Rathroeen Landfill, Killala Rd, Ballina, Co. Mayo.

Waste Licence Ref W0067-1

Annual Environmental Report Covering the period from the 1st January 2008 to 31st December 2008

Owner and Operator

Mayo County Council owns and operates the landfill at Rathroeen, Killala Rd, Ballina.

Reporting Period

This report is the second Annual Environmental Report for Rathroeen Landfill, Killala Rd, Ballina, Co. Mayo. It covers the period from the 1st January 2008 to the 31st of December 2008.

Details of Activity

The construction of Cell No. 2 was completed in April of 2006 and we commenced placing waste therein in May 2006. Waste was placed in Cell 2 for all of 2008. We are also operating a recycling center at the landfill site, which has become very busy, (circa 6900 users per month) during 2008.

Volume and composition of waste received during the year.

In the year ending 31/12/08, 18,904.63 tonnes of waste was accepted at Rathroeen Landfill. The landfill is licenced to accept 45,000tonnes per annum. The composition of this total is set out in Table 1.1, below.

Table 1.1 Volume and composition of waste accepted at Rathroeen Landfill.

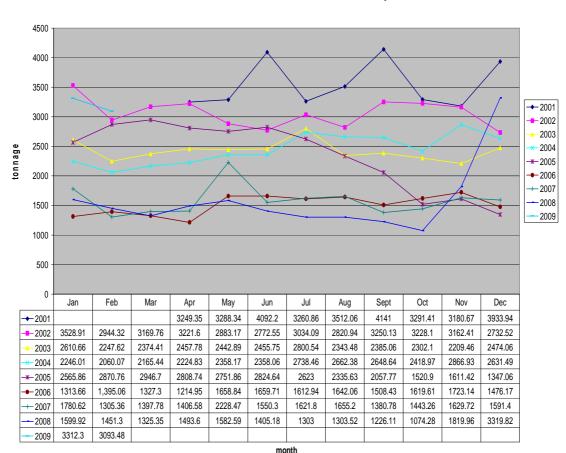
Site: Rathroeen Landfill Year: 1st January to 31st December 2008

		2006	2007	2008
Waste type	EWC Code.	Tonnage	Tonnage	Tonnage
Domestic	20030101	12407.12	12111.15	12708.93
Commercial	20030102	5021.84	5412.05	4618.90
C&D		176.34	0	0
Industrial Non	20030103	365.08	454.56	439.19
Hazardous				
Public Cleansing		888.58	1013.98	1137.61
Total		18858.96	18991.74	18904.63

Total Accumulated volumes of waste deposited

There are no historical records of the waste that has been deposited at Rathroeen Landfill. During the application for the waste licence an estimate was made for the volumes of waste being generated in the Mayo area contributing to the landfill. At that time it was estimated that 18,500 tons per annum was being deposited at the landfill. The weighbridge was put in place in April 2001 and since then we have been able to gain a more precise picture of quantities of waste. Table 2 below shows the monthly tonnages of waste accepted at Rathroeen Landfill since April 2001.

Table 2.



Amounts landfilled at Rathroeen Landfill monthly

Calculated remaining capacity.

The most recent design for the landfill available from the consulting engineers shows the following void spaces available:

Cell No. 1 Cell No. 2	89,000tonnes 63,500tonnes		111,250m ³ 79,375m ³					
Cell No. 3	162,000tonnes		202,500m ³					
Total	314,500tonnes		393,125m³					
Void Space utilised								
Cell No. 1	89,000tonnes		111,250m ³					
Cell No. 2	50795.93tonnes		63494.91m ³					
Cell No. 3	Otonnes		Om ³					
Total Void S	Space utilized	139795 tonnes	174743.75m³					
Total Void S	Space Remaining 31/12/07.	174705tonnes	218381.25m ³					

Year in which final capacity will be reached.

The remaining capacity of the landfill is $218,381.25m^3$. In the year ended 31/12/08 we accepted 18,904 tonnes of waste. Estimating that we will be accepting 19,000 tons per annum and an expected compaction rate of 0.8 per ton, we will be using $23,750m^3$ of capacity per year. This equates to a lifespan of 10.18 years. The final capacity of Rathroeen will therefore be reached in 2018. Should we accept 45,000 tonnes per annum then the remaining void space would be utilized in 4.6 years. The final capacity of Rathroeen will therefore be reached in 2012. The rationalization of landfilling within Mayo County Council means that once Cell 2 is completed landfilling will cease at Rathroeen and move to Derrinumera. Returning to start filling Cell 3 in 2011.

Area occupied by waste.

The area of the Rathroeen Landfill site is 18.75 Hectares, of this area 9.4 Hectares has been land filled at some stage of the development. We are currently placing waste in Cell No. 2 which has an area of 15,000m².

Methods of deposition of waste.

The deposition of waste is currently being done in a lined cell. Waste vehicles reverse to an elevated tipping area to deposit the waste. This ensures that nobody has to walk on the waste. There is an excavator at the tip head that places the waste and it is then compacted by 32 tonne Bomag Compacter. Members of the public are not allowed to access the tipping area, they are provided with skips at the recycling center.

Civic Amenity.

In September 2003 the recycling center at Rathroeen Landfill was opened to the public. Prior to this there had always been glass and aluminium can banks at the site. The new center increased the range of items that could be recycled.

At the end of December 2008 the following items were being accepted at the recycling center:

- 1. Papers and magazines.
- 2. Cardboard.
- 3. Tetra-paks.
- 4. Plate glass.
- 5. Aeroboard / polystyrene
- 6. Glass Clear, Brown, Green
- 7. Scrap metal
- 8. Tin / steel cans
- 9. White goods Dishwashers, Cookers, Tumble dryers, Washing machines
- 10. Florescent tubes and light bulbs
- 11. Brown goods Televisions, Computers, Keyboards and hard drives
- 12. Batteries Household and car

13. Engine oil
14. Cooking Oil
15. Textiles
16. Plastics - PET and HDPE
17. Timber
18. Fridges and freezers
19. Tyres
20. Household hazardous wastes; Aerosols, Waste Medicines, Waste vetinary medicines, Pesticides, Herbicides, Paint, Household

corrosives

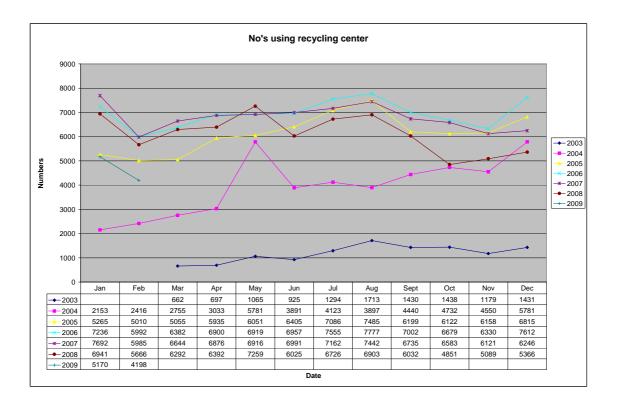
Outlined on Table 3 appendix A .are the quantities of recycled material removed from the site by registered contractors in 2008.

Product	Name & address of Recycler	Permit No
Papers, magazines, tetra pak cardboard. Plastics	Bourke Waste Management Specialists, Clogher, Westport, Co. Mayo.	<i>C</i> W050
	Greyhound Recycling , Dublin	CW047
Scrap metal Tin / steel cans Aluminium Cans	Erin Recyclers, Deep Water Quay, Sligo.	CW206
Plate glass	Eclipse Recycling Services Ltd, Mountmellick, Co. Laois	WMP 005
Glass	Rehab Recycling, Cork.	Exempt public collection
Tyres	Crumb Rubber Ireland,	
	Dundalk.	
Batteries Household Car batteries Engine Oil	Enva,	

The contractors we had agreed with the agency for 2008 were as follows:

Vegetable oil		
Flourescent tubes		
Textiles.	Textile Recycling Ltd.	Exempt public
	Dublin	collection
Aerosols.	Indavar Ireland	CW029
Medicine waste.		
Pesticides, insecticides,		
strong cleaning agents.		
Paint both hazardous and non-hazardous.		
Postage stamps	Irish Peatland Conservation Council,	
	(IPCC).	
	Lullymore,	
	Rathangan,	
	Co Kildare.	
Fridges and freezers	KMK Metals,	
Small electrical	Tullamore,	
White goods	Co. Offaly	
Brown goods		

For the year ended 31/12/06, 81,393 people availed of the facilities at the recycling center. Graph No.1. below shows the numbers attending the center on a monthly basis through 2008.



Summary of environmental monitoring.

Landfill Gas Monitoring.

Monitoring was carried out on a monthly basis as required by our waste licence.

There were a few occasions when levels exceeded trigger levels as outlined in the licence. Mainly these were high levels of CO2 in areas outside the waste body.

A permanent gas detection system has been installed in the site buildings and it is tested and calibrated twice annually as set out in maintenance procedures.

Monthly gas monitoring sheets are included in Appendix B.

• The computerised gas model used was "Land SIM",

Details for the emissions for 2008 are as follows;

Complete Landfill LFG	421.401m³/hr
Complete Landfill CH4	168.56m³/hr
Complete Landfill CH4	1004083kg/yr
Complete Landfill CO2	252.84m³/hr
Complete Landfill CO2	4385479kg/yr

Dust Monitoring

At Rathroeen Landfill we are required to carry out dust monitoring three times a year, twice between the months of May to September and once in the remainder of the year.

The results from each period are outlined below in Table 2.1.

	Up- 1/05/08	Up- 29/08/08	Up- 10/10/08
	Down- 30/05/08	Down- 1/08/08	Down- 10/11/08
	Total Dust	Total Dust	Total Dust
	Mg / m2 / day	Mg / m2 / day	Mg / m2 / day
D1	110	75	69
D2	190	150	138
D3	55	245	<17
D4	200	80	149

Table 2.1 Total dust emissions during 2008

Groundwater Monitoring

Analysis of groundwater samples has shown that levels of ammonia have been elevated in each sampling period. Coliforms have also been found at most of the wells during this period, this indicates that there has been contamination due to sewage or industrial waste. Sampling dates for 2008 were, 6/03/08, 26/06/08 and 30/09/08.

Prior to the granting of our waste licence there were 6 No. monitoring points, MW 1,2,3,4D, 4S and MW5. In December '02 five more wells were drilled to comply with condition 3.18.1. This condition required that one well be drilled in the bedrock down gradient of the site and two more is drilled in the overburden to the north and east of the site. These were labelled MW7D, MW6 and MW8S. While the drilling rig was in these areas, we also had two more wells drilled in the overburden to the site, MW8D. During the construction phase on site monitoring wells MW1, MW4D and MW4S were destroyed. These were replaced in October 2003 with wells that have been agreed with the agency and labeled as follows MW9, MW10D and MW10S.

With the completion of cell one and the construction of the leachate interceptor drain there should be significant improvement in the groundwater quality.

Details of groundwater analysis are attached in Appendix C.

Surface water Monitoring

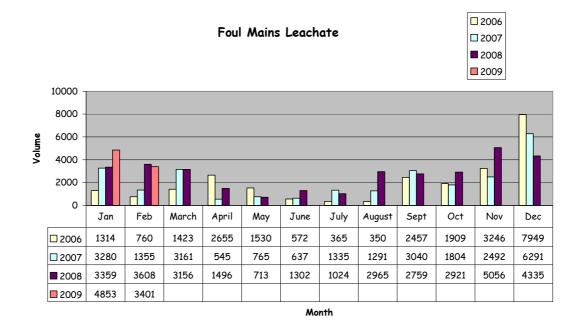
Monitoring of the five surface water points is carried out on a quarterly basis as per schedule D.5.1. On each occasion that the samples have been taken one or more of the limits set for A1 waters has been exceeded. Dates of sampling in 2008 were, 6/03/08, 26/06/08 and 30/09/08.

The general trend of the samples are as follows, SW1 the upstream point is of poor quality generally, the situation is a lot worse at SW2 which is at the northern end of the site. The quality shows a gradual improvement as the stream makes the 2km journey, through points SW4, 3 and 5 to the river Moy.

A summary of results for each point is included in Appendix.D.

Leachate Monitoring.

As part of compliance to our waste licence we are sampling leachate monthly from the main pump sump before the rising main leaves the site to the treatment plant. Sampling dates for 2008 were as follows; 10/01/08, 6/02/08, 6/03/08, 10/04/08, 8/05/08, 26/06/08, 24/07/08, 26/08/08, 30/09/08 and 11/11/08. Analysis and details on leachate monitoring and levels from the site are attached in Appendix E. Volumes pumped from the site are shown in table below.



Annual Water balance calculation and interpretation.

Water Balance Return Form

Site: Year: Cell No.2:	Rathroeen Lan 2008 14000m ²	ndfill			
Month	Household Waste (t)	Inert Waste (t)	Effective Rainfall (mm)	Available Abs for Cell (tones	orptive Capacity ;)
	н	Т	R	Month C	Cumulative C
January	1599.92	0	159.7	-2235.64	-2235.64
February	1451.3	0	128.1	-1648.27	-3883.91
March	1325.35	0	151.3	-1985.66	-5869.57
April	1493.6	0	71.6	-848.84	-6718.41
May	1582.59	0	31.4	-281.34	-6999.75
June	1405.18	0	113.8	-1452.68	-8452.43
July	1303	0	67	-807.7	-9260.13
August	1303.52	0	168.2	-2224.44	-11484.57
September	1226.11	0	112.2	-1448.18	-12932.75
October	1074.28	0	143.9	-1907.17	-14839.92
November	1819.96	0	111.4	-1377.60	-16217.52
December	3319.82	0	99.7	-1063.90	-17281.42

Available Absorptive Capacity "C" is defined as:

 $C = (H \times 0.1) + (T \times 0.05) - (RA)$ tonnes where

H = the mass in tonnes of household and commercial waste input to the cell for the month;

T = the mass in tonnes of transfer station and general skip waste input to the cell for the month;

R = effective rainfall

A = original plan area of the cell in square metres

Biological Assessment

Mr. Martin McGarrigle of the EPA in Castlebar carried out the biological assessment during Autumn of 2008. We are waiting for his report. He has indicated that there has been little improvement in the stream and that it

remains at a Q rating of 2-3. A copy of the report will be forwarded on receipt of it.

Noise Monitoring

The annual Noise survey was carried out in May 2008 the final results are attached in Appendix.F.

Meteorological Report

In August of 2002 a weather station was put in place at the landfill site. It is being used to monitor wind speed, wind direction, rainfall, temperature, humidity and atmospheric pressure. A brief summary of monitoring has been included in Appendix G. Also shown are the rainfall totals that have been collected at Rathroeen.

Wind has been the most influential weather on the daily operations at Rathroeen landfill. We use an enclosed area of netting for tipping when it is windy. Since moving into Cell No. 2 we have been using a mobile netting system in conjunction with the perimeter netting. This netting can be moved to a new area in approximately half a day. We are therefore operating in an enclosed area at all times.

Report on progress on restoration of completed cells.

Rathroeen landfill is constructed on an old lake that was drained during the 1960's as part of the Moy drainage scheme. In effect there was no construction of a cell as the waste was deposited directly into the void space. During the 18 months prior to August 2003, waste was placed in unlined areas to create a profile to construct the new engineered and lined cells on. We finished depositing waste at the unlined northern extremity of the site in August 2003, final levels were as allowed in our waste licence 67-1. This area was profiled and covered with soil and grassed.

The permanent capping of Cell No. 1 was carried out during the summer of 2006. Waste has been deposited into Cell 2 since May 2006, it should be filled to capacity in summer 2009 and plans are in place to have it permanently capped in the autumn of 2009.

Report on development works undertaken in the reporting period

The following works were carried out during the year: 2008

- Northern area of Cell 2 completed profiled and temporarily capped, waste deposition in south half of Cell 2 commenced circa August.
- Installation of horizontal gas collection network through the waste body of cell 2.

Complaints Summary.

As part of the agreed management of the Rathroeen Landfill regular meeting are held with the local Cooneal and Ballisokeary Residents Association, four meetings were held in 2008, on the following dates, 2/4/08, 4/06/09, 22/10/09 and 10/12/08. Many of the concerns of the residents are expressed through these meetings and minuted.

Financial provisions made under licence.

For the year 2008 the cost per ton of waste at Rathroeen Landfill has been as follows, £145 per ton inclusive of the £15 per tonne government landfill levy.

The running costs for Rathroeen for 2008 were ϵ 1.2 million; the current estimated cost for 2009 is ϵ 1.3 million. The cost for the disposal of waste by weight is remaining the same for 2008.

Management and staffing structure at Rathroeen Landfill

Appendix G. Outlines the staffing structure at Rathroeen Landfill.

Rathroeen Landfill Site Management Structure							
Title	Name	Responsibilities/Duties	Qualifications/Experience				
Director of Services	Seamus Granaghan	Directorial responsibilities for the operation of the landfill.	B.E., C.Eng. F.I.E.I.				

Senior Engineer	Noel Burke	Overall responsibility for all aspects of development and management of the landfill.	B.E., C.Eng. M.I.E.I.	
Senior Engineer	Michael Mongan	Overall responsibility for all capital works at the landfill	B.E., C.Eng. F.I.E.I.	
Site Manager	Eddie Munnelly	Overall responsibility for the operation and the management of the landfill and ensuring compliance with the licence.	B.E., C.Eng. M.I.E.I.	
Deputy Site Manager	Michael Hegarty	Carrying out environmental monitoring at Rathroeen Landfill as specified in the waste licence. Deputising for Site Manager.	B.Sc., Dip C.Eng.	
Assistant Staff Officer, Grade 4	Ciaran Commons	Operation of the office system including weighbridge accounts, payments, invoicing, wages, subsistence, information management, public relations.	Suitably Qualified	
Clerical Officer	Patricia Loftus	Operation of the office system including weighbridge accounts, payments, invoicing, wages, subsistence, information management, public relations. Deputising for Administrative Officer.	Suitably Qualified	
A / Foreman	Gerry Bourke	Supervision of works and filling operations at the landfill. Deputising in absence of deputy landfill manager .	Suitably Qualified	
General Operative 1	John Quinn	General Maintenance as directed	Suitably Qualified	
General Operative 2	David McAndrew	General Maintenance as directed	Suitably Qualified	
General Operative 3	Martin McNulty	General Maintenance as directed	Suitably Qualified	

Public Information Programme

All records of environmental monitoring are kept at Rathroeen Landfill. To date there have been no requests to see the information. We have also

placed information boxes at the recycling center and have numerous leaflets and brochures available to the public at the reception area of the landfill. In addition to this we are also running a number of school tours. These are from both primary and secondary schools generally from the local area.

