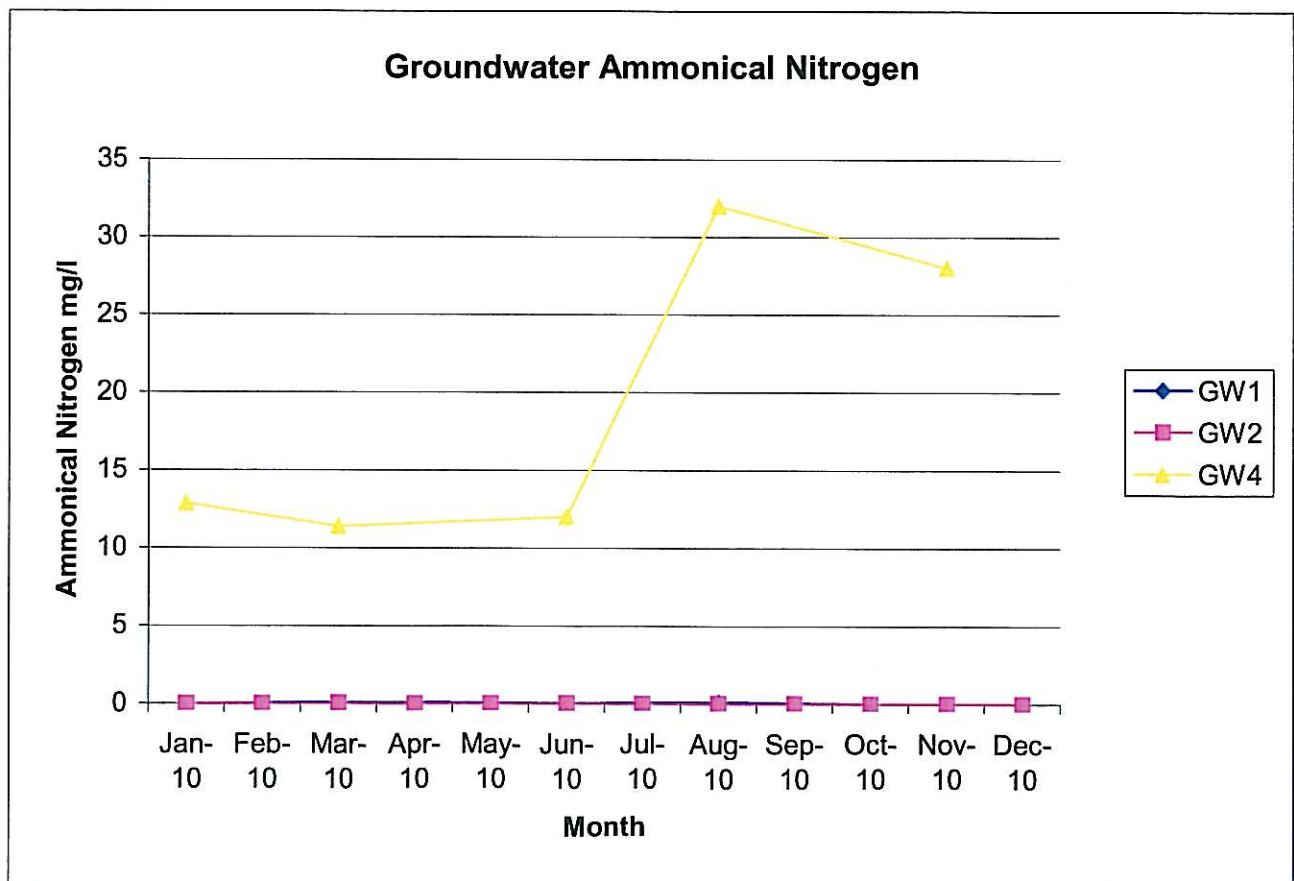
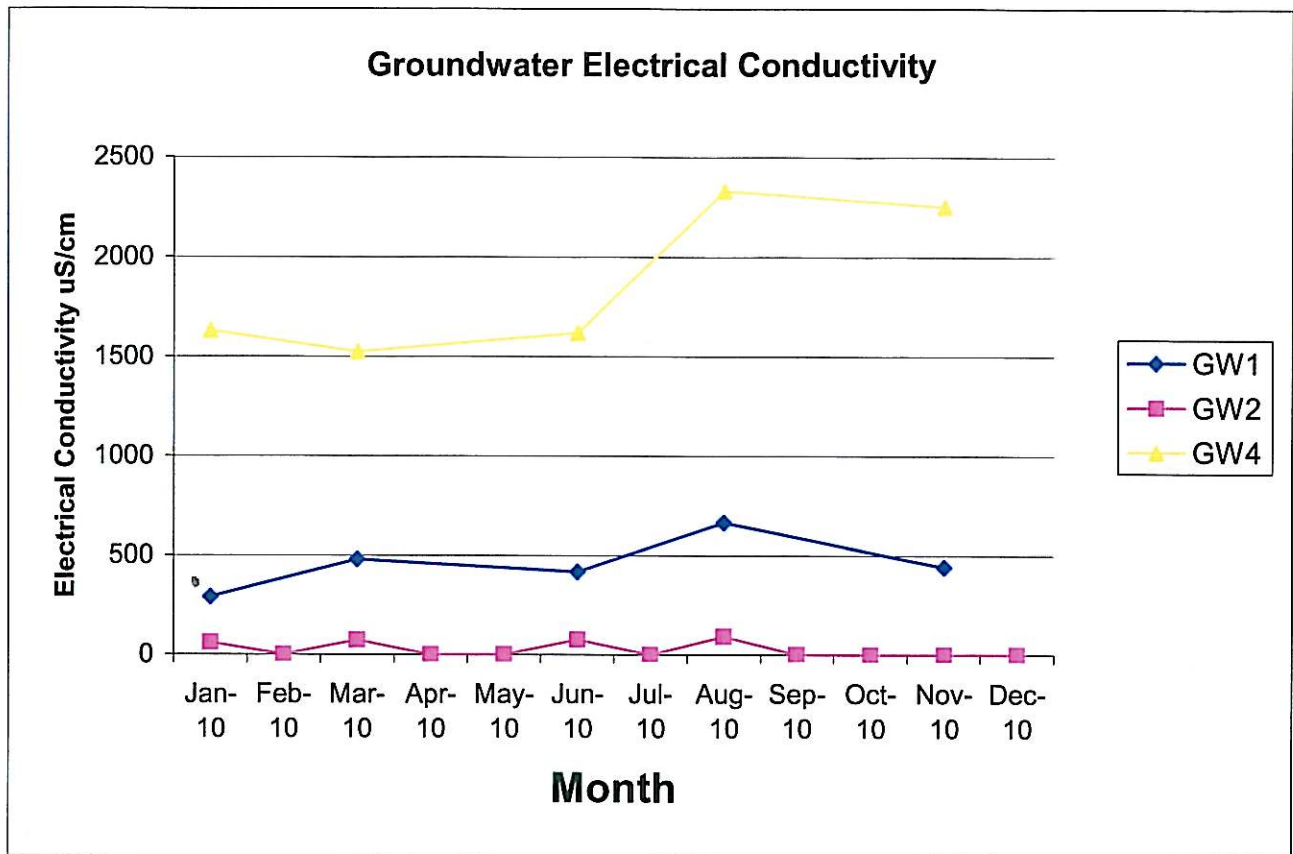
Location		Balbane, Killybegs, Co. Donegal											
Sample Type		groundwater											
Site No		GW4											
Date of Sample		Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10
Lab No		1139		1939			3055	4530				5882	
pH		6.76		6.77			7.10	6.59				6.54	
Temp	C	7.2		8.4			13.0	14.5				11.3	
Electrical Conductivity	uS/cm	1629		1524			1619	2330				2250	
Ammonical Nitrogen	mg/l	12.84		11.4			12.0	32.0				28.0	
COD	mg/l												
BOD	mg/l												
Disolved Oxygen	mg/l	3.95		6.64			5.80	6.27				3.78	
SS	mg/l												
Residue on Evaporator	mg/l						1075						
Calcium	ug/l						210						
Cadmium	ug/l						<0.1						
Chromium	ug/l						<0.1						
Chloride	mg/l	226		258			241	415				268	
Chlorine	mg/l												
Copper	ug/l						<0.003						
Cyanide	mg/l						<10						
Iron	mg/l	<0.02		<0.019			0.19	<0.019				17.20	
Lead	ug/l						<0.3						
Magnesium	ug/l						35						
Manganese	ug/l						5974						
Mercury	ug/l						<0.02						
Nickel	mg/l												
Potassium	mg/l	14.8		19.8			26.0	10.5				22.5	
Sodium	mg/l	97		110			143	128				155	
Sulphate	mg/l						1.48						
Zinc	ug/l						4.1						
Total Alkalinity as CaCO3	mg/l												
Total Organic Carbon	mg/l	18		13			20	22.2				33.1	
Total Oxidised Nitrogen	mg/l	<0.01		<0.01			<0.01	<0.01				<0.01	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l						0						
Flouride	mg/l						<0.1						
Total Phenols	mg/l	<0.025		<0.015			<0.015	<0.015				<0.015	
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Micrtox	Toxic Units												
Micrtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l						0.18						
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facal Coliforms													
Depth	m	4.0		3.9			4.0	3.2				3.5	