Appendix A.

	2008 Totals
Glass(Clear, Green, Brown)	166.76
Aluminium Cans	9.34
Paper	377.96
Cardboard	181.14
Tetra Paks	14.4
Tin/steel Cans	33.28
Plastics (PE + HDPE)	43.14
Timber	952.6
Metal	205.63
Textiles	84.64
Waste oil	4.9
Waste Veg oil	1.86
Batteries -Nickel/cad	4.76
Batteries - lead acid	17.6
Window Glass	16.04
Flourescent tubes	0.84
White goods	80.96
TVs	58.897
Small Electrical Goods	51.547
Fridges/Freezers	47.655
Christmas Trees	0
Polystyrene	3.96
Tyres	8.12
Hse Haz. Waste (Medicine)	0.05
Hse Haz. Waste (Paint)	11.36
Hse Haz. Waste (Aerosols)	2.52
Gypsum / Plasterboard	21.78
Totals	2401.739

Appendix B.

Site name: Rathroeen Landfill Date:18/01/08 Personnel:Gerry Bourke Temperature:as shown

Address: Killala Rd, Ballina Analytical Range: Instrument: GA2000 Pressure:1001mbar

Temperall		r			1	11000	ure. Too Thibar
Well No.	CH4	CO2	02	CO	H2S	Temp.	Comments
	%v/v	%v/v	%v/v	ppm	ppm		
BALLGW08							perimeter
BALLGW09	0	1.5	19.1	0	0	10.4	perimeter
BALLGW12	0	1	17.1	0	0	10.6	perimeter
BALLGW13	0	0	20.9	0	0	11.7	perimeter
SWDRAIN1	0	0	21	0	0	11.7	perimeter
BALLGW14							Horizontal gas collection pipe
BALLGW15							Horizontal gas collection pipe
BALLGW16							Horizontal gas collection pipe
BALLGW17							perimeter
BALLGW18	0	0	20.8	0	0	~~~	perimeter
BALLGW19	9.1	13.2	5.3	0	0	10.2	perimeter
BALLGW20	62.9	37.8	0	9	40	8.7	Northern permanent capped area
BALLGW21	42.6	27.5	5.8	5	32	8.4	Northern permanent capped area
BALLGW22	62.5	36.8	0	0	39	8.9	Northern permanent capped area
BALLGW23							Northern permanent capped area
BALLGW24							Northern permanent capped area
BALLGW25							Northern permanent capped area
BALLGW26	40.6	25.6	5.5	0	14	9.7	Northern permanent capped area
BALLGW27	26.5	13	12	5	6	9.3	Northern permanent capped area
BALLGW28	65	34.3	0	0	63	9.2	Vertical wells into Cell 1
BALLGW29	65.5	35.1	0	1	52	9.8	Vertical wells into Cell 1
BALLGW30	63.6	37.5	0	2	22	9.5	Vertical wells into Cell 1
BALLGW31	63.8	37.6	0	14	74	8.6	Vertical wells into Cell 1
BALLGW32	65.5	36.5	0	10	32	8.6	Vertical wells into Cell 1
BALLGW33	65.8	35.5	0	0	79	8.9	Vertical wells into Cell 1
BALLGW34	64.4	36.5	0	6	86	9.1	Vertical wells into Cell 1
BALLGW35	62.9	34.7	0.4	5	15	9.3	Vertical wells into Cell 1
BALLGW36	63.4	37.5	0	4	32766	10.1	Vertical wells into Cell 1
BALLGW37	58.6	36.5	0.6	7	14	9.7	Vertical wells Under Cell 2
BALLGW38	56.7	35.8	0.6	8	12	8.3	Vertical wells Under Cell 2
BALLGW39	61.3	38	0	10	3	8.3	Vertical wells Under Cell 2
BALLGW40	60.2	40.4	0	0	97	8.5	Vertical wells Under Cell 2
BALLGW41	65.6	35.1	0	0	12	8.3	Vertical wells Under Cell 2
BALLGW42	62.8	38.4	0	0	33	8.2	Vertical wells Under Cell 2
BALLGW43	62.6	38.4	0	0	38	8.1	Vertical wells Under Cell 2
BALLGW44	63.8	37.3	0	5	45	8.4	Vertical wells Under Cell 2
BALLGW45	58.8	41.8	0	13	20	8.8	Vertical wells Under Cell 2
BALLGW46	47.5	30.4	2.1	7	0	8.4	Vertical wells Under Cell 2
BALLGW47	47.3	30.4	2.2	3	0	8.5	Vertical wells Under Cell 2

Site name: Rathroeen Landfill Date:14.02.07 Personnel:Gerry Bourke Temperature:as shown

Address: Killala Rd, Ballina Analytical Range: Instrument: GA2000 Pressure:1001mbar

%v/v %v/v %v/v ppm ppm BALLGW08 0 1.5 13 10 0 7.1 perimeter BALLGW09 0 1.2 19.4 2 0 6.4 perimeter BALLGW12 perimeter perimeter BALLGW13 0 0.1 20.9 0 0 6.3 perimeter BALLGW14 perimeter perimeter perimeter BALLGW14 Horizontal gas collection pipe perimeter BALLGW15 Horizontal gas collection pipe perimeter BALLGW16 6.8 2.7 19.2 0 0 7.4 Horizontal gas collection pipe BALLGW17 0 9.1 4.6 0 0 5.2 perimeter BALLGW18 0 4.1 16 3 0 5.2 perimeter BALLGW20 50.9			as shown				11033	
BALLGW08 0 1.5 13 10 0 7.1 perimeter BALLGW09 0 1.2 19.4 2 0 6.4 perimeter BALLGW12 perimeter perimeter BALLGW13 0 0.1 20.9 0 6.3 perimeter BALLGW14 perimeter perimeter BALLGW14 Horizontal gas collection pipe BALLGW15 Horizontal gas collection pipe BALLGW16 6.8 2.7 19.2 0 0 7.4 BALLGW17 0 9.1 4.6 0 0 5.2 perimeter BALLGW18 0 4.1 16 3 0 5.2 perimeter BALLGW20 50.9 30.1 2.9 5 3 10.2 Northern permanent capped are BALLGW21 0 0 21 6	Well No.	CH4			СО	H2S	Temp.	Comments
BALLGW09 0 1.2 19.4 2 0 6.4 perimeter BALLGW12 0 0.1 20.9 0 0 6.3 perimeter BALLGW13 0 0.1 20.9 0 0 6.3 perimeter BALLGW14 1 1 1 Horizontal gas collection pipe BALLGW15 1 1 Horizontal gas collection pipe BALLGW16 6.8 2.7 19.2 0 0 7.4 BALLGW17 0 9.1 4.6 0 0 5 perimeter BALLGW18 0 4.1 16 3 0 5.2 perimeter BALLGW20 50.9 30.1 2.9 5 3 10.2 Northern permanent capped are BALLGW21 0 0 2.1 6 0 10.2 Northern permanent capped are BALLGW22 58.8 34 1.4 2 31 10.2 Northern permanent capped are		%v/v	v/v %v/v	%v/v	ppm	ppm		
BALLGW12 n n perimeter BALLGW13 0 0.1 20.9 0 0 6.3 perimeter SWDRAIN1 n n n n perimeter BALLGW14 n n n n n perimeter BALLGW15 n n n n n n n BALLGW16 6.8 2.7 19.2 0 0 7.4 Horizontal gas collection pipe BALLGW17 0 9.1 4.6 0 0 5 perimeter BALLGW18 0 4.1 16 3 0 5.2 perimeter BALLGW19 0.1 10.2 7.6 0 0 6.9 perimeter BALLGW20 50.9 30.1 2.9 5 3 10.2 Northern permanent capped are BALLGW22 58.8 34 1.4 2 31 10.2 Northern permanent capped are BA	BALLGW08	0	0 1.5	13	10	0	7.1	perimeter
BALLGW13 0 0.1 20.9 0 0 6.3 perimeter SWDRAIN1 Perimeter BALLGW14 Horizontal gas collection pipe BALLGW15 Horizontal gas collection pipe BALLGW16 6.8 2.7 19.2 0 0 7.4 BALLGW17 0 9.1 4.6 0 0 5 perimeter BALLGW18 0 4.1 16 3 0 5.2 perimeter BALLGW19 0.1 10.2 7.6 0 0 6.9 perimeter BALLGW20 50.9 30.1 2.9 5 3 10.2 Northern permanent capped are BALLGW21 0 0 21 6 0 10.2 Northern permanent capped are BALLGW22 58.8 34 1.4 2 31 10.2 Northern permanent capped are BALLGW23 <	BALLGW09	0	0 1.2	19.4	2	0	6.4	perimeter
SWDRAIN1 number perimeter BALLGW14 number Horizontal gas collection pipe BALLGW15 number Horizontal gas collection pipe BALLGW16 6.8 2.7 19.2 0 0 7.4 BALLGW17 0 9.1 4.6 0 0 5 perimeter BALLGW18 0 4.1 16 3 0 5.2 perimeter BALLGW20 50.9 30.1 2.9 5 3 10.2 Northern permanent capped are BALLGW21 0 0 21 6 0 10.2 Northern permanent capped are BALLGW22 58.8 34 1.4 2 31 10.2 Northern permanent capped are BALLGW23 59.2 33.7 0.9 3 16 11 Northern permanent capped are BALLGW24 13.1 8 16 3 1 9.9 Northern permanent capped are BALLGW25 54.7 29.5 2.3	BALLGW12							perimeter
BALLGW14 Image: Model of the system Horizontal gas collection pipe BALLGW15 Image: Model of the system Horizontal gas collection pipe BALLGW16 6.8 2.7 19.2 0 0 7.4 BALLGW17 0 9.1 4.6 0 0 5 perimeter BALLGW18 0 4.1 16 3 0 5.2 perimeter BALLGW19 0.1 10.2 7.6 0 0 6.9 perimeter BALLGW20 50.9 30.1 2.9 5 3 10.2 Northern permanent capped are BALLGW21 0 0 21 6 0 10.2 Northern permanent capped are BALLGW22 58.8 34 1.4 2 31 10.2 Northern permanent capped are BALLGW23 59.2 33.7 0.9 3 16 11 Northern permanent capped are BALLGW24 13.1 8 16 3 1 9.9	BALLGW13	0	0.1	20.9	0	0	6.3	perimeter
BALLGW15 Horizontal gas collection pipe BALLGW16 6.8 2.7 19.2 0 0 7.4 Horizontal gas collection pipe BALLGW17 0 9.1 4.6 0 0 5 perimeter BALLGW18 0 4.1 16 3 0 5.2 perimeter BALLGW19 0.1 10.2 7.6 0 0 6.9 perimeter BALLGW20 50.9 30.1 2.9 5 3 10.2 Northern permanent capped are BALLGW21 0 0 21 6 0 10.2 Northern permanent capped are BALLGW22 58.8 34 1.4 2 31 10.2 Northern permanent capped are BALLGW23 59.2 33.7 0.9 3 16 11 Northern permanent capped are BALLGW24 13.1 8 16 3 1 9.9 Northern permanent capped are BALLGW26 37.8 23.6 <	SWDRAIN1							perimeter
BALLGW16 6.8 2.7 19.2 0 0 7.4 Horizontal gas collection pipe BALLGW17 0 9.1 4.6 0 0 5 perimeter BALLGW18 0 4.1 16 3 0 5.2 perimeter BALLGW19 0.1 10.2 7.6 0 0 6.9 perimeter BALLGW20 50.9 30.1 2.9 5 3 10.2 Northern permanent capped are BALLGW21 0 0 21 6 0 10.2 Northern permanent capped are BALLGW22 58.8 34 1.4 2 31 10.2 Northern permanent capped are BALLGW23 59.2 33.7 0.9 3 16 11 Northern permanent capped are BALLGW24 13.1 8 16 3 1 9.9 Northern permanent capped are BALLGW26 37.8 23.6 5.9 0 16 10.4 Northern	BALLGW14							Horizontal gas collection pipe
BALLGW17 0 9.1 4.6 0 0 5 perimeter BALLGW18 0 4.1 16 3 0 5.2 perimeter BALLGW19 0.1 10.2 7.6 0 0 6.9 perimeter BALLGW20 50.9 30.1 2.9 5 3 10.2 Northern permanent capped are BALLGW21 0 0 21 6 0 10.2 Northern permanent capped are BALLGW22 58.8 34 1.4 2 31 10.2 Northern permanent capped are BALLGW23 59.2 33.7 0.9 3 16 11 Northern permanent capped are BALLGW23 59.2 33.7 0.9 3 16 11 Northern permanent capped are BALLGW24 13.1 8 16 3 1 9.9 Northern permanent capped are BALLGW26 37.8 23.6 5.9 0 16 10.4 Northern	BALLGW15							Horizontal gas collection pipe
BALLGW18 0 4.1 16 3 0 5.2 perimeter BALLGW19 0.1 10.2 7.6 0 0 6.9 perimeter BALLGW20 50.9 30.1 2.9 5 3 10.2 Northern permanent capped are BALLGW21 0 0 21 6 0 10.2 Northern permanent capped are BALLGW22 58.8 34 1.4 2 31 10.2 Northern permanent capped are BALLGW23 59.2 33.7 0.9 3 16 11 Northern permanent capped are BALLGW24 13.1 8 16 3 1 9.9 Northern permanent capped are BALLGW25 54.7 29.5 2.3 2 6 12.5 Northern permanent capped are BALLGW26 37.8 23.6 5.9 0 16 10.4 Northern permanent capped are BALLGW28 60.9 32.5 0.3 4 57 1	BALLGW16	6.8	.8 2.7	19.2	0	0	7.4	Horizontal gas collection pipe
BALLGW19 0.1 10.2 7.6 0 0 6.9 perimeter BALLGW20 50.9 30.1 2.9 5 3 10.2 Northern permanent capped are BALLGW21 0 0 21 6 0 10.2 Northern permanent capped are BALLGW22 58.8 34 1.4 2 31 10.2 Northern permanent capped are BALLGW23 59.2 33.7 0.9 3 16 11 Northern permanent capped are BALLGW24 13.1 8 16 3 1 9.9 Northern permanent capped are BALLGW25 54.7 29.5 2.3 2 6 12.5 Northern permanent capped are BALLGW26 37.8 23.6 5.9 0 16 10.4 Northern permanent capped are BALLGW27 51.5 21.1 4.8 7 8 10.3 Northern permanent capped are BALLGW28 60.9 32.5 0.3 4	BALLGW17	0	9.1	4.6	0	0	5	perimeter
BALLGW20 50.9 30.1 2.9 5 3 10.2 Northern permanent capped are BALLGW21 0 0 21 6 0 10.2 Northern permanent capped are BALLGW22 58.8 34 1.4 2 31 10.2 Northern permanent capped are BALLGW23 59.2 33.7 0.9 3 16 11 Northern permanent capped are BALLGW24 13.1 8 16 3 1 9.9 Northern permanent capped are BALLGW25 54.7 29.5 2.3 2 6 12.5 Northern permanent capped are BALLGW26 37.8 23.6 5.9 0 16 10.4 Northern permanent capped are BALLGW27 51.5 21.1 4.8 7 8 10.3 Northern permanent capped are BALLGW28 60.9 32.5 0.3 4 57 10.4 Vertical wells into Cell 1 BALLGW29 66.7 34.6 0	BALLGW18	0	0 4.1	16	3	0	5.2	perimeter
BALLGW21 0 0 21 6 0 10.2 Northern permanent capped are BALLGW22 58.8 34 1.4 2 31 10.2 Northern permanent capped are BALLGW23 59.2 33.7 0.9 3 16 11 Northern permanent capped are BALLGW24 13.1 8 16 3 1 9.9 Northern permanent capped are BALLGW25 54.7 29.5 2.3 2 6 12.5 Northern permanent capped are BALLGW26 37.8 23.6 5.9 0 16 10.4 Northern permanent capped are BALLGW27 51.5 21.1 4.8 7 8 10.3 Northern permanent capped are BALLGW28 60.9 32.5 0.3 4 57 10.4 Vertical wells into Cell 1 BALLGW29 66.7 34.6 0 5 22 10.2 Vertical wells into Cell 1 BALLGW30 65.2 36.7 0	BALLGW19	0.1	.1 10.2	7.6	0	0	6.9	perimeter
BALLGW22 58.8 34 1.4 2 31 10.2 Northern permanent capped are BALLGW23 59.2 33.7 0.9 3 16 11 Northern permanent capped are BALLGW24 13.1 8 16 3 1 9.9 Northern permanent capped are BALLGW25 54.7 29.5 2.3 2 6 12.5 Northern permanent capped are BALLGW26 37.8 23.6 5.9 0 16 10.4 Northern permanent capped are BALLGW27 51.5 21.1 4.8 7 8 10.3 Northern permanent capped are BALLGW28 60.9 32.5 0.3 4 57 10.4 Vertical wells into Cell 1 BALLGW29 66.7 34.6 0 5 22 10.2 Vertical wells into Cell 1 BALLGW30 65.2 36.7 0 7 24 10.4 Vertical wells into Cell 1 BALLGW31 65.2 36.2 0 <	BALLGW20	50.9).9 30.1	2.9	5	3	10.2	Northern permanent capped area
BALLGW22 58.8 34 1.4 2 31 10.2 Northern permanent capped are BALLGW23 59.2 33.7 0.9 3 16 11 Northern permanent capped are BALLGW24 13.1 8 16 3 1 9.9 Northern permanent capped are BALLGW25 54.7 29.5 2.3 2 6 12.5 Northern permanent capped are BALLGW26 37.8 23.6 5.9 0 16 10.4 Northern permanent capped are BALLGW27 51.5 21.1 4.8 7 8 10.3 Northern permanent capped are BALLGW28 60.9 32.5 0.3 4 57 10.4 Vertical wells into Cell 1 BALLGW29 66.7 34.6 0 5 22 10.2 Vertical wells into Cell 1 BALLGW30 65.2 36.7 0 7 24 10.4 Vertical wells into Cell 1 BALLGW31 65.2 36.2 0 <	BALLGW21	0	0 0	21	6	0	10.2	Northern permanent capped area
BALLGW24 13.1 8 16 3 1 9.9 Northern permanent capped are BALLGW25 54.7 29.5 2.3 2 6 12.5 Northern permanent capped are BALLGW26 37.8 23.6 5.9 0 16 10.4 Northern permanent capped are BALLGW27 51.5 21.1 4.8 7 8 10.3 Northern permanent capped are BALLGW28 60.9 32.5 0.3 4 57 10.4 Vertical wells into Cell 1 BALLGW29 66.7 34.6 0 5 22 10.2 Vertical wells into Cell 1 BALLGW30 65.2 36.7 0 7 24 10.4 Vertical wells into Cell 1 BALLGW31 65.2 36.2 0 5 68 10.2 Vertical wells into Cell 1 BALLGW32 66.4 35 0 13 26 10.4 Vertical wells into Cell 1 BALLGW33 66.3 34.1 0 2 <td>BALLGW22</td> <td>58.8</td> <td>3.8 34</td> <td>1.4</td> <td>2</td> <td>31</td> <td>10.2</td> <td>Northern permanent capped area</td>	BALLGW22	58.8	3.8 34	1.4	2	31	10.2	Northern permanent capped area
BALLGW25 54.7 29.5 2.3 2 6 12.5 Northern permanent capped are BALLGW26 37.8 23.6 5.9 0 16 10.4 Northern permanent capped are BALLGW27 51.5 21.1 4.8 7 8 10.3 Northern permanent capped are BALLGW28 60.9 32.5 0.3 4 57 10.4 Vertical wells into Cell 1 BALLGW29 66.7 34.6 0 5 22 10.2 Vertical wells into Cell 1 BALLGW30 65.2 36.7 0 7 24 10.4 Vertical wells into Cell 1 BALLGW31 65.2 36.2 0 5 68 10.2 Vertical wells into Cell 1 BALLGW32 66.4 35 0 13 26 10.4 Vertical wells into Cell 1 BALLGW33 66.3 34.1 0 2 73 10.3 Vertical wells into Cell 1	BALLGW23	59.2	9.2 33.7	0.9	3	16	11	Northern permanent capped area
BALLGW25 54.7 29.5 2.3 2 6 12.5 Northern permanent capped are BALLGW26 37.8 23.6 5.9 0 16 10.4 Northern permanent capped are BALLGW27 51.5 21.1 4.8 7 8 10.3 Northern permanent capped are BALLGW28 60.9 32.5 0.3 4 57 10.4 Vertical wells into Cell 1 BALLGW29 66.7 34.6 0 5 22 10.2 Vertical wells into Cell 1 BALLGW30 65.2 36.7 0 7 24 10.4 Vertical wells into Cell 1 BALLGW31 65.2 36.2 0 5 68 10.2 Vertical wells into Cell 1 BALLGW32 66.4 35 0 13 26 10.4 Vertical wells into Cell 1 BALLGW33 66.3 34.1 0 2 73 10.3 Vertical wells into Cell 1	BALLGW24	13.1	8.1 8	16	3	1	9.9	Northern permanent capped area
BALLGW27 51.5 21.1 4.8 7 8 10.3 Northern permanent capped are BALLGW28 60.9 32.5 0.3 4 57 10.4 Vertical wells into Cell 1 BALLGW29 66.7 34.6 0 5 22 10.2 Vertical wells into Cell 1 BALLGW30 65.2 36.7 0 7 24 10.4 Vertical wells into Cell 1 BALLGW31 65.2 36.7 0 7 24 10.4 Vertical wells into Cell 1 BALLGW31 65.2 36.2 0 5 68 10.2 Vertical wells into Cell 1 BALLGW32 66.4 35 0 13 26 10.4 Vertical wells into Cell 1 BALLGW33 66.3 34.1 0 2 73 10.3 Vertical wells into Cell 1	BALLGW25	54.7	1.7 29.5	2.3	2	6	12.5	Northern permanent capped area
BALLGW28 60.9 32.5 0.3 4 57 10.4 Vertical wells into Cell 1 BALLGW29 66.7 34.6 0 5 22 10.2 Vertical wells into Cell 1 BALLGW30 65.2 36.7 0 7 24 10.4 Vertical wells into Cell 1 BALLGW31 65.2 36.7 0 7 24 10.4 Vertical wells into Cell 1 BALLGW31 65.2 36.2 0 5 68 10.2 Vertical wells into Cell 1 BALLGW32 66.4 35 0 13 26 10.4 Vertical wells into Cell 1 BALLGW33 66.3 34.1 0 2 73 10.3 Vertical wells into Cell 1	BALLGW26	37.8	7.8 23.6	5.9	0	16	10.4	Northern permanent capped area
BALLGW28 60.9 32.5 0.3 4 57 10.4 Vertical wells into Cell 1 BALLGW29 66.7 34.6 0 5 22 10.2 Vertical wells into Cell 1 BALLGW30 65.2 36.7 0 7 24 10.4 Vertical wells into Cell 1 BALLGW31 65.2 36.7 0 7 24 10.4 Vertical wells into Cell 1 BALLGW31 65.2 36.2 0 5 68 10.2 Vertical wells into Cell 1 BALLGW32 66.4 35 0 13 26 10.4 Vertical wells into Cell 1 BALLGW33 66.3 34.1 0 2 73 10.3 Vertical wells into Cell 1	BALLGW27	51.5	.5 21.1	4.8	7	8	10.3	Northern permanent capped area
BALLGW30 65.2 36.7 0 7 24 10.4 Vertical wells into Cell 1 BALLGW31 65.2 36.2 0 5 68 10.2 Vertical wells into Cell 1 BALLGW32 66.4 35 0 13 26 10.4 Vertical wells into Cell 1 BALLGW33 66.3 34.1 0 2 73 10.3 Vertical wells into Cell 1	BALLGW28	60.9).9 32.5	0.3	4	57	10.4	
BALLGW31 65.2 36.2 0 5 68 10.2 Vertical wells into Cell 1 BALLGW32 66.4 35 0 13 26 10.4 Vertical wells into Cell 1 BALLGW33 66.3 34.1 0 2 73 10.3 Vertical wells into Cell 1	BALLGW29	66.7	6.7 34.6	0	5	22	10.2	Vertical wells into Cell 1
BALLGW32 66.4 35 0 13 26 10.4 Vertical wells into Cell 1 BALLGW33 66.3 34.1 0 2 73 10.3 Vertical wells into Cell 1	BALLGW30	65.2	5.2 36.7	0	7	24	10.4	Vertical wells into Cell 1
BALLGW33 66.3 34.1 0 2 73 10.3 Vertical wells into Cell 1	BALLGW31	65.2	5.2 36.2	0	5	68	10.2	Vertical wells into Cell 1
	BALLGW32	66.4	6.4 35	0	13	26	10.4	Vertical wells into Cell 1
BALLGW34 65.8 36.1 0 9 70 8.1 Vertical wells into Cell 1	BALLGW33	66.3	6.3 34.1	0	2	73	10.3	Vertical wells into Cell 1
	BALLGW34	65.8	5.8 36.1	0	9	70	8.1	Vertical wells into Cell 1
BALLGW35 66.5 34.7 0 5 21 10.5 Vertical wells into Cell 1		66.5	6.5 34.7	0	5	21	10.5	Vertical wells into Cell 1
BALLGW36 64.5 36.6 0 4 32766 10.3 Vertical wells into Cell 1	BALLGW36	64.5	1.5 36.6	0	4	32766	10.3	Vertical wells into Cell 1
BALLGW37 59.5 37.1 0 5 24 10.4 Vertical wells Under Cell 2	BALLGW37	59.5	9.5 37.1	0	5	24	10.4	Vertical wells Under Cell 2
BALLGW38 58 35.3 0.4 1 16 10.4 Vertical wells Under Cell 2	BALLGW38	58	8 35.3	0.4	1	16	10.4	Vertical wells Under Cell 2
BALLGW39 63.5 37.1 0 2 6 10.2 Vertical wells Under Cell 2		63.5		0	2	6		
BALLGW40 61.2 39.9 0 1 107 10.2 Vertical wells Under Cell 2		1						
BALLGW41 66.5 34.2 0 7 17 10.3 Vertical wells Under Cell 2								
BALLGW42 63.5 38.3 0 9 40 10.4 Vertical wells Under Cell 2								
BALLGW43 63.5 37.8 0 0 40 10.5 Vertical wells Under Cell 2								
BALLGW44 64 33.1 0 40 21 10.4 Vertical wells Under Cell 2								
BALLGW45 59.5 41.2 0 39 23 10.5 Vertical wells Under Cell 2								
BALLGW46 48.4 30.2 1.6 19 1 10.3 Vertical wells Under Cell 2								
BALLGW47 47.9 30.2 1.6 12 1 10.2 Vertical wells Under Cell 2								

Site name: Rathroeen Landfill Date:10.03.08 Personnel:Gerry Bourke

Address: Killala Rd, Ballina Analytical Range: Instrument: GA2000 Pressure:1001mbar

Temperatur	•				Pressure:1001mbar					
Well No.	CH4	CO2	02	CO	H2S	Temp.	Comments			
	%v/v	%v/v	%v/v	ppm	ppm					
BALLGW08	0	0.4	19.9	0	0	7.2	perimeter			
BALLGW09	0	1.2	19.4	0	0	10.9	perimeter			
BALLGW12	0	1.7	15	0	0	7.4	perimeter			
BALLGW13	0	0	20.9	1	0	12.3	perimeter			
SWDRAIN1							perimeter			
BALLGW14							Horizontal gas collection pipe			
BALLGW15							Horizontal gas collection pipe			
BALLGW16							Horizontal gas collection pipe			
BALLGW17	0	7.8	7.9	0	0	10.3	perimeter			
BALLGW18							perimeter			
BALLGW19	0	3.1	16.7	0	0	9.1	perimeter			
BALLGW20	60.1	34.6	0.4	0	1	9.1	Northern permanent capped area			
BALLGW21							Northern permanent capped area			
BALLGW22	59.6	34.7	0.1	6	18	8	Northern permanent capped area			
BALLGW23							Northern permanent capped area			
BALLGW24							Northern permanent capped area			
BALLGW25	19.4	11.3	14	1	8	9.1	Northern permanent capped area			
BALLGW26	65.9	35.5	0	0	20	5.8	Northern permanent capped area			
BALLGW27	35.7	18.5	8.9	2	14	5.8	Northern permanent capped area			
BALLGW28	44.1	25.4	4.1	0	33	6.4	Vertical wells into Cell 1			
BALLGW29	67.2	34.6	0	3	21	6.1	Vertical wells into Cell 1			
BALLGW30	65.6	35.8	0	6	28	6.2	Vertical wells into Cell 1			
BALLGW31	65.3	36.4	0	5	48	5.9	Vertical wells into Cell 1			
BALLGW32	66.7	35	0	5	19	5.8	Vertical wells into Cell 1			
BALLGW33	60.7	33.1	0	6	57	5.8	Vertical wells into Cell 1			
BALLGW34	65.7	36.3	0	6	61	5.7	Vertical wells into Cell 1			
BALLGW35	66.4	34.4	0	5	16	5.6	Vertical wells into Cell 1			
BALLGW36	58.1	33.6	1.5	11	32766	5.4	Vertical wells into Cell 1			
BALLGW37	61.4	38.9	0	4	11	7.5	Vertical wells Under Cell 2			
BALLGW38	60.1	37.5	0	7	5	7.9	Vertical wells Under Cell 2			
BALLGW39	56.6	34.6	1	5	0	8.2	Vertical wells Under Cell 2			
BALLGW40	60.1	40	0	5	95	9.2	Vertical wells Under Cell 2			
BALLGW41	65.5	35.1	0	5	10	9.4	Vertical wells Under Cell 2			
BALLGW42	62.3	38.5	0	5	36	10.1	Vertical wells Under Cell 2			
BALLGW43	62.3	38.3	0	8	37	9.7	Vertical wells Under Cell 2			
BALLGW44	62.3	38.3	0	8	38	9.7	Vertical wells Under Cell 2			
BALLGW45	58.3	42	0	10	18	8.6	Vertical wells Under Cell 2			
BALLGW46	51.5	33.8	0.3	11	0	8.7	Vertical wells Under Cell 2			
BALLGW47	50.8	33.5	0.3	5	0	8.4	Vertical wells Under Cell 2			

Site name: Rathroeen Landfill Date:27.04.08 Personnel:Gerry Bourke Temperature:as shown

Address: Killala Rd, Ballina Analytical Range: Instrument: GA2000 Pressure:1025mbar

CH4	CO2	02		H2S	Temp.	Comments			
%v/v	%v/v	%v/v	ppm	ppm					
0	0.4	18.7	0	0	<<<	perimeter			
						perimeter			
0	2	14.2	0	0	13.8	perimeter			
0	0.1	20.6	1	0	14.2	perimeter			
0	0	20.7	3	0	13.6	perimeter			
						Horizontal gas collection pipe			
						Horizontal gas collection pipe			
						Horizontal gas collection pipe			
0	5.2	10.8	0	0	13.4	perimeter			
0	4	15.7	0	0	13.2	perimeter			
						perimeter			
56	31.9	1.9	0	0	15.5	Northern permanent capped area			
						Northern permanent capped area			
47.2	29.1	3.3	1	9	15.6	Northern permanent capped area			
						Northern permanent capped area			
						Northern permanent capped area			
62.6	34.3	0.5	2	79	11.2	Northern permanent capped area			
63.5	35.1	0	0	18	11.3	Northern permanent capped area			
52.2	28.4	3.4	0	0	11.7	Northern permanent capped area			
65.6	32.3	0	7	36	12.3	Vertical wells into Cell 1			
64.2	33.9	0.1	4	20	12.4	Vertical wells into Cell 1			
64.8	36.2	0	17	19	12.3	Vertical wells into Cell 1			
65	35.8	0	0	52	12.8	Vertical wells into Cell 1			
65.8	35.1	0	5	19	12.9	Vertical wells into Cell 1			
66.9	33.6	0	10	49	12.9	Vertical wells into Cell 1			
63.4	37	0	13	159	13.2	Vertical wells into Cell 1			
65.7	34.6	0	2	0	13.2	Vertical wells into Cell 1			
63.8	37.1	0	14	32766	13.4	Vertical wells into Cell 1			
61.6	38.1	0	16	19	14.7	Vertical wells Under Cell 2			
60.5	36.5	0	7	7	14.6	Vertical wells Under Cell 2			
52.6	32.2	2	6	2	14	Vertical wells Under Cell 2			
60.8	39.8	0	1	110	14.3	Vertical wells Under Cell 2			
66.5	35.3	0	0	12	14.4	Vertical wells Under Cell 2			
63	38.3	0	3	41	14.2	Vertical wells Under Cell 2			
62.9	38.1	0	1	40	15.2	Vertical wells Under Cell 2			
66.5	34.8	0	16	42	14.9	Vertical wells Under Cell 2			
58.8	41.3	0	16	23	14.9	Vertical wells Under Cell 2			
53.8	34.3	0	11	1	14.8	Vertical wells Under Cell 2			
53.6	34.3	0	5	0	14.5	Vertical wells Under Cell 2			
	CH4 %v/v 0 0 0 0 0 0 0 0 56 6 4 7.2 6 5.6 6 3.5 5 2.2 6 5.6 6 3.5 5 2.2 6 5.6 6 3.5 5 2.2 6 5.6 6 4.2 6 5.8 6 6 3.5 5 5 2.2 6 5.6 6 6 3.5 5 5 2.2 6 5.6 6 6 3.5 5 5 2.2 6 5.6 6 6 3.5 5 5 2.2 6 5.6 6 6 3.5 5 5 2.2 6 5.6 6 6 3.5 5 5 2.2 6 5.6 6 6 3.5 5 5 2.2 6 5.6 6 6 3.5 6 5 5 2.2 6 6 5.6 6 6 3.5 5 5 2.2 6 6 5.6 6 6 3.5 6 5 5 2.2 6 6 5.6 6 6 5.5 6 6 5.8 6 6 5.5 6 6 3.5 5 5 2.2 6 6 5.6 6 6 5.8 6 6 5.5 6 6 5.8 6 6 5.5 6 6 5.2 6 6 5.8 6 6 5.5 6 6 5.8 6 6 5.5 6 6 5.8 6 6 5.5 6 6 5.8 6 6 5.5 6 6 5.2 6 6 5.8 6 6 6 5.5 6 6 5.8 6 6 5.5 6 6 5.5 6 6 5.2 6 6 5.6 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 5.5 6 6 5.5 6 5.5 6 6 5.5 5.5	CH4 CO2 %v/v %v/v 0 0.4 0 2 0 0.1 0 0 0 0.1 0 0 0 50 0 5.2 0 4 0 5.2 0 4 56 31.9 47.2 29.1 47.2 29.1 62.6 34.3 63.5 35.1 52.2 28.4 65.6 32.3 64.2 33.9 64.8 36.2 65 35.8 65.7 34.6 63.4 37 65.7 34.6 63.8 37.1 61.6 38.1 60.5 35.3 63.3 38.3 62.9 38.1 66.5 35.3 63 38.3 62.9	CH4CO2 02 %v/v%v/v%v/v00.418.70214.200.120.60020.700.120.60020.705.210.805.210.80415.75631.91.95631.91.947.229.13.362.634.30.563.535.1052.228.43.465.632.3064.233.90.164.836.2065.734.6065.734.6063.837.1061.638.1062.632.2260.839.8065.734.6063.837.1061.638.1063.837.1061.638.1063.837.1064.535.3063.837.1064.535.3063.837.1064.535.3065.535.3065.535.3065.535.3063.834.3065.534.8053.834.30	%v/v%v/v%v/vppm0 0.4 18.7 00 2 14.2 00 2 14.2 00 0.1 20.6 1 0 0 20.7 3 0 5.2 10.8 00 5.2 10.8 00 4 15.7 00 4 15.7 056 31.9 1.9 047.2 29.1 3.3 1 62.6 34.3 0.5 2 63.5 35.1 0 0 52.2 28.4 3.4 0 64.2 33.9 0.1 4 64.8 36.2 0 17 65 35.8 0 0 65.7 34.6 0 2 63.8 37.1 0 13 65.7 34.6 0 2 63.8 37.1 0 14 61.6 38.1 0 14 61.6 38.1 0 14 61.6 38.3 0 1 65.7 34.6 0 1 65.7 34.6 0 1 65.8 37.1 0 14 61.6 38.1 0 1 65.5 35.3 0 1 65.5 35.3 0 1 65.5 35.3 0 1 65.5 35.3 0 1 <td>CH4 CO2 O2 CO H2S %v/v %v/v %v/v ppm ppm 0 0.4 18.7 0 0 0 2 14.2 0 0 0 2 14.2 0 0 0 0 20.7 3 0 0 0 20.7 3 0 0 5.2 10.8 0 0 0 5.2 10.8 0 0 0 4 15.7 0 0 0 4 15.7 0 0 56 31.9 1.9 0 0 47.2 29.1 3.3 1 9 62.6 34.3 0.5 2 79 63.5 35.1 0 0 18 52.2 28.4 3.4 0 0 64.2 33.9 0.1 4 20 <</td> <td>CH4CO2O2COH2STemp.%w/v%w/v$ppm$$ppm$$ppm$$ppm$00.418.700$<<<<$</td> 0214.20013.800.120.61014.20020.73013.60020.73013.60020.73013.60020.73013.60020.73013.40015.70013.40415.70013.25631.91.90015.5771.90015.562.634.30.527911.263.535.1001811.352.228.43.40011.765.632.3073612.364.233.90.142012.464.836.20171912.365.335.1051912.964.336.201315913.265.335.8005212.865.535.801315913.265.734.602013.265.734.602013.2 <t< math=""></t<>	CH4 CO2 O2 CO H2S %v/v %v/v %v/v ppm ppm 0 0.4 18.7 0 0 0 2 14.2 0 0 0 2 14.2 0 0 0 0 20.7 3 0 0 0 20.7 3 0 0 5.2 10.8 0 0 0 5.2 10.8 0 0 0 4 15.7 0 0 0 4 15.7 0 0 56 31.9 1.9 0 0 47.2 29.1 3.3 1 9 62.6 34.3 0.5 2 79 63.5 35.1 0 0 18 52.2 28.4 3.4 0 0 64.2 33.9 0.1 4 20 <	CH4CO2O2COH2STemp.%w/v%w/v ppm ppm ppm ppm 00.418.700 $<<<<$			