*** Insufficient Sample / No Access

--- Not Applicable

VOLATILE ORGANIC COMPOUNDS		<i>Balbane Landfill Site Killybegs, Co.Donegal</i>	
Month:	June		
Location:	GW4		
Lab No:	3055		
PARAMETERS	ug/l	PARAMETERS	ug/l
Dichlorodifluoromethane	<10	1,2-Dibromoethane	<0.5
Chloromethane	<0.5	Tetrachloroethene	<0.1
Vinyl Chloride	<0.5	1,1,1,2-Tetrachloroethane	<2.0
Bromomethane	<0.5	Chlorobenzene	<0.5
Hexachloroethane	<5.0	Ethylbenzene	<0.5
Trichlorofluoromethane	<0.5	p/m-Xylene	<0.5
trans-1,2-Dichloroethene	<0.5	Bromoform	<1.0
Methylene Chloride	<5.0	Styrene	<2.0
Carbon disulphide	<0.5	1,1,2,2-Tetrachloroethane	<0.5
1,1-Dichloroethene	<0.5	o-Xylene	<0.5
1,1-Dichloroethane	<0.5	1,2,3-Trichloropropane	<2.0
4 Methyl 2 Pentanone	<2.0	Isopropylbenzene	<0.5
cis-1,2-Dichloroethene	<0.5	Bromobenzene	<0.5
Bromochloromethane	<0.5	2-Chlorotoluene	<0.5
Chloroform	<1.0	Propylbenzene	<0.5
2,2-Dichloropropane	<0.5	4-Chlorotoluene	<0.5
1,2-Dichloroethane	<0.1	1,2,4-Trimethylbenzene	<0.5
1,1,1-Trichloroethane	<0.5	4-Isopropyltoluene	<0.5
1,1-Dichloropropene	<0.5	1,3,5-Trimethylbenzene	<0.5
Benzene	<0.1	1,3-Dichlorobenzene	<0.5
Carbontetrachloride	<0.5	1,4-Dichlorobenzene	<0.5
Dibromomethane	<0.5	sec-Butylbenzene	<0.5
1,2-Dichloropropane	<0.5	tert-Butylbenzene	<0.5
Bromodichloromethane	<2.0	1,2-Dichlorobenzene	<0.5
Trichloroethene	<0.1	n-Butylbenzene	<0.5
cis-1,3-Dichloropropene	<2.0	1,2-Dibromo-3-chloropropane	<2.0
trans-1,3-Dichloropropene	<0.2	1,2,4-Trichlorobenzene	<0.5
1,1,2-Trichloroethane	<0.5	Naphthalene	<2.0
Toluene	<0.5	1,2,3-Trichlorobenzene	<0.5
1,3-Dichloropropane	<0.5	Hexachlorobutadiene	<0.5
Dibromochloromethane	<1.0		

SEMIVOLATILE ORGANIC COMPOUNDS		<i>Balbane Landfill Site Killybegs, Co. Donegal</i>	
Month:	June		
Location:	GW4		
Lab No:	3055		
PARAMETERS	ug/l	PARAMETERS	ug/l
Phenol	<1.0	Benzo(k)fluoranthrene	<1.0
2-Chlorophenol	<1.0	Benzo(a)pyrene	<1.0
2-Methylphenol	<1.0	Indeno(1,2,3-cd)pyrene	<1.0
4-Methylphenol	<1.0	Dibenzo(a,h)anthracene	<1.0
2-Nitrophenol	<1.0	Benzo(ghi)perylene	<1.0
4-Nitrophenol	<5.0	2-Chloronaphthalene	<1.0
2,4-Dichlorophenol	<1.0	2-Methylnaphthalene	<1.0
2,4-Dimethylphenol	<1.0	Isophorone	<1.0
4-Chloro-3-methylphenol	<1.0	Dibenzofuran	<1.0
2,4,6-Trichlorophenol	<1.0	Dimethyl phthalate	<1.0
2,4,5-Trichlorophenol	<1.0	Diethyl phthalate	<1.0
Pentachlorophenol	<1.0	Di-n-butylphthalate	<1.0
1,3-Dichlorobenzene	<1.0	Di-n-octylphthalate	<1.0
1,4-Dichlorobenzene	<1.0	Bis(2-ethylhexyl)phthalate	<1.0
1,2-Dichlorobenzene	<1.0	Butylbenzylphthalate	<1.0
1,2,4-Trichlorobenzene	<1.0	Diphenylamine	<1.0
Nitrobenzene	<1.0	2,4-Dinitrotoluene	<1.0
Anthracene	<1.0	2,6-Dinitrotoluene	<1.0
Hexachlorobenzene	<1.0	Bis(2-chloroethyl)ether	<1.0
Naphthalene	<2.0	4-Bromophenylphenylether	<1.0
Acenaphthylene	<1.0	4-Chlorophenylphenylether	<1.0
Acenaphthene	<1.0	Hexachloroethane	<1.0
Fluorene	<1.0	Hexachlorobutadiene	<1.0
Phenanthrene	<1.0	Bis(2-chloroethoxy)methane	<1.0
Anthracene	<1.0	N-nitrosodi-n-propylamine	<1.0
Fluoranthrene	<1.0		
Pyrene	<1.0		
Benzo(a)anthracene	<1.0		
Chrysene	<1.0		
Benzo(b)fluoranthrene	<1.0		