Site name: Rathroeen Landfill Date:11.05.07 Personnel:Gerry Bourke

Address: Killala Rd, Ballina Analytical Range: Instrument: GA2000 Pressure:1004mbar

	Cony	Dourn	•								
Temperatu	re:as s	shown					Pressure:1004mbar				
Well No.	CH4	CO2	02	H2S	CO	Temp.	Rel	Baro	Comments		
	%v/v	%v/v	%v/v	ppm	ppm	•	Pres	Pres			
BALLGW08	0	0	20.7	0	0	<<<	-0.2	1006	perimeter		
BALLGW09	0	1.6	19.1	0	0	12.1	-1.09	1000	perimeter		
BALLGW12	0	2	14.2	0	0	13.8	1.43	998	perimeter		
BALLGW13	0	0.1	20.6	1	0	14.2	2.65	997	perimeter		
SWDRAIN1	0	0	20.7	3	0	13.6	-4.91	998	perimeter		
BALLGW14	0	0.1	20.7	0	0	11	-0.47	1014	Horz gas coll pipe		
BALLGW15	49.7	34.5	0.4	16	13	14.3	-7.98	999	Horz gas coll pipe		
BALLGW16	3.4	2.5	18.8	7	0	14.3	-1.87	999	Horz gas coll pipe		
BALLGW17	0	5.2	10.8	0	0	13.4	2.04	998	perimeter		
BALLGW18	0	4	15.7	0	0	13.2	2.32	998	perimeter		
BALLGW19	72.7	23.4	0	3	0	11.4	0.16	998	perimeter		
BALLGW20	54.2	31.5	2.3	2	12	11.5	-7.72	998	Northern capped area		
BALLGW21									Northern capped area		
BALLGW22	50.4	31.4	2.5	1	14	10.9	-11.9	988	Northern capped area		
BALLGW23									Northern capped area		
BALLGW24									Northern capped area		
BALLGW25	62.6	34.3	0.5	2	79	11.2	-0.9	998	Northern capped area		
BALLGW26	63.5	35.1	0	0	18	11.3	-7.11	998	Northern capped area		
BALLGW27	52.2	28.4	3.4	0	0	11.7	-3.63	998	Northern capped area		
BALLGW28	65.6	32.3	0	7	36	12.3	-13	998	Vertical wells into Cell 1		
BALLGW29	64.2	33.9	0.1	4	20	12.4	-9.64	997	Vertical wells into Cell 1		
BALLGW30	64.8	36.2	0	17	19	12.3	-12.9	997	Vertical wells into Cell 1		
BALLGW31	65	35.8	0	0	52	12.8	-12.9	997	Vertical wells into Cell 1		
BALLGW32	65.8	35.1	0	5	19	12.9	-12.8	997	Vertical wells into Cell 1		
BALLGW33	66.9	33.6	0	10	49	12.9	-12.9	997	Vertical wells into Cell 1		
BALLGW34	63.4	37	0	13	159	13.2	-12.9	997	Vertical wells into Cell 1		
BALLGW35	65.7	34.6	0	2	0	13.2	-12.8	997	Vertical wells into Cell 1		
BALLGW36	63.8	37.1	0	14	32766	13.4	-12.7	997	Vertical wells into Cell 1		
BALLGW37	61.9	38.6	0	11	19	13.8	-13.5	999	Vertical wells Under Cell 2		
BALLGW38	60.9	37.5	0	4	17	13.8	-9.8	999	Vertical wells Under Cell 2		
BALLGW39	60.8	35.9	0.3	7	10	13.9	-10.0	999	Vertical wells Under Cell 2		
BALLGW40	60.1	40	0	12	119	13.9	-11.6	999	Vertical wells Under Cell 2		
BALLGW41	65.3	35.2	0	6	16	11.9	-15.4	989	Vertical wells Under Cell 2		
BALLGW42	61.8	39.1	0	8	43	13	-7.42	989	Vertical wells Under Cell 2		
BALLGW43	61.9	38.4	0	8	43	12.7	-15.6	989	Vertical wells Under Cell 2		
BALLGW44	64.3	36.1	0	8	16	12.2	-7.46	989	Vertical wells Under Cell 2		
BALLGW45	57.8	42.1	0	5	22	12.3	-15.5	989	Vertical wells Under Cell 2		
BALLGW46	62.2	37.7	0	11	21	12.7	-14.5	990	Vertical wells Under Cell 2		
BALLGW47	61.9	37.6	0	9	3	12.4	-7.44	989	Vertical wells Under Cell 2		
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Site name: Rathroeen Landfill Date:6/06/08 Personnel:Gerry Bourke Temperature:as shown Address: Killala Rd, Ballina Analytical Range: Instrument: GA2000 Pressure:As Shown

Temperatu	0.00					0		Pressure:	
Well No.	CH4	CO2	02	H2S	CO	Temp.	Rel	Barometric	Comments
	%v/v	%v/v	%v/v	ppm	ppm		Pressure	Pressure	
BALLGW08	0	3.7	14.9	0	0	<<<	0.25	1000	perimeter
BALLGW09	0	2.2	18.2	1	0	<<<	0.83	1003	perimeter
BALLGW12	0	3.4	13.6	0	0	<<<	-0.39	1003	perimeter
BALLGW13	0	0.1	20.8	0	0	<<<	0.66	1002	perimeter
BALLGW14	36	25.6	4.3	4	0	<<<	-14.5	1000	Horz gas coll pipe
BALLGW15	34	23.9	7.1	14	0	<<<	-1.9	1000	Horz gas coll pipe
BALLGW16	26	20.7	6.9	22	0	<<<	-1.76	1000	Horz gas coll pipe
BALLGW17	0.6	10.5	7.5	0	0	<<<	0.52	1003	perimeter
BALLGW18	0	2.7	17.6	0	0	<<<	2.75	1003	perimeter
BALLGW19	15	11.8	10.7	1	0	<<<	1.54	1002	perimeter
BALLGW20	62	36	1.2	8	33	<<<	-7.1	999	Northern capped area
BALLGW21	44	22.7	4.4	10	0	<<<	1.23	999	Northern capped area
BALLGW22	17	10.7	14	7	5	<<<	-10.22	1000	Northern capped area
BALLGW23	14	11.3	13.3	4	0	<<<	0.84	1000	Northern capped area
BALLGW24	17	10.8	13.9	5	0	<<<	0.66	1000	Northern capped area
BALLGW25	12	7.7	16	7	0	<<<	-12.05	999	Northern capped area
BALLGW26	45	30.1	1.5	7	4	<<<	-4.73	1000	Northern capped area
BALLGW27	42	27.7	4.7	5	0	<<<	-8.04	999	Northern capped area
BALLGW28	65	34.4	0	8	62	<<<	-5.36	1000	Vertical wells into Cell 1
BALLGW29	61	35.6	0.6	8	40	<<<	-2.4	1000	Vertical wells into Cell 1
BALLGW30	62	36.9	0	15	11	<<<	-5.36	1000	Vertical wells into Cell 1
BALLGW31	63	36.6	0.4	11	40	<<<	-5.4	1000	Vertical wells into Cell 1
BALLGW32	64	36.4	0.5	10	24	<<<	-9.97	1000	Vertical wells into Cell 1
BALLGW33	64	35.3	0.3	8	25	<<<	-2.22	1000	Vertical wells into Cell 1
BALLGW34	62	37	0.2	10	147	<<<	-3.98	1000	Vertical wells into Cell 1
BALLGW35	62	36.3	1.2	12	3	<<<	-5.19	1000	Vertical wells into Cell 1
BALLGW36	62	37.5	0.5	10	32766	<<<	-2.21	1000	Vertical wells into Cell 1
BALLGW37	62	38.1	0	17	14	<<<	-14.4	1000	Vertical wells Under Cell 2
BALLGW38	60	38.5	0.1	7	5	<<<	-6.94	1000	Vertical wells Under Cell 2
BALLGW39	61	37.5	0.1	6	10	<<<	-11	1000	Vertical wells Under Cell 2
BALLGW40	59	40.2	0	7	130	<<<	-10.56	1000	Vertical wells Under Cell 2
BALLGW41	64	36.3	0	7	17	<<<	-3.2	1000	Vertical wells Under Cell 2
BALLGW42	61	39.2	0	8	49	<<<	-14.19	1000	Vertical wells Under Cell 2
BALLGW43	61	38.4	0.2	5	42	<<<	-10.04	1001	Vertical wells Under Cell 2
BALLGW44	61	38.8	0	11	44	<<<	-6.84	1000	Vertical wells Under Cell 2
BALLGW45	58	42	0	3	25	<<<	-3.19	1000	Vertical wells Under Cell 2
BALLGW46	61	38.3	0.6	13	34	<<<	-6.87	1000	Vertical wells Under Cell 2
BALLGW47	60	38.6	0	10	4	<<<	-6.86	1000	Vertical wells Under Cell 2

Site name: Rathroeen Landfill Date:17/07/08

Address: Killala Rd, Ballina Analytical Range: Instrument: GA2000

Personnel:Gerry Bourke Temperature:as shown

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Temperatu	re:as s	shown						Pressure:/	As Shown
Well No.	CH4	CO2	02	H2S	CO	Temp.	Rel	Barometric	Comments
	%v/v	%v/v	%v/v	ppm	ppm		Pressure	Pressure	
BALLGW08									perimeter
BALLGW09									perimeter
BALLGW12									perimeter
BALLGW13									perimeter
BALLGW14	42	27.3	3.8	0	9	<<<	-5.19	1001	Horz gas coll pipe
BALLGW15	34	23.6	7	1	26	<<<	-5.44	1001	Horz gas coll pipe
BALLGW16	30	22.8	6.2	0	18	<<<	-4.58	1001	Horz gas coll pipe
BALLGW17									perimeter
BALLGW18									perimeter
BALLGW19									perimeter
BALLGW20	54	33.3	1.9	39	8	<<<	-12.22	1000	Northern capped area
BALLGW21	50	26.9	2	0	9	<<<	2.26	1001	Northern capped area
BALLGW22	36	22.3	7.6	16	6	<<<	-10.23	1000	Northern capped area
BALLGW24	17	11.2	13.3	0	5	<<<	0.82	1001	Northern capped area
BALLGW25	41	23.2	6.6	0	7	<<<	5.77	1001	Northern capped area
BALLGW26	59	35.2	0.4	10	5	<<<	-10.74	1001	Northern capped area
BALLGW27	0	0	20.3	0	4	<<<	-12.99	1001	Northern capped area
BALLGW28	64	35	0	85	9	<<<	-13.86	1001	Vertical wells into Cell 1
BALLGW29	60	36.1	0.5	60	10	<<<	-13.3	1001	Vertical wells into Cell 1
BALLGW30	63	36.9	0	27	20	<<<	-13.73	1000	Vertical wells into Cell 1
BALLGW31	62	37	0	61	11	<<<	-13.67	1001	Vertical wells into Cell 1
BALLGW32	63	36.4	0	31	10	<<<	-13.82	1001	Vertical wells into Cell 1
BALLGW33	63	35.9	0	57	8	<<<	-13.65	1001	Vertical wells into Cell 1
BALLGW34	62	36.9	0.1	102	16	<<<	-13.81	1001	Vertical wells into Cell 1
BALLGW35	59	35	0.9	2	13	<<<	-13.73	1001	Vertical wells into Cell 1
BALLGW36	61	37.5	0	32766	13	<<<	-13.81	1001	Vertical wells into Cell 1
BALLGW37	61	38.2	0	29	19	<<<	-16.95	1000	Vertical wells Under Cell 2
BALLGW38	61	38.5	0	17	9	<<<	-17.22	1002	Vertical wells Under Cell 2
BALLGW39	59	37.1	0.4	16	14	<<<	-16.88	1001	Vertical wells Under Cell 2
BALLGW40	59	40.1	0	127	10	<<<	-16.84	1002	Vertical wells Under Cell 2
BALLGW41	63	36.2	0	18	5	<<<	-16.77	1002	Vertical wells Under Cell 2
BALLGW42	61	39.3	0	35	0	<<<	-18.26	1004	Vertical wells Under Cell 2
BALLGW43	61	38.8	0	45	1	<<<	-17.97	1005	Vertical wells Under Cell 2
BALLGW44	61	39.6	0	43	6	<<<	-17.97	1005	Vertical wells Under Cell 2
BALLGW45	58	42.2	0	23	4	<<<	-18	1000	Vertical wells Under Cell 2
BALLGW46	61	39.2	0	47	12	<<<	-17.97	1005	Vertical wells Under Cell 2
BALLGW47	61	39.7	0	13	7	<<<	-18.24	1005	Vertical wells Under Cell 2

Site name: Rathroeen Landfill Date:15/08/08 Personnel:Gerry Bourke Temperature:as shown Address: Killala Rd, Ballina Analytical Range: Instrument: GA2000 Pressure: As Shown

BALLGW38 36 26.3 4.6 13 1 0.39 1012 Vertical wells Under Cell 2 BALLGW39 48 29.9 3.5 5 100 0.19 1012 Vertical wells Under Cell 2	Temperatu	re:as s	shown		Pressure:	As Shown				
BALLGW08 0 1.2 18.8 2 10 -1.21 1013 perimeter BALLGW09 0 4.3 15.2 1 0 0.53 1013 perimeter BALLGW12 0 2.7 13.6 1 0 -0.22 1013 perimeter BALLGW14 33 21.8 6.9 4 0 -0.22 1013 Horz gas coll pipe BALLGW15 0 1.8 18.8 4 0 -6.3 1012 Horz gas coll pipe BALLGW16 36 25.9 4.8 11 0 -6.35 1012 Horz gas coll pipe BALLGW17 0 5 13.3 3 0 0.68 1013 perimeter BALLGW18 0 3.9 16.6 0 0 7.73 1013 perimeter BALLGW21 34 25.9 6 3 19 -12.96 1012 Northern capped area BALLGW22 62	Well No.	CH4	CO2	02	H2S	CO	Temp.	Rel	Barometric	Comments
BALLGW09 0 4.3 15.2 1 0 0.53 1013 perimeter BALLGW12 0 2.7 13.6 1 0 -0.22 1013 perimeter BALLGW14 33 21.8 6.9 4 0 -0.22 1013 Horz gas coll pipe BALLGW15 0 1.8 18.8 4 0 -6.35 1012 Horz gas coll pipe BALLGW17 0 5 13.3 3 0 0.68 1013 perimeter BALLGW18 0 3.9 16.6 0 0 0.73 1013 perimeter BALLGW19 34 23.1 4.6 3 0 1.12 1012 Northern capped area BALLGW20 60 36.2 0.6 5 31 -14.55 1012 Northern capped area BALLGW21 10 6.7 17.3 1 0 -15.77 1013 Northern capped area BALLGW22		%v/v	%v/v	%v/v	ppm	ppm		Pressure	Pressure	
BALLGW12 0 2.7 13.6 1 0 -0.22 1013 perimeter BALLGW13	BALLGW08	0	1.2	18.8	2	0		-1.21	1013	perimeter
BALLGW13 Image: style styl	BALLGW09	0	4.3	15.2	1	0		0.53	1013	perimeter
BALLGW14 33 21.8 6.9 4 0 -0.22 1013 Horz gas coll pipe BALLGW15 0 1.8 18.8 4 0 -6 1012 Horz gas coll pipe BALLGW16 36 25.9 4.8 11 0 -6.35 1012 Horz gas coll pipe BALLGW17 0 5 13.3 3 0 0.68 1013 perimeter BALLGW17 0 5 13.3 3 0 0.73 1013 perimeter BALLGW19 34 23.1 4.6 3 0 1.2 1012 Perimeter BALLGW20 60 36.2 0.6 5 31 -14.55 1012 Northern capped area BALLGW25 62 36.2 0.2 9 149 0.17 1012 Northern capped area BALLGW26 18 11 14.6 8 8 -11.14 1012 Northern capped area BALLGW26 <th>BALLGW12</th> <th>0</th> <th>2.7</th> <th>13.6</th> <th>1</th> <th>0</th> <th></th> <th>-0.22</th> <th>1013</th> <th>perimeter</th>	BALLGW12	0	2.7	13.6	1	0		-0.22	1013	perimeter
BALLGW15 0 1.8 18.8 4 0 -6 1012 Horz gas coll pipe BALLGW16 36 25.9 4.8 11 0 -6.35 1012 Horz gas coll pipe BALLGW17 0 5 13.3 3 0 0.68 1013 perimeter BALLGW18 0 3.9 16.6 0 0 0.73 1013 perimeter BALLGW19 34 23.1 4.6 3 0 1.2 1012 perimeter BALLGW20 60 36.2 0.6 5 31 -14.55 1012 Northern capped area BALLGW21 10 6.7 17.3 1 0 -1.57 1013 Northern capped area BALLGW22 43 25.9 6 3 19 -12.96 1012 Northern capped area BALLGW26 18 11 14.6 8 8 -11.14 1012 Northern capped area BALLGW27	BALLGW13									perimeter
BALLGW163625.94.8110-6.351012Horz gas coll pipeBALLGW170513.3300.681013perimeterBALLGW1803.916.6000.731013perimeterBALLGW193423.14.6301.21012perimeterBALLGW206036.20.6531-14.551012Northern capped areaBALLGW21106.717.310-1.571013Northern capped areaBALLGW224325.96319-12.961012Northern capped areaBALLGW256236.20.291490.171012Northern capped areaBALLGW26181114.688-11.141012Northern capped areaBALLGW26181114.688-11.141012Northern capped areaBALLGW270020.910-14.051012Northern capped areaBALLGW285835.711052-14.471012Vertical wells into Cell 1BALLGW30001625-14.471012Vertical wells into Cell 1BALLGW336436.901132-14.451012Vertical wells into Cell 1BALLGW346337.2012144-4.421012Vertical wells into Cell 1	BALLGW14	33	21.8	6.9	4	0		-0.22	1013	Horz gas coll pipe
BALLGW17 0 5 13.3 3 0 0.68 1013 perimeter BALLGW18 0 3.9 16.6 0 0 0.73 1013 perimeter BALLGW19 34 23.1 4.6 3 0 1.2 1012 perimeter BALLGW20 60 36.2 0.6 5 31 -14.55 1012 Northern capped area BALLGW21 10 6.7 17.3 1 0 -1.57 1013 Northern capped area BALLGW22 43 25.9 6 3 19 -12.96 1012 Northern capped area BALLGW25 62 36.2 0.2 9 149 0.17 1012 Northern capped area BALLGW26 18 11 14.6 8 8 -11.14 1012 Northern capped area BALLGW28 58 35.7 1 10 52 -14.47 1012 Vertical wells into Cell 1	BALLGW15	0	1.8	18.8	4	0		-6	1012	Horz gas coll pipe
BALLGW18 0 3.9 16.6 0 0 0.73 1013 perimeter BALLGW19 34 23.1 4.6 3 0 1.2 1012 perimeter BALLGW20 60 36.2 0.6 5 31 -14.55 1012 Northern capped area BALLGW21 10 6.7 17.3 1 0 -1.57 1013 Northern capped area BALLGW22 43 25.9 6 3 19 -12.96 1012 Northern capped area BALLGW25 62 36.2 0.2 9 149 0.17 1012 Northern capped area BALLGW26 18 11 14.6 8 8 -11.14 1012 Northern capped area BALLGW27 0 0 20.9 1 0 -14.05 1012 Northern capped area BALLGW28 58 35.7 1 10 52 -14.47 1012 Vertical wells into Cell 1	BALLGW16	36	25.9	4.8	11	0		-6.35	1012	Horz gas coll pipe
BALLGW19 34 23.1 4.6 3 0 1.2 1012 perimeter BALLGW20 60 36.2 0.6 5 31 -14.55 1012 Northern capped area BALLGW21 10 6.7 17.3 1 0 -15.7 1013 Northern capped area BALLGW22 43 25.9 6 3 19 -12.96 1012 Northern capped area BALLGW25 62 36.2 0.2 9 149 0.17 1012 Northern capped area BALLGW26 18 11 14.6 8 8 -11.14 1012 Northern capped area BALLGW28 58 35.7 1 10 52 -14.47 1012 Vertical wells into Cell 1 BALLGW30 6 37.4 0 16 25 -14.44 1012 Vertical wells into Cell 1 BALLGW31 63 37.4 0 10 68 -14.29 1012 Vertical wells	BALLGW17	0	5	13.3	3	0		0.68	1013	perimeter
BALLGW20 60 36.2 0.6 5 31 -14.55 1012 Northern capped area BALLGW21 10 6.7 17.3 1 0 -1.57 1013 Northern capped area BALLGW22 43 25.9 6 3 19 -12.96 1012 Northern capped area BALLGW25 62 36.2 0.2 9 149 0.17 1012 Northern capped area BALLGW26 18 11 14.6 8 8 -11.14 1012 Northern capped area BALLGW27 0 0 20.9 1 0 -14.05 1012 Northern capped area BALLGW28 58 35.7 1 10 52 -14.47 1012 Vertical wells into Cell 1 BALLGW29 62 37.4 0 16 25 -14.47 1012 Vertical wells into Cell 1 BALLGW30 - - - - - - Vertical wells into Cell 1	BALLGW18	0	3.9	16.6	0	0		0.73	1013	perimeter
BALLGW21 10 6.7 17.3 1 0 -1.57 1013 Northern capped area BALLGW22 43 25.9 6 3 19 -12.96 1012 Northern capped area BALLGW25 62 36.2 0.2 9 149 0.17 1012 Northern capped area BALLGW26 18 11 14.6 8 8 -11.14 1012 Northern capped area BALLGW27 0 0 20.9 1 0 -14.05 1012 Northern capped area BALLGW28 58 35.7 1 10 52 -14.47 1012 Vertical wells into Cell 1 BALLGW30 - - - -44.47 1012 Vertical wells into Cell 1 BALLGW31 63 37.4 0 10 68 -14.29 1012 Vertical wells into Cell 1 BALLGW33 64 36.8 0 7 53 -14.45 1012 Vertical wells into Cell 1	BALLGW19	34	23.1	4.6	3	0		1.2	1012	perimeter
BALLGW22 43 25.9 6 3 19 -12.96 1012 Northern capped area BALLGW25 62 36.2 0.2 9 149 0.17 1012 Northern capped area BALLGW26 18 11 14.6 8 8 -11.14 1012 Northern capped area BALLGW27 0 0 20.9 1 0 -14.05 1012 Northern capped area BALLGW28 58 35.7 1 10 52 -14.47 1012 Vertical wells into Cell 1 BALLGW30 C C C Vertical wells into Cell 1 BALLGW31 63 37.4 0 10 68 -14.29 1012 Vertical wells into Cell 1 BALLGW33 64 36.8 0 7 53 -14.45 1012 Vertical wells into Cell 1 BALLGW33 64 36.8 0 7 53 -14.37 1012 Vertical wells into Cell 1 BALLGW34	BALLGW20	60	36.2	0.6	5	31		-14.55	1012	Northern capped area
BALLGW25 62 36.2 0.2 9 149 0.17 1012 Northern capped area BALLGW26 18 11 14.6 8 8 -11.14 1012 Northern capped area BALLGW27 0 0 20.9 1 0 -14.05 1012 Northern capped area BALLGW28 58 35.7 1 10 52 -14.47 1012 Vertical wells into Cell 1 BALLGW30 62 37.4 0 16 25 -14.44 1012 Vertical wells into Cell 1 BALLGW30 63 37.4 0 10 68 -14.29 1012 Vertical wells into Cell 1 BALLGW31 63 37.4 0 10 68 -14.29 1012 Vertical wells into Cell 1 BALLGW33 64 36.8 0 7 53 -14.37 1012 Vertical wells into Cell 1 BALLGW34 63 37.2 0 12 144 -4.42 1012 <td>BALLGW21</td> <td>10</td> <td>6.7</td> <td>17.3</td> <td>1</td> <td>0</td> <td></td> <td>-1.57</td> <td>1013</td> <td>Northern capped area</td>	BALLGW21	10	6.7	17.3	1	0		-1.57	1013	Northern capped area
BALLGW26 18 11 14.6 8 8 -11.14 1012 Northern capped area BALLGW27 0 0 20.9 1 0 -14.05 1012 Northern capped area BALLGW28 58 35.7 1 10 52 -14.47 1012 Vertical wells into Cell 1 BALLGW29 62 37.4 0 16 25 -14.44 1012 Vertical wells into Cell 1 BALLGW30	BALLGW22	43	25.9	6	3	19		-12.96	1012	Northern capped area
BALLGW27 0 0 20.9 1 0 -14.05 1012 Northern capped area BALLGW28 58 35.7 1 10 52 -14.47 1012 Vertical wells into Cell 1 BALLGW29 62 37.4 0 16 25 -14.44 1012 Vertical wells into Cell 1 BALLGW30 Vertical wells into Cell 1 BALLGW31 63 37.4 0 10 68 -14.29 1012 Vertical wells into Cell 1 BALLGW32 63 36.9 0 11 32 -14.45 1012 Vertical wells into Cell 1 BALLGW33 64 36.8 0 7 53 -14.37 1012 Vertical wells into Cell 1 BALLGW34 63 37.2 0 12 144 -4.42 1012 Vertical wells into Cell 1 BALLGW35 51 31.8 2.9 9 3 -14.16 1012 Vertical wells into Cell 1 <td>BALLGW25</td> <td>62</td> <td>36.2</td> <td>0.2</td> <td>9</td> <td>149</td> <td></td> <td>0.17</td> <td>1012</td> <td>Northern capped area</td>	BALLGW25	62	36.2	0.2	9	149		0.17	1012	Northern capped area
BALLGW28 58 35.7 1 10 52 -14.47 1012 Vertical wells into Cell 1 BALLGW29 62 37.4 0 16 25 -14.44 1012 Vertical wells into Cell 1 BALLGW30 Vertical wells into Cell 1 BALLGW31 63 37.4 0 10 68 -14.29 1012 Vertical wells into Cell 1 BALLGW32 63 36.9 0 11 32 -14.45 1012 Vertical wells into Cell 1 BALLGW33 64 36.8 0 7 53 -14.37 1012 Vertical wells into Cell 1 BALLGW34 63 37.2 0 12 144 -4.42 1012 Vertical wells into Cell 1 BALLGW35 51 31.8 2.9 9 3 -14.16 1012 Vertical wells into Cell 1 BALLGW36 62 38.3 0 15 32766 -14.44 1012 Vertical wells into Cell 1 BALLGW38 36 <td>BALLGW26</td> <td>18</td> <td>11</td> <td>14.6</td> <td>8</td> <td>8</td> <td></td> <td>-11.14</td> <td>1012</td> <td>Northern capped area</td>	BALLGW26	18	11	14.6	8	8		-11.14	1012	Northern capped area
BALLGW29 62 37.4 0 16 25 -14.44 1012 Vertical wells into Cell 1 BALLGW30 Vertical wells into Cell 1 BALLGW31 63 37.4 0 10 68 -14.29 1012 Vertical wells into Cell 1 BALLGW32 63 36.9 0 11 32 -14.45 1012 Vertical wells into Cell 1 BALLGW33 64 36.8 0 7 53 -14.37 1012 Vertical wells into Cell 1 BALLGW34 63 37.2 0 12 144 -4.42 1012 Vertical wells into Cell 1 BALLGW35 51 31.8 2.9 9 3 -14.16 1012 Vertical wells into Cell 1 BALLGW36 62 38.3 0 15 32766 -14.44 1012 Vertical wells into Cell 1 BALLGW37 45 30.7 2.7 4 3 0.39 1012<	BALLGW27	0	0	20.9	1	0		-14.05	1012	Northern capped area
BALLGW30 Vertical wells into Cell 1 BALLGW31 63 37.4 0 10 68 -14.29 1012 Vertical wells into Cell 1 BALLGW32 63 36.9 0 11 32 -14.45 1012 Vertical wells into Cell 1 BALLGW33 64 36.8 0 7 53 -14.37 1012 Vertical wells into Cell 1 BALLGW34 63 37.2 0 12 144 -4.42 1012 Vertical wells into Cell 1 BALLGW35 51 31.8 2.9 9 3 -14.16 1012 Vertical wells into Cell 1 BALLGW36 62 38.3 0 15 32766 -14.44 1012 Vertical wells into Cell 1 BALLGW36 62 38.3 0 15 32766 -14.44 1012 Vertical wells into Cell 1 BALLGW38 36 26.3 4.6 13 1 0.39 1012 Vertical wells Under Cell 2 BALLGW38 36	BALLGW28	58	35.7	1	10	52		-14.47	1012	Vertical wells into Cell 1
BALLGW31 63 37.4 0 10 68 -14.29 1012 Vertical wells into Cell 1 BALLGW32 63 36.9 0 11 32 -14.45 1012 Vertical wells into Cell 1 BALLGW33 64 36.8 0 7 53 -14.37 1012 Vertical wells into Cell 1 BALLGW34 63 37.2 0 12 144 -4.42 1012 Vertical wells into Cell 1 BALLGW35 51 31.8 2.9 9 3 -14.16 1012 Vertical wells into Cell 1 BALLGW36 62 38.3 0 15 32766 -14.44 1012 Vertical wells into Cell 1 BALLGW37 45 30.7 2.7 4 3 0.39 1012 Vertical wells Under Cell 2 BALLGW38 36 26.3 4.6 13 1 0.39 1012 Vertical wells Under Cell 2 BALLGW39 48 29.9 3.5 5 100 0.19<	BALLGW29	62	37.4	0	16	25		-14.44	1012	
BALLGW32 63 36.9 0 11 32 -14.45 1012 Vertical wells into Cell 1 BALLGW33 64 36.8 0 7 53 -14.37 1012 Vertical wells into Cell 1 BALLGW34 63 37.2 0 12 144 -4.42 1012 Vertical wells into Cell 1 BALLGW35 51 31.8 2.9 9 3 -14.16 1012 Vertical wells into Cell 1 BALLGW36 62 38.3 0 15 32766 -14.44 1012 Vertical wells into Cell 1 BALLGW37 45 30.7 2.7 4 3 0.39 1012 Vertical wells Under Cell 2 BALLGW38 36 26.3 4.6 13 1 0.39 1012 Vertical wells Under Cell 2 BALLGW39 48 29.9 3.5 5 100 0.19 1012 Vertical wells Under Cell 2	BALLGW30									Vertical wells into Cell 1
BALLGW33 64 36.8 0 7 53 -14.37 1012 Vertical wells into Cell 1 BALLGW34 63 37.2 0 12 144 -4.42 1012 Vertical wells into Cell 1 BALLGW35 51 31.8 2.9 9 3 -14.16 1012 Vertical wells into Cell 1 BALLGW36 62 38.3 0 15 32766 -14.44 1012 Vertical wells into Cell 1 BALLGW37 45 30.7 2.7 4 3 0.39 1012 Vertical wells Under Cell 2 BALLGW38 36 26.3 4.6 13 1 0.39 1012 Vertical wells Under Cell 2 BALLGW39 48 29.9 3.5 5 100 0.19 1012 Vertical wells Under Cell 2	BALLGW31	63	37.4	0	10	68		-14.29	1012	Vertical wells into Cell 1
BALLGW34 63 37.2 0 12 144 -4.42 1012 Vertical wells into Cell 1 BALLGW35 51 31.8 2.9 9 3 -14.16 1012 Vertical wells into Cell 1 BALLGW36 62 38.3 0 15 32766 -14.44 1012 Vertical wells into Cell 1 BALLGW37 45 30.7 2.7 4 3 0.39 1012 Vertical wells Under Cell 2 BALLGW38 36 26.3 4.6 13 1 0.39 1012 Vertical wells Under Cell 2 BALLGW39 48 29.9 3.5 5 100 0.19 1012 Vertical wells Under Cell 2	BALLGW32	63	36.9	0	11	32		-14.45	1012	Vertical wells into Cell 1
BALLGW35 51 31.8 2.9 9 3 -14.16 1012 Vertical wells into Cell 1 BALLGW36 62 38.3 0 15 32766 -14.44 1012 Vertical wells into Cell 1 BALLGW37 45 30.7 2.7 4 3 0.39 1012 Vertical wells Under Cell 2 BALLGW38 36 26.3 4.6 13 1 0.39 1012 Vertical wells Under Cell 2 BALLGW39 48 29.9 3.5 5 100 0.19 1012 Vertical wells Under Cell 2	BALLGW33	64	36.8	0	7	53		-14.37	1012	Vertical wells into Cell 1
BALLGW36 62 38.3 0 15 32766 -14.44 1012 Vertical wells into Cell 1 BALLGW37 45 30.7 2.7 4 3 0.39 1012 Vertical wells Under Cell 2 BALLGW38 36 26.3 4.6 13 1 0.39 1012 Vertical wells Under Cell 2 BALLGW39 48 29.9 3.5 5 100 0.19 1012 Vertical wells Under Cell 2	BALLGW34	63	37.2	0	12	144		-4.42	1012	Vertical wells into Cell 1
BALLGW37 45 30.7 2.7 4 3 0.39 1012 Vertical wells Under Cell 2 BALLGW38 36 26.3 4.6 13 1 0.39 1012 Vertical wells Under Cell 2 BALLGW39 48 29.9 3.5 5 100 0.19 1012 Vertical wells Under Cell 2	BALLGW35	51	31.8	2.9	9	3		-14.16	1012	Vertical wells into Cell 1
BALLGW38 36 26.3 4.6 13 1 0.39 1012 Vertical wells Under Cell 2 BALLGW39 48 29.9 3.5 5 100 0.19 1012 Vertical wells Under Cell 2	BALLGW36	62	38.3	0	15	32766		-14.44	1012	Vertical wells into Cell 1
BALLGW39 48 29.9 3.5 5 100 0.19 1012 Vertical wells Under Cell 2	BALLGW37	45	30.7	2.7	4	3		0.39	1012	Vertical wells Under Cell 2
	BALLGW38	36	26.3	4.6		1		0.39	1012	Vertical wells Under Cell 2
BALLGW40 60 40.2 0 8 111 -18.16 1013 Vertical wells Under Cell 2	BALLGW39	48	29.9	3.5		100		0.19	1012	Vertical wells Under Cell 2
	BALLGW40			0		111		-18.16	1013	Vertical wells Under Cell 2
	BALLGW41	63	37	0		23		-18.14	1013	Vertical wells Under Cell 2
	BALLGW42	61		0				-17.95	1013	Vertical wells Under Cell 2
BALLGW43 61 38.2 0 10 57 -18.09 1013 Vertical wells Under Cell 2	BALLGW43	61	38.2	0	10	57		-18.09	1013	Vertical wells Under Cell 2
BALLGW44 62 38.4 0 10 42 -18.05 1013 Vertical wells Under Cell 2	BALLGW44	62	38.4	0	10	42		-18.05	1013	Vertical wells Under Cell 2
BALLGW45 58 40.2 0 9 36 -18.13 1013 Vertical wells Under Cell 2	BALLGW45	58	40.2	0	9	36		-18.13	1013	Vertical wells Under Cell 2
BALLGW46 60 38.5 0.1 8 40 -18.22 1013 Vertical wells Under Cell 2	BALLGW46	60	38.5	0.1	8	40		-18.22	1013	Vertical wells Under Cell 2
BALLGW47 61 38.8 0 7 3 -18.18 1013 Vertical wells Under Cell 2	BALLGW47	61	38.8	0	7	3		-18.18	1013	Vertical wells Under Cell 2