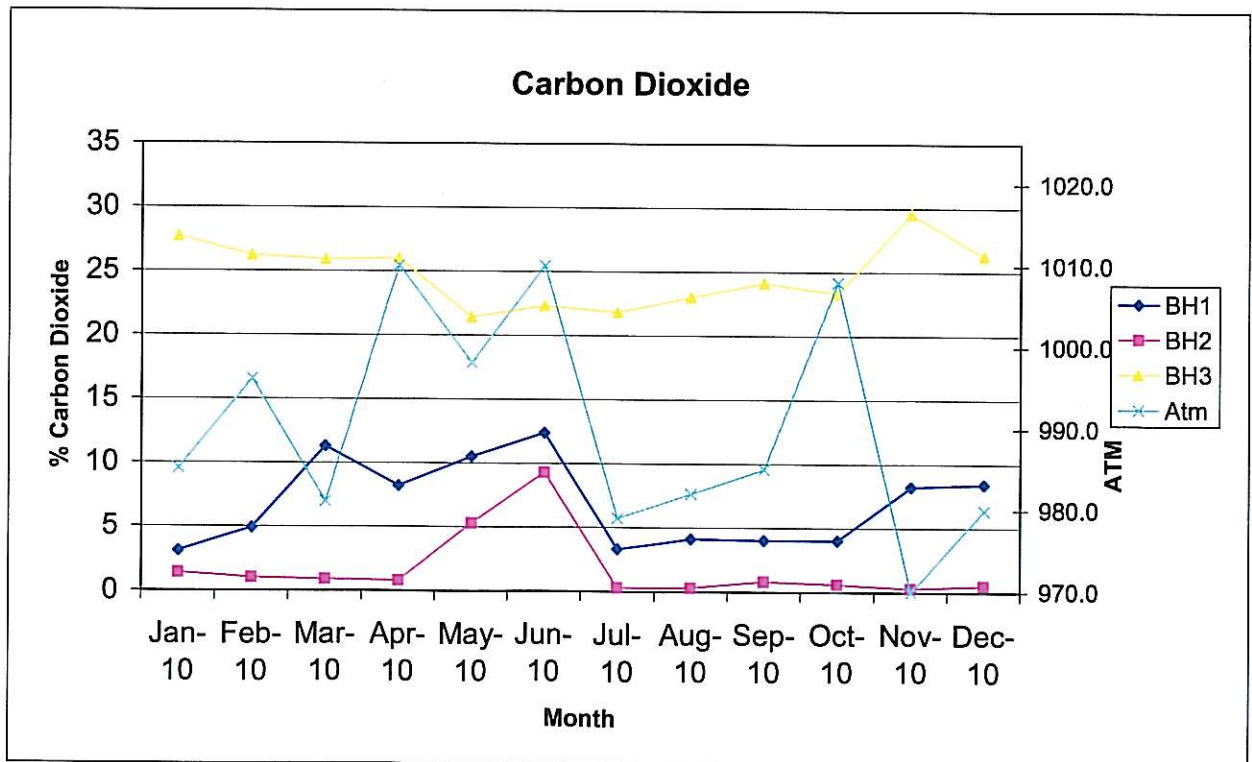
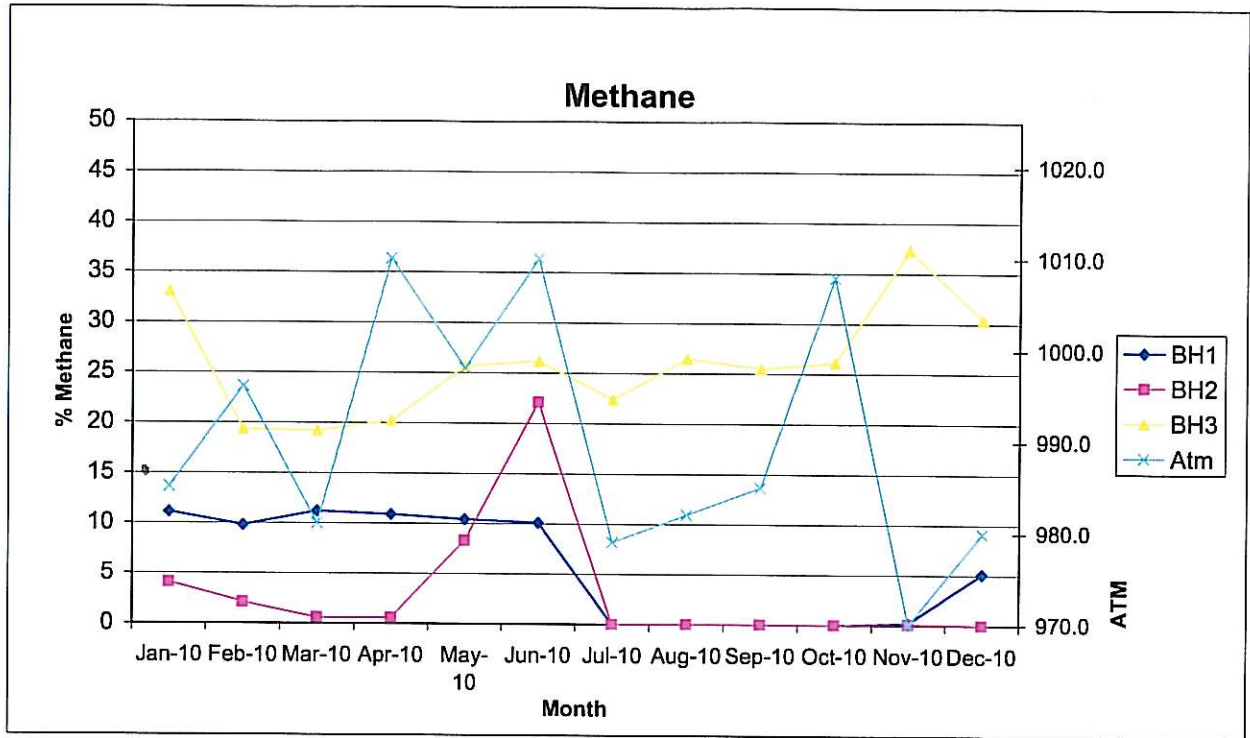
Location		Balbane, Killybegs, Co. Donegal											
Sample Type		leachate											
Site No		BH2											
Date of Sample		Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10
Lab No		1140		1940			3056		4531			5883	
pH		6.5		6.4			6.3		6.3			6.7	
Temp	C												
Electrical Conductivity	uS/cm	1272		1308			1382		1573			1442	
Ammonical Nitrogen	mg/l	12.48		14.0			9.9		13.6			14.77	
COD	mg/l	20					40		28			40	
BOD	mg/l	6					20.0		6.6			1.2	
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	ug/l						88						
Cadmium	ug/l						<0.1						
Chromium	ug/l						<0.1						
Chloride	mg/l	288		250			340		400			230	
Chlorine	mg/l												
Copper	ug/l												
Cyanide	mg/l						<0.003						
Iron	mg/l						<10						
Lead	ug/l						0.02						
Magnesium	ug/l						<0.3						
Manganese	ug/l						41						
Mercury	ug/l						10280						
Nickel	mg/l						<0.02						
Potassium	mg/l						24						
Sodium	mg/l						212						
Sulphate	mg/l						<1.0						
Zinc	ug/l						<1.0						
Total Alkalinity as CaCO3	mg/l												
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l	<0.01		<0.01			<0.01		<0.01			<0.01	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l						0						
Flouride	mg/l						<0.1						
Total Phenols	mg/l												
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Microtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l						0.18						
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facal Coliforms													
Depth	m	5.5		6.1			6.2		4.5			5.9	