Site name: Rathroeen Landfill Date:20/09/08 Personnel:Gerry Bourke Temperature:as shown Address: Killala Rd, Ballina Analytical Range: Instrument: GA2000 Pressure:1010mbar

BALLGW38 56 34.7 0.6 7 20 6.7 Vertical wells Under Cell 2 BALLGW39 61 37.8 0 0 15 6.5 Vertical wells Under Cell 2 BALLGW40 62 40.1 0 7 93 6.3 Vertical wells Under Cell 2 BALLGW41 57 34.7 0.6 5 21 6.3 Vertical wells Under Cell 2 BALLGW42 66 37.8 0 0 36 7 Vertical wells Under Cell 2 BALLGW43 64 38 0 5 39 7.4 Vertical wells Under Cell 2 BALLGW44 65 37.3 0 16 93 7.3 Vertical wells Under Cell 2 BALLGW45 62 40.7 0 16 23 7.1 Vertical wells Under Cell 2 BALLGW46 41 27.5 3.1 7 3 7.3 Vertical wells Under Cell 2	Temperatu	16.43 3	SHOWH						Pressure:	IUIUIIDai
BALLGW08 0 1.4 15.9 0 0 9 perimeter BALLGW09 0 1.1 19.4 0 0 10 perimeter BALLGW12 0 0.8 15.7 0 0 8.4 perimeter BALLGW13 0 0 20.8 0 7.6 perimeter BALLGW14 27 18.2 8.7 0 3 11 Horz gas coll pipe BALLGW14 27 18.2 8.7 0 3 11 Horz gas coll pipe BALLGW14 27 18.2 8.7 0 1 11 Horz gas coll pipe BALLGW17 0 0.1 19.8 0 0 10.5 perimeter BALLGW18 0 3 18 0 0 10.1 Northern capped area BALLGW21 0 12.4 13.4 0 0 10.1 Northern capped area BALLGW22 65 35.2	Well No.	CH4	CO2	02	H2S	CO	Temp.	Rel	Barometric	Comments
BALLGW09 0 1.1 19.4 0 0 10 perimeter BALLGW12 0 0.8 15.7 0 0 8.4 perimeter BALLGW13 0 0 20.8 0 0 7.6 perimeter SWDRAIN1 0 0 21.5 0 0 17.3 perimeter BALLGW14 27 18.2 8.7 0 3 11 Horz gas coll pipe BALLGW16 45 30.7 1.6 0 1 11 Horz gas coll pipe BALLGW17 0 0.1 19.8 0 0 10.8 perimeter BALLGW18 0 3 18 0 0 10.5 perimeter BALLGW20 20 12.4 13.4 0 0 10.1 Northern capped area BALLGW21 30 19.2 10.3 2 17 8.4 Northern capped area BALLGW22 65 35.2 <th></th> <th>%v/v</th> <th>%v/v</th> <th>%v/v</th> <th>ppm</th> <th>ppm</th> <th></th> <th>Pressure</th> <th>Pressure</th> <th></th>		%v/v	%v/v	%v/v	ppm	ppm		Pressure	Pressure	
BALLGW12 0 0.8 15.7 0 0 8.4 perimeter BALLGW13 0 0 20.8 0 0 7.6 perimeter SWDRAIN1 0 0 21.5 0 0 17.3 perimeter BALLGW14 27 18.2 8.7 0 3 11 Horz gas coll pipe BALLGW15 18 22.3 1.9 9 2 11.4 Horz gas coll pipe BALLGW16 45 30.7 1.6 0 1 11 Horz gas coll pipe BALLGW17 0 0.1 19.8 0 0 10.5 perimeter BALLGW18 0 3 18 0 0 10.1 Northern capped area BALLGW20 20 12.4 13.4 0 0 10.1 Northern capped area BALLGW21 30 19.2 10.3 2 17 8.4 Northern capped area BALLGW22 65 </td <td>BALLGW08</td> <td>0</td> <td>1.4</td> <td>15.9</td> <td>0</td> <td>0</td> <td>9</td> <td></td> <td></td> <td>perimeter</td>	BALLGW08	0	1.4	15.9	0	0	9			perimeter
BALLGW13 0 0 20.8 0 0 7.6 perimeter SWDRAIN1 0 0 21.5 0 0 17.3 perimeter BALLGW14 27 18.2 8.7 0 3 11 Horz gas coll pipe BALLGW15 18 22.3 1.9 9 2 11.4 Horz gas coll pipe BALLGW16 45 30.7 1.6 0 1 11 Horz gas coll pipe BALLGW17 0 0.1 19.8 0 0 10.5 perimeter BALLGW18 0 3 18 0 0 10.1 Northern capped area BALLGW21 20 12.4 13.4 0 0 10.1 Northern capped area BALLGW21 30 19.2 10.3 2 17 8.4 Northern capped area BALLGW21 54 31.5 0.9 0 8.1 Vertical wells into Cell 1 BALLGW32 65 <td>BALLGW09</td> <td>0</td> <td>1.1</td> <td>19.4</td> <td>0</td> <td>0</td> <td>10</td> <td></td> <td></td> <td>perimeter</td>	BALLGW09	0	1.1	19.4	0	0	10			perimeter
SWDRAIN1 0 0 21.5 0 0 17.3 perimeter BALLGW14 27 18.2 8.7 0 3 11 Horz gas coll pipe BALLGW15 18 22.3 1.9 9 2 11.4 Horz gas coll pipe BALLGW16 45 30.7 1.6 0 1 11 Horz gas coll pipe BALLGW16 0 3 18 0 0 10.8 perimeter BALLGW18 0 3 18 0 0 10.5 perimeter BALLGW20 20 12.4 13.4 0 0 10.1 Northern capped area BALLGW21 30 19.2 10.3 2 17 8.4 Northern capped area BALLGW22 54 31.5 0.9 0 8.1 Northern capped area BALLGW31 65 37.5 0 9 27 6.7 Vertical wells into Cell 1 BALLGW33 66	BALLGW12	0	0.8	15.7	0	0	8.4			perimeter
BALLGW14 27 18.2 8.7 0 3 11 Horz gas coll pipe BALLGW15 18 22.3 1.9 9 2 11.4 Horz gas coll pipe BALLGW16 45 30.7 1.6 0 1 11 Horz gas coll pipe BALLGW17 0 0.1 19.8 0 0 10.8 perimeter BALLGW18 0 3 18 0 0 16.7 perimeter BALLGW20 20 12.4 13.4 0 0 10.5 perimeter BALLGW21 30 19.2 10.3 2 17 8.4 Northern capped area BALLGW22 0 12.4 13.4 0 0 8.1 Northern capped area BALLGW21 30 19.2 10.3 2 17 8.4 Vertical wells into Cell 1 BALLGW23 65 35.2 0 2 65 7.1 Vertical wells into Cell 1	BALLGW13	0	0	20.8	0	0	7.6			perimeter
BALLGW15 18 22.3 1.9 9 2 11.4 Horz gas coll pipe BALLGW16 45 30.7 1.6 0 1 11 Horz gas coll pipe BALLGW17 0 0.1 19.8 0 0 10.8 perimeter BALLGW18 0 3 18 0 0 16.7 perimeter BALLGW20 20 12.4 13.4 0 0 10.5 perimeter BALLGW21 30 19.2 10.3 2 17 8.4 Northern capped area BALLGW21 30 19.2 10.3 2 17 8.4 Northern capped area BALLGW23 54 31.5 0.9 10 93 8.2 Vertical wells into Cell 1 BALLGW30 65 37.5 0 9 27 6.7 Vertical wells into Cell 1 BALLGW33 66 36.6 0 2 90 6.9 Vertical wells into Cell 1	SWDRAIN1	0	0	21.5	0	0	17.3			perimeter
BALLGW16 45 30.7 1.6 0 1 11 Horz gas coll pipe BALLGW17 0 0.1 19.8 0 0 10.8 perimeter BALLGW18 0 3 18 0 0 16.7 perimeter BALLGW19 44 18.1 0 0 10.5 perimeter BALLGW21 20 12.4 13.4 0 0 10.1 Northern capped area BALLGW21 30 19.2 10.3 2 17 8.4 Northern capped area BALLGW28 54 31.5 0.9 10 93 8.2 Vertical wells into Cell 1 BALLGW29 65 35.2 0 2 65 7.1 Vertical wells into Cell 1 BALLGW31 65 37.6 0 4 88 7.1 Vertical wells into Cell 1 BALLGW32 67 36.4 0 9 37 7 Vertical wells into Cell 1 BALLGW33	BALLGW14	27	18.2	8.7	0	3	11			Horz gas coll pipe
BALLGW17 0 0.1 19.8 0 0 10.8 perimeter BALLGW18 0 3 18 0 0 16.7 perimeter BALLGW19 44 18.1 0 0 10.5 perimeter BALLGW20 20 12.4 13.4 0 0 10.1 Northern capped area BALLGW21 30 19.2 10.3 2 17 8.4 Northern capped area BALLGW27 0 0 20.9 0 0 8.1 Northern capped area BALLGW28 54 31.5 0.9 10 93 8.2 Vertical wells into Cell 1 BALLGW30 65 37.5 0 9 27 6.7 Vertical wells into Cell 1 BALLGW31 65 37.6 0 4 88 7.1 Vertical wells into Cell 1 BALLGW33 66 35.6 0 2 90 6.9 Vertical wells into Cell 1 BALLGW	BALLGW15	18	22.3	1.9	9	2	11.4			Horz gas coll pipe
BALLGW18 0 3 18 0 0 16.7 perimeter BALLGW19 44 18.1 0 0 10.5 perimeter BALLGW20 20 12.4 13.4 0 0 10.1 Northern capped area BALLGW21 30 19.2 10.3 2 17 8.4 Northern capped area BALLGW27 0 0 20.9 0 0 8.1 Northern capped area BALLGW28 54 31.5 0.9 10 93 8.2 Vertical wells into Cell 1 BALLGW30 65 37.5 0 9 27 6.7 Vertical wells into Cell 1 BALLGW31 65 37.6 0 4 88 7.1 Vertical wells into Cell 1 BALLGW32 67 36.4 0 9 37 7 Vertical wells into Cell 1 BALLGW33 66 35.6 0 2 90 6.9 Vertical wells into Cell 1	BALLGW16	45	30.7	1.6	0	1	11			Horz gas coll pipe
BALLGW19 44 18.1 0 0 10.5 perimeter BALLGW20 20 12.4 13.4 0 0 10.1 Northern capped area BALLGW21 30 19.2 10.3 2 17 8.4 Northern capped area BALLGW27 0 0 20.9 0 0 8.1 Northern capped area BALLGW28 54 31.5 0.9 10 93 8.2 Vertical wells into Cell 1 BALLGW30 65 37.5 0 9 27 6.7 Vertical wells into Cell 1 BALLGW31 65 37.6 0 4 88 7.1 Vertical wells into Cell 1 BALLGW32 67 36.4 0 9 37 7 Vertical wells into Cell 1 BALLGW33 66 35.6 0 2 90 6.9 Vertical wells into Cell 1 BALLGW34 66 36.8 0 9 120 6.9 Vertical wells into Cell 1	BALLGW17	0	0.1	19.8	0	0	10.8			perimeter
BALLGW20 20 12.4 13.4 0 0 10.1 Northern capped area BALLGW21 30 19.2 10.3 2 17 8.4 Northern capped area BALLGW27 0 0 20.9 0 0 8.1 Northern capped area BALLGW28 54 31.5 0.9 10 93 8.2 Vertical wells into Cell 1 BALLGW29 65 35.2 0 2 65 7.1 Vertical wells into Cell 1 BALLGW30 65 37.5 0 9 27 6.7 Vertical wells into Cell 1 BALLGW31 65 37.6 0 4 88 7.1 Vertical wells into Cell 1 BALLGW32 67 36.4 0 9 37 7 Vertical wells into Cell 1 BALLGW33 66 35.6 0 2 90 6.9 Vertical wells into Cell 1 BALLGW34 66 36.8 0 9 120 6.9 <t< td=""><td>BALLGW18</td><td>0</td><td>3</td><td>18</td><td>0</td><td>0</td><td>16.7</td><td></td><td></td><td>perimeter</td></t<>	BALLGW18	0	3	18	0	0	16.7			perimeter
BALLGW21 30 19.2 10.3 2 17 8.4 Northern capped area BALLGW27 0 0 20.9 0 0 8.1 Northern capped area BALLGW28 54 31.5 0.9 10 93 8.2 Vertical wells into Cell 1 BALLGW29 65 35.2 0 2 65 7.1 Vertical wells into Cell 1 BALLGW30 65 37.5 0 9 27 6.7 Vertical wells into Cell 1 BALLGW31 65 37.6 0 4 88 7.1 Vertical wells into Cell 1 BALLGW32 67 36.4 0 9 37 7 Vertical wells into Cell 1 BALLGW33 66 35.6 0 2 90 6.9 Vertical wells into Cell 1 BALLGW34 66 36.8 0 9 120 6.9 Vertical wells into Cell 1 BALLGW35 60 3.5 1.2 2 10 6.9	BALLGW19	44	18.1	0	0	0	10.5			perimeter
BALLGW27 0 0 20.9 0 0 8.1 Northern capped area BALLGW28 54 31.5 0.9 10 93 8.2 Vertical wells into Cell 1 BALLGW29 65 35.2 0 2 65 7.1 Vertical wells into Cell 1 BALLGW30 65 37.5 0 9 27 6.7 Vertical wells into Cell 1 BALLGW31 65 37.6 0 4 88 7.1 Vertical wells into Cell 1 BALLGW32 67 36.4 0 9 37 7 Vertical wells into Cell 1 BALLGW33 66 35.6 0 2 90 6.9 Vertical wells into Cell 1 BALLGW34 66 36.8 0 9 120 6.9 Vertical wells into Cell 1 BALLGW35 60 33.5 1.2 2 10 6.9 Vertical wells into Cell 1 BALLGW36 65 37.4 0 3 32766 6.9	BALLGW20	20	12.4	13.4	0	0	10.1			Northern capped area
BALLGW28 54 31.5 0.9 10 93 8.2 Vertical wells into Cell 1 BALLGW29 65 35.2 0 2 65 7.1 Vertical wells into Cell 1 BALLGW30 65 37.5 0 9 27 6.7 Vertical wells into Cell 1 BALLGW31 65 37.6 0 4 88 7.1 Vertical wells into Cell 1 BALLGW32 67 36.4 0 9 37 7 Vertical wells into Cell 1 BALLGW33 66 35.6 0 2 90 6.9 Vertical wells into Cell 1 BALLGW34 66 36.8 0 9 120 6.9 Vertical wells into Cell 1 BALLGW35 60 33.5 1.2 2 10 6.9 Vertical wells into Cell 1 BALLGW36 65 37.4 0 3 32766 6.9 Vertical wells into Cell 1 BALLGW36 65 37.4 0 3 32766 <	BALLGW21	30	19.2	10.3	2	17	8.4			Northern capped area
BALLGW29 65 35.2 0 2 65 7.1 Vertical wells into Cell 1 BALLGW30 65 37.5 0 9 27 6.7 Vertical wells into Cell 1 BALLGW31 65 37.6 0 4 88 7.1 Vertical wells into Cell 1 BALLGW32 67 36.4 0 9 37 7 Vertical wells into Cell 1 BALLGW33 66 35.6 0 2 90 6.9 Vertical wells into Cell 1 BALLGW34 66 36.8 0 9 120 6.9 Vertical wells into Cell 1 BALLGW35 60 33.5 1.2 2 10 6.9 Vertical wells into Cell 1 BALLGW36 65 37.4 0 3 32766 6.9 Vertical wells into Cell 1 BALLGW38 56 34.7 0.6 7 20 6.7 Vertical wells Under Cell 2 BALLGW39 61 37.8 0 0 15	BALLGW27	0	0	20.9	0	0	8.1			Northern capped area
BALLGW30 65 37.5 0 9 27 6.7 Vertical wells into Cell 1 BALLGW31 65 37.6 0 4 88 7.1 Vertical wells into Cell 1 BALLGW32 67 36.4 0 9 37 7 Vertical wells into Cell 1 BALLGW33 66 35.6 0 2 90 6.9 Vertical wells into Cell 1 BALLGW34 66 36.8 0 9 120 6.9 Vertical wells into Cell 1 BALLGW35 60 33.5 1.2 2 10 6.9 Vertical wells into Cell 1 BALLGW36 65 37.4 0 3 32766 6.9 Vertical wells into Cell 1 BALLGW37 57 35.8 0.4 5 30 6.8 Vertical wells Under Cell 2 BALLGW38 56 34.7 0.6 7 20 6.7 Vertical wells Under Cell 2 BALLGW39 61 37.8 0 0 15 <	BALLGW28	54	31.5	0.9	10	93	8.2			Vertical wells into Cell 1
BALLGW31 65 37.6 0 4 88 7.1 Vertical wells into Cell 1 BALLGW32 67 36.4 0 9 37 7 Vertical wells into Cell 1 BALLGW33 66 35.6 0 2 90 6.9 Vertical wells into Cell 1 BALLGW34 66 36.8 0 9 120 6.9 Vertical wells into Cell 1 BALLGW35 60 33.5 1.2 2 10 6.9 Vertical wells into Cell 1 BALLGW36 65 37.4 0 3 32766 6.9 Vertical wells into Cell 1 BALLGW37 57 35.8 0.4 5 30 6.8 Vertical wells Under Cell 2 BALLGW38 56 34.7 0.6 7 20 6.7 Vertical wells Under Cell 2 BALLGW39 61 37.8 0 0 15 6.5 Vertical wells Under Cell 2 BALLGW40 62 40.1 0 7 93	BALLGW29	65	35.2	0	2	65	7.1			Vertical wells into Cell 1
BALLGW32 67 36.4 0 9 37 7 Vertical wells into Cell 1 BALLGW33 66 35.6 0 2 90 6.9 Vertical wells into Cell 1 BALLGW34 66 36.8 0 9 120 6.9 Vertical wells into Cell 1 BALLGW35 60 33.5 1.2 2 10 6.9 Vertical wells into Cell 1 BALLGW36 65 37.4 0 3 32766 6.9 Vertical wells into Cell 1 BALLGW37 57 35.8 0.4 5 30 6.8 Vertical wells Under Cell 2 BALLGW38 56 34.7 0.6 7 20 6.7 Vertical wells Under Cell 2 BALLGW39 61 37.8 0 0 15 6.5 Vertical wells Under Cell 2 BALLGW40 62 40.1 0 7 93 6.3 Vertical wells Under Cell 2 BALLGW41 57 34.7 0.6 5 21	BALLGW30	65	37.5	0	9	27	6.7			Vertical wells into Cell 1
BALLGW33 66 35.6 0 2 90 6.9 Vertical wells into Cell 1 BALLGW34 66 36.8 0 9 120 6.9 Vertical wells into Cell 1 BALLGW35 60 33.5 1.2 2 10 6.9 Vertical wells into Cell 1 BALLGW36 65 37.4 0 3 32766 6.9 Vertical wells into Cell 1 BALLGW37 57 35.8 0.4 5 30 6.8 Vertical wells Under Cell 2 BALLGW38 56 34.7 0.6 7 20 6.7 Vertical wells Under Cell 2 BALLGW39 61 37.8 0 0 15 6.5 Vertical wells Under Cell 2 BALLGW40 62 40.1 0 7 93 6.3 Vertical wells Under Cell 2 BALLGW41 57 34.7 0.6 5 21 6.3 Vertical wells Under Cell 2 BALLGW42 66 37.8 0 0 36	BALLGW31	65	37.6	0	4	88	7.1			Vertical wells into Cell 1
BALLGW34 66 36.8 0 9 120 6.9 Vertical wells into Cell 1 BALLGW35 60 33.5 1.2 2 10 6.9 Vertical wells into Cell 1 BALLGW36 65 37.4 0 3 32766 6.9 Vertical wells into Cell 1 BALLGW37 57 35.8 0.4 5 30 6.8 Vertical wells Under Cell 2 BALLGW38 56 34.7 0.6 7 20 6.7 Vertical wells Under Cell 2 BALLGW39 61 37.8 0 0 15 6.5 Vertical wells Under Cell 2 BALLGW40 62 40.1 0 7 93 6.3 Vertical wells Under Cell 2 BALLGW41 57 34.7 0.6 5 21 6.3 Vertical wells Under Cell 2 BALLGW42 66 37.8 0 0 36 7 Vertical wells Under Cell 2 BALLGW43 64 38 0 5 39	BALLGW32	67	36.4	0	9	37	7			Vertical wells into Cell 1
BALLGW35 60 33.5 1.2 2 10 6.9 Vertical wells into Cell 1 BALLGW36 65 37.4 0 3 32766 6.9 Vertical wells into Cell 1 BALLGW37 57 35.8 0.4 5 30 6.8 Vertical wells Under Cell 2 BALLGW38 56 34.7 0.6 7 20 6.7 Vertical wells Under Cell 2 BALLGW39 61 37.8 0 0 15 6.5 Vertical wells Under Cell 2 BALLGW40 62 40.1 0 7 93 6.3 Vertical wells Under Cell 2 BALLGW41 57 34.7 0.6 5 21 6.3 Vertical wells Under Cell 2 BALLGW41 57 34.7 0.6 5 21 6.3 Vertical wells Under Cell 2 BALLGW42 66 37.8 0 0 36 7 Vertical wells Under Cell 2 BALLGW43 64 38 0 5 39	BALLGW33	66	35.6	0	2	90	6.9			Vertical wells into Cell 1
BALLGW36 65 37.4 0 3 32766 6.9 Vertical wells into Cell 1 BALLGW37 57 35.8 0.4 5 30 6.8 Vertical wells Under Cell 2 BALLGW38 56 34.7 0.6 7 20 6.7 Vertical wells Under Cell 2 BALLGW39 61 37.8 0 0 15 6.5 Vertical wells Under Cell 2 BALLGW40 62 40.1 0 7 93 6.3 Vertical wells Under Cell 2 BALLGW41 57 34.7 0.6 5 21 6.3 Vertical wells Under Cell 2 BALLGW41 57 34.7 0.6 5 21 6.3 Vertical wells Under Cell 2 BALLGW42 66 37.8 0 0 36 7 Vertical wells Under Cell 2 BALLGW43 64 38 0 5 39 7.4 Vertical wells Under Cell 2 BALLGW44 65 37.3 0 16 93	BALLGW34	66	36.8	0	9	120	6.9			Vertical wells into Cell 1
BALLGW37 57 35.8 0.4 5 30 6.8 Vertical wells Under Cell 2 BALLGW38 56 34.7 0.6 7 20 6.7 Vertical wells Under Cell 2 BALLGW39 61 37.8 0 0 15 6.5 Vertical wells Under Cell 2 BALLGW40 62 40.1 0 7 93 6.3 Vertical wells Under Cell 2 BALLGW41 57 34.7 0.6 5 21 6.3 Vertical wells Under Cell 2 BALLGW41 57 34.7 0.6 5 21 6.3 Vertical wells Under Cell 2 BALLGW42 66 37.8 0 0 36 7 Vertical wells Under Cell 2 BALLGW43 64 38 0 5 39 7.4 Vertical wells Under Cell 2 BALLGW44 65 37.3 0 16 93 7.3 Vertical wells Under Cell 2 BALLGW45 62 40.7 0 16 23	BALLGW35	60	33.5	1.2	2	10	6.9			Vertical wells into Cell 1
BALLGW38 56 34.7 0.6 7 20 6.7 Vertical wells Under Cell 2 BALLGW39 61 37.8 0 0 15 6.5 Vertical wells Under Cell 2 BALLGW40 62 40.1 0 7 93 6.3 Vertical wells Under Cell 2 BALLGW41 57 34.7 0.6 5 21 6.3 Vertical wells Under Cell 2 BALLGW42 66 37.8 0 0 36 7 Vertical wells Under Cell 2 BALLGW42 66 37.8 0 0 36 7 Vertical wells Under Cell 2 BALLGW43 64 38 0 5 39 7.4 Vertical wells Under Cell 2 BALLGW44 65 37.3 0 16 93 7.3 Vertical wells Under Cell 2 BALLGW45 62 40.7 0 16 23 7.1 Vertical wells Under Cell 2 BALLGW46 41 27.5 3.1 7 3 <	BALLGW36	65	37.4	0	3	32766	6.9			Vertical wells into Cell 1
BALLGW39 61 37.8 0 0 15 6.5 Vertical wells Under Cell 2 BALLGW40 62 40.1 0 7 93 6.3 Vertical wells Under Cell 2 BALLGW41 57 34.7 0.6 5 21 6.3 Vertical wells Under Cell 2 BALLGW42 66 37.8 0 0 36 7 Vertical wells Under Cell 2 BALLGW42 66 37.8 0 0 36 7 Vertical wells Under Cell 2 BALLGW43 64 38 0 5 39 7.4 Vertical wells Under Cell 2 BALLGW44 65 37.3 0 16 93 7.3 Vertical wells Under Cell 2 BALLGW45 62 40.7 0 16 23 7.1 Vertical wells Under Cell 2 BALLGW46 41 27.5 3.1 7 3 7.3 Vertical wells Under Cell 2	BALLGW37	57	35.8	0.4	5	30	6.8			Vertical wells Under Cell 2
BALLGW40 62 40.1 0 7 93 6.3 Vertical wells Under Cell 2 BALLGW41 57 34.7 0.6 5 21 6.3 Vertical wells Under Cell 2 BALLGW41 57 34.7 0.6 5 21 6.3 Vertical wells Under Cell 2 BALLGW42 66 37.8 0 0 36 7 Vertical wells Under Cell 2 BALLGW43 64 38 0 5 39 7.4 Vertical wells Under Cell 2 BALLGW44 65 37.3 0 16 93 7.3 Vertical wells Under Cell 2 BALLGW45 62 40.7 0 16 23 7.1 Vertical wells Under Cell 2 BALLGW46 41 27.5 3.1 7 3 7.3 Vertical wells Under Cell 2	BALLGW38	56	34.7	0.6	7	20	6.7			Vertical wells Under Cell 2
BALLGW41 57 34.7 0.6 5 21 6.3 Vertical wells Under Cell 2 BALLGW42 66 37.8 0 0 36 7 Vertical wells Under Cell 2 BALLGW43 64 38 0 5 39 7.4 Vertical wells Under Cell 2 BALLGW44 65 37.3 0 16 93 7.3 Vertical wells Under Cell 2 BALLGW45 62 40.7 0 16 23 7.1 Vertical wells Under Cell 2 BALLGW46 41 27.5 3.1 7 3 7.3 Vertical wells Under Cell 2	BALLGW39	61	37.8	0	0	15	6.5			Vertical wells Under Cell 2
BALLGW42 66 37.8 0 0 36 7 Vertical wells Under Cell 2 BALLGW43 64 38 0 5 39 7.4 Vertical wells Under Cell 2 BALLGW44 65 37.3 0 16 93 7.3 Vertical wells Under Cell 2 BALLGW45 62 40.7 0 16 23 7.1 Vertical wells Under Cell 2 BALLGW46 41 27.5 3.1 7 3 7.3 Vertical wells Under Cell 2	BALLGW40	62	40.1	0	7	93	6.3			Vertical wells Under Cell 2
BALLGW42 66 37.8 0 0 36 7 Vertical wells Under Cell 2 BALLGW43 64 38 0 5 39 7.4 Vertical wells Under Cell 2 BALLGW44 65 37.3 0 16 93 7.3 Vertical wells Under Cell 2 BALLGW45 62 40.7 0 16 23 7.1 Vertical wells Under Cell 2 BALLGW46 41 27.5 3.1 7 3 7.3 Vertical wells Under Cell 2	BALLGW41	57	34.7	0.6	5	21	6.3			Vertical wells Under Cell 2
BALLGW44 65 37.3 0 16 93 7.3 Vertical wells Under Cell 2 BALLGW45 62 40.7 0 16 23 7.1 Vertical wells Under Cell 2 BALLGW46 41 27.5 3.1 7 3 7.3 Vertical wells Under Cell 2	BALLGW42	66	37.8	0	0	36	7			Vertical wells Under Cell 2
BALLGW45 62 40.7 0 16 23 7.1 Vertical wells Under Cell 2 BALLGW46 41 27.5 3.1 7 3 7.3 Vertical wells Under Cell 2	BALLGW43	64	38	0	5	39	7.4			Vertical wells Under Cell 2
BALLGW46 41 27.5 3.1 7 3 7.3 Vertical wells Under Cell 2	BALLGW44	65	37.3	0	16	93	7.3			Vertical wells Under Cell 2
	BALLGW45	62	40.7	0	16	23	7.1			Vertical wells Under Cell 2
BALLGW47 41 27.3 3.4 8 2 7.1 Vertical wells Under Cell 2	BALLGW46	41	27.5	3.1	7	3	7.3			Vertical wells Under Cell 2
	BALLGW47	41		3.4	8					Vertical wells Under Cell 2