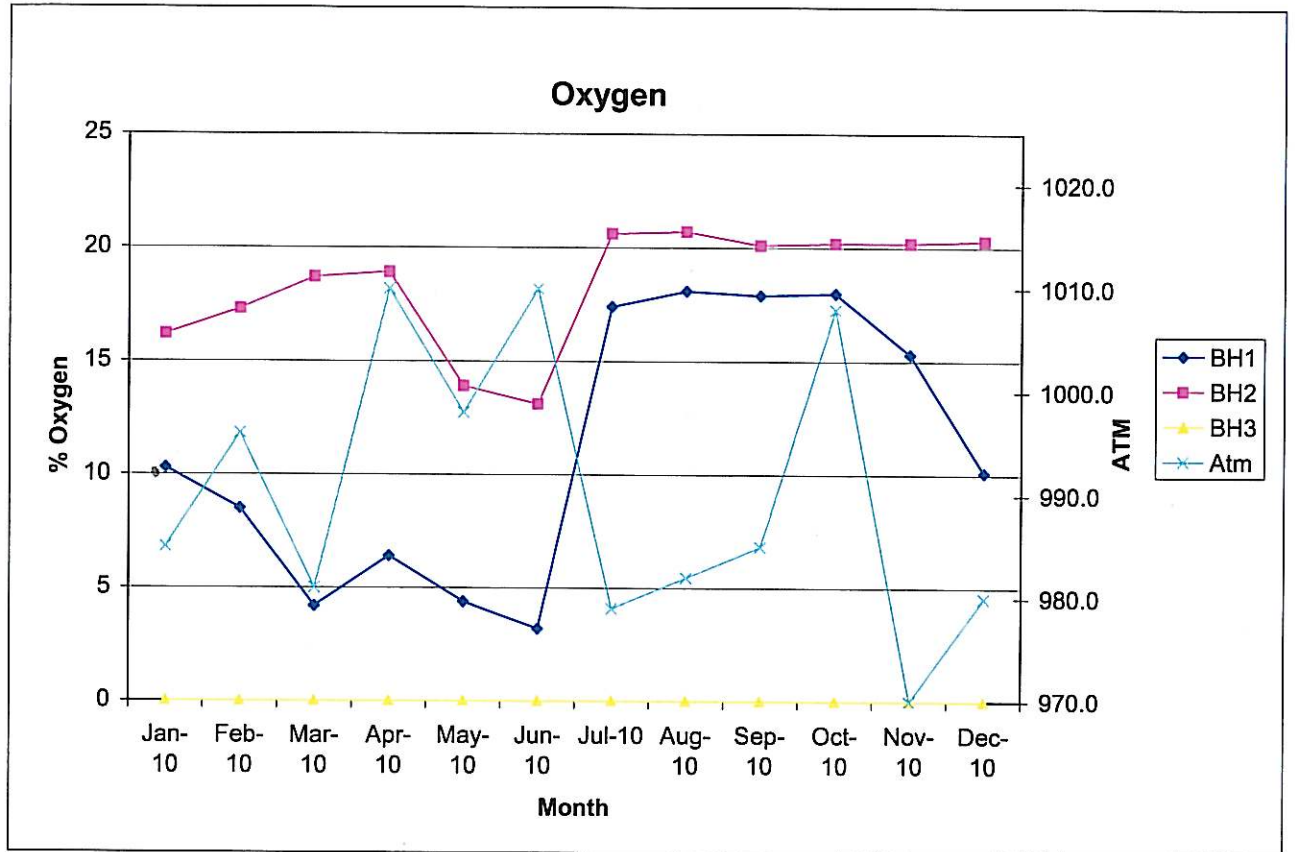
*** Insufficient Sample / No Access
 --- Not Applicable

		Balbane Landfill Site, Killybegs, Co Donegal															
		Gas Levels															
		BH1															
PARAMETERS	UNITS	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date
		JAN 10	FEB 10	MAR 10	APR 10	MAY 10	JUN 10	JUL 10	AUG 10	SEPT 10	OCT 10	NOV 10	DEC 10				
Methane	%	11.1	9.8	11.2	10.9	10.4	10.1	0.0	0.0	0.0	0.0	0.2	5.1				
Carbon Dioxide	%	3.1	4.9	11.3	8.2	10.5	12.4	3.3	4.1	4.0	4.0	8.2	8.4				
Oxygen	%	10.3	8.5	4.2	6.4	4.4	3.2	17.4	18.1	17.9	18.0	15.3	10.1				
Atm. Pressure	mBar	985	996	981	1010	998	1010	979	982	985	1008	970	980				

Balbane Landfill Site, Killybegs, Co Donegal													
Gas Levels													
BH2													
PARAMETERS	UNITS	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	
		JAN 10	FEB 10	MAR 10	APR 10	MAY 10	JUN 10	JUL 10	AUG 10	SEPT 10	OCT 10	NOV 10	DEC 10
Methane	%	4.1	2.1	0.6	0.6	8.3	22.1	0	0	0.0	0.0	0.1	0.0
Carbon Dioxide	%	1.4	1	0.9	0.8	5.3	9.3	0.3	0.3	0.8	0.6	0.3	0.5
Oxygen	%	16.2	17.3	18.7	18.9	13.9	13.1	20.6	20.7	20.1	20.2	20.2	20.3
Atm. Pressure	mBar	985	996	981	1010	998	1010	979	982	985	1008	970	980

Balbane Landfill Site, Killybegs, Co Donegal													
Gas Levels													
BH3													
PARAMETERS	UNITS	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	
		JAN 10	FEB 10	MAR 10	APR 10	MAY 10	JUN 10	JUL 10	AUG 10	SEPT 10	OCT 10	NOV 10	DEC 10
Methane	%	33.1	19.3	19.2	20.2	25.7	26.2	22.4	26.5	25.5	26.1	37.3	30.4
Carbon Dioxide	%	27.7	26.2	25.9	26	21.4	22.3	21.8	23	24.1	23.3	29.5	26.3
Oxygen	%	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0
Atm. Pressure	mBar	985	996	981	1010	998	1010	979	982	985	1008	970	980





APPENDIX C

**WATER BALANCE CALCULATION
AND METEOROLOGICAL DATA**

BALBANE WATER BALANCE CALCULATION

Year	Status	Rainfall (mm)	Restored area	Temp Restored area RCA(m ²)	Temp Restored area infiltration IRCA(m3)	Total Water	Leachate produced Lo(m3)
2010	Closed	907	0	29500	6692	6692	6692
Total							6692

Assumptions

IRCA=	Temp restored area infiltration of rainfall estimated % (25-30% of	30%	%
Temporary restored area	Area of landfill site temporary restored, site closed in Jan 2004	29,500	m2
Rainfall Data	Data taken from Ballynacarrick Weather Station. Evaporation los	907	mm

APPENDIX D
E-PRTR Return
(AER Electronic Reporting System)

4.1 RELEASES TO AIR

[Link to previous years emissions data](#)

[PRTR# : W0090 | Facility Name : Balbane Landfill Site | Filename : W0090_2010.xls | Return Year : 2010]

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SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

POLLUTANT		METHOD			Please enter all quantities in this section in KGs			
No. Annex II	Name	M/C/E	Method Used		Emission Point 1	QUANTITY		
			Method Code	Designation or Description		T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
01	Methane (CH4)	C	PER	Landgem-v302	0.0	186100.0	0.0	186100.0
02	Carbon monoxide (CO)	C	PER	Landgem-v302	0.0	90.97	0.0	90.97
03	Carbon dioxide (CO2)	C	PER	Landgem-v302	0.0	510500.0	0.0	510500.0
07	Non-methane volatile organic compounds (NMVOC)	C	PER	Landgem-v302	0.0	1200.0	0.0	1200.0
21	Mercury and compounds (as Hg)	C	PER	Landgem-v302	0.0	0.00135	0.0	0.00135
55	1,1,1-trichloroethane	C	PER	Landgem-v302	0.0	1.486	0.0	1.486

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

SECTION B : REMAINING PRTR POLLUTANTS

POLLUTANT		METHOD			Please enter all quantities in this section in KGs			
No. Annex II	Name	M/C/E	Method Used		Emission Point 1	QUANTITY		
			Method Code	Designation or Description		T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
56	1,1,2,2-tetrachloroethane	C	PER	Landgem-v302	0.0	4.283	0.0	4.283
34	1,2-dichloroethane (EDC)	C	PER	Landgem-v302	0.0	0.9412	0.0	0.9412
62	Benzene	C	PER	Landgem-v302	0.0	3.443	0.0	3.443
35	Dichloromethane (DCM)	C	PER	Landgem-v302	0.0	27.59	0.0	27.59
65	Ethyl benzene	C	PER	Landgem-v302	0.0	11.33	0.0	11.33
73	Toluene	C	PER	Landgem-v302	0.0	83.35	0.0	83.35
57	Trichloroethylene	C	PER	Landgem-v302	0.0	8.535	0.0	8.535
60	Vinyl chloride	C	PER	Landgem-v302	0.0	10.58	0.0	10.58
78	Xylenes	C	PER	Landgem-v302	0.0	29.55	0.0	29.55

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

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

Additional Data Requested from Landfill operators

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

Landfill: Please enter summary data on the quantities of methane flared and / or utilised	Balbane Landfill Site				
	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)	186100.0	C	PER	Landgem v302	N/A
Methane flared	0.0				0.0 (Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0 (Total Utilising Capacity)
Net methane emission (as reported in Section A above)	186100.0	C	PER	Landgem v302	N/A



[Guidance to completing the PRTR workbook](#)

AER Returns Workbook

Version 1.1.11

REFERENCE YEAR	2010
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1. FACILITY IDENTIFICATION

Parent Company Name	Donegal County Council
Facility Name	Balbane Landfill Site
PRTR Identification Number	W0090
Licence Number	W0090-01

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	

Address 1	Balbane
Address 2	Killybegs
Address 3	Co Donegal
Address 4	
Country	Ireland
Coordinates of Location	-8.44483 54.6955
River Basin District	GBNIIENW
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Julie Mc Mahon
AER Returns Contact Email Address	JULIE.MCMAHON@donegalcoco.ie
AER Returns Contact Position	
AER Returns Contact Telephone Number	074 9122787
AER Returns Contact Mobile Phone Number	
AER Returns Contact Fax Number	074 9161304
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

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 ?	

4.2 RELEASES TO WATERS

[Link to previous years emissions data](#)

[PRTR# : W0090 | Facility Name : Balbane Landfill Site | Filename : W0090_2010.xls | Return Year : 2010]

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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

POLLUTANT		RELEASURES TO WATERS			Please enter all quantities in this section in KGs			
No. Annex II	Name	M/C/E	Method Code	Method Used Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
18	Cadmium and compounds (as Cd)	M	EN ISO 5961:1995	ICP-MS	0.0	0.00066	0.0	0.00066
79	Chlorides (as Cl)	M	EN ISO 15682:2001	DCC Standard Operational Procedure	0.0	2014.0	0.0	2014.0
19	Chromium and compounds (as Cr)	M	EN 1233:1996	ICP-MS	0.0	0.00069	0.0	0.00069
20	Copper and compounds (as Cu)	M	CRM	Spectrophotometric	0.0	0.00002	0.0	0.00002
82	Cyanides (as total CN)	M	EN ISO 14403:2002	Spectrophotometric	0.0	0.0669	0.0	0.0669
83	Fluorides (as total F)	M	EN ISO 10304-	Spectrophotometric	0.0	0.6692	0.0	0.6692
23	Lead and compounds (as Pb)	M	1 to 4:1995	ICP-MS	0.0	0.002	0.0	0.002
21	Mercury and compounds (as Hg)	M	EN 1483:1997	CV ASS	0.0	0.000133	0.0	0.000133
24	Zinc and compounds (as Zn)	M	CRM	ICP-MS	0.0	0.006692	0.0	0.006692

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

SECTION B : REMAINING PRTR POLLUTANTS

POLLUTANT		RELEASURES TO WATERS			Please enter all quantities in this section in KGs			
No. Annex II	Name	M/C/E	Method Code	Method Used 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)

POLLUTANT		RELEASURES TO WATERS			Please enter all quantities in this section in KGs			
Pollutant No.	Name	M/C/E	Method Code	Method Used Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
238	Ammonia (as N)	M	CRM	DCC SOP	0.0	86.66	0.0	86.66
303	BOD	M	CRM	DCC SOP	0.0	56.5	0.0	56.5
305	Calcium	M	CRM	ICP-MS	0.0	0.59	0.0	0.59
374	Boron	M	CRM	ICP-MS	0.0	0.002	0.0	0.002
306	COD	M	CRM	DCC SOP	0.0	214.14	0.0	214.14
357	Iron	M	CRM	ICP-MS	0.0	0.13	0.0	0.13
320	Magnesium	M	CRM	ICP-MS	0.0	0.274	0.0	0.274
321	Manganese (as Mn)	M	CRM	ICP-MS	0.0	68.79	0.0	68.79
332	Ortho-phosphate (as PO4)	M	CRM	DCC SOP	0.0	1.204	0.0	1.204
338	Potassium	M	CRM	Flame Photometer	0.0	160.06	0.0	160.06
341	Sodium	M	CRM	Flame Photometer	0.0	1418.7	0.0	1418.7
343	Sulphate	M	CRM	Spectrophotometer	0.0	6.69	0.0	6.69

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

At the time of reporting the EPA database for 2010 was unavailable to download. When the database is available the return will be made and a hard copy will be forwarded to the Agency under separate cover.