Site name: Rathroeen Landfill Date:11/10/08 Personnel:Gerry Bourke Temperature:as shown Address: Killala Rd, Ballina Analytical Range: Instrument: GA2000 Pressure:1012mbar

Well No. CH4 CO Temp. Rel Barometric Comments %//v %/v/v %/v/v ppm ppm Pressure Pressure Pressure BALLGW09 0 1.6 19.1 0 0 12.1 -1.09 1000 perimeter BALLGW012 0 2 14.2 0 0 13.3 1.43 998 perimeter BALLGW13 0 0.1 20.6 1 0 14.2 2.65 997 perimeter BALLGW14 43 26.1 5.1 0 0 <<<< <td>-8.25 1013 Horz gas coll pipe BALLGW14 6.4 27.4 4.1 8 0 <<<<td>-8.25 1013 Horz gas coll pipe BALLGW18 0 0 2.2 0 0 <<<<td>-2.16.9 1002 perimeter BALLGW18 0 12.2 1 0 <<<<td>-2.16.9 10012 Northern capped area BALLGW20<!--</th--><th>Temperatu</th><th>re:as s</th><th>SHOWH</th><th></th><th></th><th></th><th></th><th></th><th>Pressure:</th><th>IVI ZIIIDAI</th></td></td></td></td>	-8.25 1013 Horz gas coll pipe BALLGW14 6.4 27.4 4.1 8 0 <<< <td>-8.25 1013 Horz gas coll pipe BALLGW18 0 0 2.2 0 0 <<<<td>-2.16.9 1002 perimeter BALLGW18 0 12.2 1 0 <<<<td>-2.16.9 10012 Northern capped area BALLGW20<!--</th--><th>Temperatu</th><th>re:as s</th><th>SHOWH</th><th></th><th></th><th></th><th></th><th></th><th>Pressure:</th><th>IVI ZIIIDAI</th></td></td></td>	-8.25 1013 Horz gas coll pipe BALLGW18 0 0 2.2 0 0 <<< <td>-2.16.9 1002 perimeter BALLGW18 0 12.2 1 0 <<<<td>-2.16.9 10012 Northern capped area BALLGW20<!--</th--><th>Temperatu</th><th>re:as s</th><th>SHOWH</th><th></th><th></th><th></th><th></th><th></th><th>Pressure:</th><th>IVI ZIIIDAI</th></td></td>	-2.16.9 1002 perimeter BALLGW18 0 12.2 1 0 <<< <td>-2.16.9 10012 Northern capped area BALLGW20<!--</th--><th>Temperatu</th><th>re:as s</th><th>SHOWH</th><th></th><th></th><th></th><th></th><th></th><th>Pressure:</th><th>IVI ZIIIDAI</th></td>	-2.16.9 10012 Northern capped area BALLGW20 </th <th>Temperatu</th> <th>re:as s</th> <th>SHOWH</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>Pressure:</th> <th>IVI ZIIIDAI</th>	Temperatu	re:as s	SHOWH						Pressure:	IVI ZIIIDAI
BALLGW08 0 0 20.7 0 0 2 1006 perimeter BALLGW09 0 1.6 19.1 0 0 12.1 -1.09 1000 perimeter BALLGW12 0 2 14.2 0 0 13.3 1.43 998 perimeter BALLGW13 0 .20.6 1 0 14.2 2.65 997 perimeter BALLGW14 43 26.1 5.1 0 0 <<	Well No.	CH4	CO2	02	H2S	CO	Temp.	Rel	Barometric	Comments				
BALLGW09 0 1.6 19.1 0 0 12.1 -1.09 1000 perimeter BALLGW12 0 2 14.2 0 0 13.8 1.43 998 perimeter BALLGW13 0 0.1 20.6 1 0 14.2 2.65 997 perimeter BALLGW14 43 26.1 5.1 0 0 <<<		%v/v	%v/v	%v/v	ppm	ppm		Pressure	Pressure					
BALLGW12 0 2 14.2 0 0 13.8 1.4.3 998 perimeter BALLGW13 0 0.1 20.6 1 0 14.2 2.65 997 perimeter SWDRAIN1	BALLGW08	0	0	20.7	0	0	<<<	-0.2	1006	perimeter				
BALLGW13 0 1.1 20.6 1 0 14.2 2.65 997 perimeter SWDRAIN1 - - - - - - perimeter BALLGW14 43 26.1 5.1 0 0 <<<	BALLGW09	0	1.6	19.1	0	0	12.1	-1.09	1000	perimeter				
SWDRAIN1 Image: Subscript of the state of t	BALLGW12	0	2	14.2	0	0	13.8	1.43	998	perimeter				
BALLGW14 43 26.1 5.1 0 0 << -1.16 1013 Horz gas coll pipe BALLGW15 0.8 2 18.4 3 0 <<<	BALLGW13	0	0.1	20.6	1	0	14.2	2.65	997	perimeter				
BALLGW15 0.8 2 18.4 3 0 <<< -8.25 1013 Horz gas coll pipe BALLGW16 41 27.4 4.1 8 0 <<<	SWDRAIN1									perimeter				
BALLGW16 41 27.4 4.1 8 0 <<< -8.52 1013 Horz gas coll pipe BALLGW17 0.3 8.6 10.3 0 0 <<<	BALLGW14	43	26.1	5.1	0	0	<<<	-1.16	1013	Horz gas coll pipe				
BALLGW17 0.3 8.6 10.3 0 0 << -0.02 1002 perimeter BALLGW18 0 0 20.2 0 0 <<<	BALLGW15	0.8	2	18.4	3	0	<<<	-8.25	1013	Horz gas coll pipe				
BALLGW18 0 0 20.2 0 0 << -21.69 1002 perimeter BALLGW19 22 16.5 6.5 1 0 <<	BALLGW16	41	27.4	4.1	8	0	<<<	-8.52	1013	Horz gas coll pipe				
BALLGW19 22 16.5 6.5 1 0 << -0.22 1002 perimeter BALLGW20 63 37 0.4 2 41 <<	BALLGW17	0.3	8.6	10.3	0	0	<<<	-0.02	1002	perimeter				
BALLGW20 63 37 0.4 2 41 << -16.94 1012 Northern capped area BALLGW21 20 11.6 14 3 11 <<<	BALLGW18	0	0	20.2	0	0	<<<	-21.69	1002	perimeter				
BALLGW21 20 11.6 14 3 11 << -4.62 1012 Northern capped area BALLGW22 24 13.5 12.9 1 13 <<<	BALLGW19	22	16.5	6.5	1	0	<<<	-0.22	1002	perimeter				
BALLGW22 24 13.5 12.9 1 13 << -15.73 1012 Northern capped area BALLGW25 63 34.5 0.8 8 99 <<	BALLGW20	63	37	0.4	2	41	<<<	-16.94	1012	Northern capped area				
BALLGW25 63 34.5 0.8 8 99 << -8.21 1012 Northern capped area BALLGW26 48 28.3 4.8 0 14 <<	BALLGW21	20	11.6	14	3	11	<<<	-4.62	1012	Northern capped area				
BALLGW26 48 28.3 4.8 0 14 << -12.23 1012 Northern capped area BALLGW27 6.9 3.9 18.3 0 14 <<	BALLGW22	24	13.5	12.9	1	13	<<<	-15.73	1012	Northern capped area				
BALLGW27 6.9 3.9 18.3 0 14 << -10.21 1012 Northern capped area BALLGW28 65 35.8 0.1 2 149 <<	BALLGW25	63	34.5	0.8	8	99	<<<	-8.21	1012	Northern capped area				
BALLGW28 65 35.8 0.1 2 149 << -16.9 1012 Vertical wells into Cell 1 BALLGW29 64 37.6 0 6 124 <<	BALLGW26	48	28.3	4.8	0	14	<<<	-12.23	1012	Northern capped area				
BALLGW29 64 37.6 0 6 124 << -16.86 1012 Vertical wells into Cell 1 BALLGW30 64 37.3 0 17 27 <<	BALLGW27	6.9	3.9	18.3	0	14	<<<	-10.21	1012	Northern capped area				
BALLGW30 64 37.3 0 17 27 << -16.82 1012 Vertical wells into Cell 1 BALLGW31 64 37.4 0 1 74 <<<	BALLGW28	65	35.8	0.1	2	149	<<<	-16.9	1012	Vertical wells into Cell 1				
BALLGW31 64 37.4 0 1 74 << -8.25 1012 Vertical wells into Cell 1 BALLGW32 64 37 0 8 33 <<	BALLGW29	64	37.6	0	6	124	<<<	-16.86	1012	Vertical wells into Cell 1				
BALLGW32 64 37 0 8 33 << -8.18 1013 Vertical wells into Cell 1 BALLGW33 65 36.6 0 4 52 <<	BALLGW30	64	37.3	0	17	27	<<<	-16.82	1012	Vertical wells into Cell 1				
BALLGW33 65 36.6 0 4 52 << -5.57 1012 Vertical wells into Cell 1 BALLGW34 64 37.6 0.1 8 110 <<	BALLGW31	64	37.4	0	1	74	<<<	-8.25	1012	Vertical wells into Cell 1				
BALLGW34 64 37.6 0.1 8 110 << -5.91 1012 Vertical wells into Cell 1 BALLGW35 61 35.1 0.9 2 3 <<	BALLGW32	64	37	0	8	33	<<<	-8.18	1013	Vertical wells into Cell 1				
BALLGW35 61 35.1 0.9 2 3 << -16.86 1012 Vertical wells into Cell 1 BALLGW36 63 38.9 0 7 32766 <<	BALLGW33	65	36.6	0	4	52	<<<	-5.57	1012	Vertical wells into Cell 1				
BALLGW36 63 38.9 0 7 32766 << -16.8 1012 Vertical wells into Cell 1 BALLGW37 63 39.1 0.1 14 32 <<	BALLGW34	64	37.6	0.1	8	110	<<<	-5.91	1012	Vertical wells into Cell 1				
BALLGW37 63 39.1 0.1 14 32 << -15.12 1015 Vertical wells Under Cell 2 BALLGW38 63 38.6 0 4 55 <<	BALLGW35	61	35.1	0.9	2	3	<<<	-16.86	1012	Vertical wells into Cell 1				
BALLGW38 63 38.6 0 4 55 << -20.52 1015 Vertical wells Under Cell 2 BALLGW39 63 37.9 0.2 3 28 <<	BALLGW36	63	38.9	0	7	32766	<<<	-16.8	1012	Vertical wells into Cell 1				
BALLGW39 63 37.9 0.2 3 28 << -20.29 1015 Vertical wells Under Cell 2 BALLGW40 61 40.5 0 5 135 <<	BALLGW37	63	39.1	0.1	14	32	<<<	-15.12	1015	Vertical wells Under Cell 2				
BALLGW40 61 40.5 0 5 135 << -20.46 1015 Vertical wells Under Cell 2 BALLGW41 64 37.5 0 3 19 <<	BALLGW38	63	38.6	0	4	55	<<<	-20.52	1015	Vertical wells Under Cell 2				
BALLGW41 64 37.5 0 3 19 << -20.03 1015 Vertical wells Under Cell 2 BALLGW42 62 39.7 0 4 54 <<	BALLGW39	63	37.9	0.2	3	28	<<<	-20.29	1015	Vertical wells Under Cell 2				
BALLGW42 62 39.7 0 4 54 << -20.1 1014 Vertical wells Under Cell 2 BALLGW43 63 38.4 0 7 48 <<	BALLGW40	61	40.5	0	5	135	<<<	-20.46	1015	Vertical wells Under Cell 2				
BALLGW42 62 39.7 0 4 54 << -20.1 1014 Vertical wells Under Cell 2 BALLGW43 63 38.4 0 7 48 <<		64	37.5	0	3	19	<<<	-20.03	1015	Vertical wells Under Cell 2				
BALLGW43 63 38.4 0 7 48 << -20.23 1015 Vertical wells Under Cell 2 BALLGW44 63 39.1 0 2 44 <<		62			4									
BALLGW44 63 39.1 0 2 44 << -19.97 1015 Vertical wells Under Cell 2 BALLGW45 61 40.8 0 4 36 <<<		63	38.4	0	7	48	<<<		1015					
BALLGW45 61 40.8 0 4 36 << -20.27 1015 Vertical wells Under Cell 2 BALLGW46 63 39.1 0 4 40 <<														
BALLGW46 63 39.1 0 4 40 << -20.5 1015 Vertical wells Under Cell 2							<<<							
					4									
	BALLGW47	63	38.8			45	<<<	-20.21	1015	Vertical wells Under Cell 2				

Site name: Rathroeen Landfill Date:10/11/09 Personnel:Gerry Bourke Temperature:as shown Address: Killala Rd, Ballina Analytical Range: Instrument: GA2000 Pressure:1004mbar

Temperature	as sho:	wn						Pressure:10	04mbar
Well No.	CH4	CO2	02	H2S	CO	Temp.	Rel	Barometric	Comments
	%v/v	%v/v	%v/v	ppm	ppm		Pressure	Pressure	
BALLGW08	0	3.7	14.9	0	0	<<<	-0.3	988	perimeter
BALLGW09	0	2.2	18.2	0	0	~~	0.44	990	perimeter
BALLGW12	0	3.4	13.6	0	0	~~	-0.15	988	perimeter
BALLGW13	0	0.1	20.8	0	0	~~~	-0.01	988	perimeter
BALLGW14	42	27.3	3.8	0	9	~~~	-5.19	1001	Horz gas coll pipe
BALLGW15	34	23.6	7	1	26	<<<	-5.44	1001	Horz gas coll pipe
BALLGW16	30	23.7	3.8	0	0	<<<	-37.04	989	Horz gas coll pipe
BALLGW17	0.1	8.9	5.2	0	0	<<<	0.17	988	perimeter
BALLGW18	0.1	3.9	16	0	0	<<<	0.83	988	perimeter
BALLGW19	41	22.6	0.4	0	0	<<<	-0.4	988	perimeter
BALLGW20	63	37	0.4	2	41	<<<	-16.94	1012	Northern capped area
BALLGW21	20	11.6	14	3	11	<<<	-4.62	1012	Northern capped area
BALLGW22	24	13.5	12.9	1	13	<<<	-15.73	1012	Northern capped area
BALLGW25	63	34.5	0.8	8	99	~~~	-8.21	1012	Northern capped area
BALLGW26	48	28.3	4.8	0	14	<<<	-12.23	1012	Northern capped area
BALLGW27	6.9	3.9	18.3	0	14	~~~	-10.21	1012	Northern capped area
BALLGW28	53	31.7	1.6	3	49	<<<	-36.63	988	Vertical wells into Cell 1
BALLGW29	65	37.4	0	1	84	~~~	-36.76	988	Vertical wells into Cell 1
BALLGW30	66	37.5	0	10	20	~~~	-36.86	988	Vertical wells into Cell 1
BALLGW31	66	37.8	0	2	58	<<<	-36.82	988	Vertical wells into Cell 1
BALLGW32	66	37	0	7	27	~~~	-36.87	988	Vertical wells into Cell 1
BALLGW33	56	33.9	0	3	40	~~~	-36.9	988	Vertical wells into Cell 1
BALLGW34	66	37.8	0	6	76	~~~	-19	987	Vertical wells into Cell 1
BALLGW35	64	39.2	0	2	32766	~~~	-36.85	987	Vertical wells into Cell 1
BALLGW36	63	40	0	8	25	~~~	-41.36	988	Vertical wells into Cell 1
BALLGW37	62	38.1	0.3	0	23	~~~	-41.37	988	Vertical wells Under Cell 2
BALLGW38	60	36.2	1	2	25	~~~	-41.36	988	Vertical wells Under Cell 2
BALLGW39	62	41.1	0	2	132	~~~	-41.24	988	Vertical wells Under Cell 2
BALLGW40	65	38	0	2	15	~~~	-41.21	988	Vertical wells Under Cell 2
BALLGW41	63	41	0	5	51	~~~	-41.21	988	Vertical wells Under Cell 2
BALLGW42	64	39.2	0	3	41	~~~	-41.22	988	Vertical wells Under Cell 2
BALLGW43	63	40.6	0	11	47	~~~	-41.27	988	Vertical wells Under Cell 2
BALLGW45	61	43.1	0	6	22	<<<	-41.19	988	Vertical wells Under Cell 2
BALLGW46	63	40.5	0	9	108	~~~	-41.14	988	Vertical wells Under Cell 2
BALLGW47	64	39.6	0	4	67	~~~	-41.13	988	Vertical wells Under Cell 2

Site name: Rathroeen Landfill Date: Personnel:Gerry Bourke

Temperature:as shown

Address: Killala Rd, Ballina Analytical Range: Instrument: GA2000 Pressure:1004mbar

Temperatu	re:as s	SIIOWII						Pressure:	1004111041
Well No.	CH4	CO2	02	H2S	CO	Temp.	Rel	Barometric	Comments
	%v/v	%v/v	%v/v	ppm	ppm		Pressure	Pressure	
BALLGW08	0	0	20.7	0	0	<<<	-0.2	1006	perimeter
BALLGW09	0	1.6	19.1	0	0	12.1	-1.09	1000	perimeter
BALLGW12	0	2	14.2	0	0	13.8	1.43	998	perimeter
BALLGW13	0	0.1	20.6	1	0	14.2	2.65	997	perimeter
SWDRAIN1	0	0	20.7	3	0	13.6	-4.91	998	perimeter
BALLGW14	0	0.1	20.7	0	0	11	-0.47	1014	Horz gas coll pipe
BALLGW15	49.7	34.5	0.4	16	13	14.3	-7.98	999	Horz gas coll pipe
BALLGW16	3.4	2.5	18.8	7	0	14.3	-1.87	999	Horz gas coll pipe
BALLGW17	0	5.2	10.8	0	0	13.4	2.04	998	perimeter
BALLGW18	0	4	15.7	0	0	13.2	2.32	998	perimeter
BALLGW19	72.7	23.4	0	3	0	11.4	0.16	998	perimeter
BALLGW20	54.2	31.5	2.3	2	12	11.5	-7.72	998	Northern capped area
BALLGW22	50.4	31.4	2.5	1	14	10.9	-11.94	988	Northern capped area
BALLGW25	62.6	34.3	0.5	2	79	11.2	-0.9	998	Northern capped area
BALLGW26	63.5	35.1	0	0	18	11.3	-7.11	998	Northern capped area
BALLGW27	52.2	28.4	3.4	0	0	11.7	-3.63	998	Northern capped area
BALLGW28	65.6	32.3	0	7	36	12.3	-13.04	998	Vertical wells into Cell 1
BALLGW29	64.2	33.9	0.1	4	20	12.4	-9.64	997	Vertical wells into Cell 1
BALLGW30	64.8	36.2	0	17	19	12.3	-12.97	997	Vertical wells into Cell 1
BALLGW31	65	35.8	0	0	52	12.8	-12.97	997	Vertical wells into Cell 1
BALLGW32	65.8	35.1	0	5	19	12.9	-12.88	997	Vertical wells into Cell 1
BALLGW33	66.9	33.6	0	10	49	12.9	-12.96	997	Vertical wells into Cell 1
BALLGW34	63.4	37	0	13	159	13.2	-12.99	997	Vertical wells into Cell 1
BALLGW35	65.7	34.6	0	2	0	13.2	-12.86	997	Vertical wells into Cell 1
BALLGW36	63.8	37.1	0	14	32766	13.4	-12.74	997	Vertical wells into Cell 1
BALLGW37	61.9	38.6	0	11	19	13.8	-13.57	999	Vertical wells Under Cell 2
BALLGW38	60.9	37.5	0	4	17	13.8	-9.8	999	Vertical wells Under Cell 2
BALLGW39	60.8	35.9	0.3	7	10	13.9	-10.06	999	Vertical wells Under Cell 2
BALLGW40	60.1	40	0	12	119	13.9	-11.67	999	Vertical wells Under Cell 2
BALLGW41	65.3	35.2	0	6	16	11.9	-15.48	989	Vertical wells Under Cell 2
BALLGW42	61.8	39.1	0	8	43	13	-7.42	989	Vertical wells Under Cell 2
BALLGW43	61.9	38.4	0	8	43	12.7	-15.66	989	Vertical wells Under Cell 2
BALLGW44	64.3	36.1	0	8	16	12.2	-7.46	989	Vertical wells Under Cell 2
BALLGW45	57.8	42.1	0	5	22	12.3	-15.52	989	Vertical wells Under Cell 2
BALLGW46	62.2	37.7	0	11	21	12.7	-14.55	990	Vertical wells Under Cell 2
BALLGW47	61.9	37.6	0	9	3	12.4	-7.44	989	Vertical wells Under Cell 2



MW2					
Lab				06.10.05	4 05 05
Date		07/10/2008	06/03/2008	06.12.07	4.07.07
	Units				
Temp.	(7				
D.O.	mg/l	8.4	4.9	5.8	5.8
рН		7.77	7.4	7.3	7.68
Conductivity	uS/cm	0.908	0.954	0.976	0.988
Ammonical Nitrogen	mg/l N	0.3	<0.2	<0.2	<0.2
Total Ox Nitrogen	mg/l N	<0.3	<0.3	<0.3	<0.3
Chloride	mg/l Cl	40	39	40	40
Total Carbon	mg/l				
Total Inorganic Carbon	mg/l				
Total Organic Carbon	mg/l C	7	6	7	5
Total Coliforms	No/100ml	500	46	300	7
Faecal Coliforms	No/100ml	9	1	17	5
Phenols	ug/l	0.04	0.02	<0.01	<0.01
Sodium	mg/l	26.8	25.6	25.5	23
Potassium	mg/l	3.5	2.9	3.4	3.4
Iron	ug/l	0.45			4
Lead	ug/l	<0.05			<1
List 1&2 Organics					
Magnesium	mg/l	16.18			15.23
Manganeese	ug/l	0.61			240
Mercury	ug/l	<0.05			<0.05
Total Alkalinity	mg/l CaCO3	380			460
Sulphate	mg/l SO4	93			99
Total Phosphorous	mg/l P	<0.05	<0.05	0.07	<0.05
Orthphosphate	mg/l P	<0.03			
Residue on evaporation					
Zinc	ug/l	<0.05			42
Flouride	mg/l F	0.6			0.5
Calcium	mg/l	161.7			186.6
Cadmium	ug/l	<0.05			<0.4
Copper	ug/l	<0.05			8
Cyanide	mg/l CN	<0.05			<0.05
Total Solids	mg/l				668
Boron	ug/l	<0.05			34
Chromium	ug/l	<0.05			10
Dissolved Nickel	ug/l	<0.05			9
nitrate as no3	mg/1	0.6	I		-
nitrite as no2	mg/1	<0.05			

Lab					
Date		07/10/2008	06/03/2009	06.12.07	4.07.07
	Units				
Temp.					
D.O.	mg/l	7.2	5.1	5.3	6.2
PH		7.53	7.15	7.16	7.28
Conductivity	uS/cm	1.276	0.813	0.925	1.07
Ammonical Nitrogen	mg/l N	0.4	0.2	<0.2	<0.2
Total Ox Nitrogen	mg/l N	0.8	<0.3	<0.3	<0.3
Chloride	mg/l Cl		28	25	31
Total Carbon	mg/l				
Total Inorganic Carbon	mg/l				
Total Organic Carbon	mg/l C	31	4	7	5
Mercury	ug/l	<0.05			<0.05
Faecal Coliforms	No/100ml	31	<1	6	<1
Total Coliforms	No/100ml	600	15	86	<1
Sodium	mg/l	46.4	20.7	19.5	18
Potassium	mg/l	11.9	8.4	10	9
Phenols	ug/l	0.03	0.02	0.01	<0.01
Total Phosphorous	mg/l P	<0.05	<0.05	0.09	<0.05
Boron	ug/l	<0.05			31
Cadmium	ug/l				<0.4
Calcium	mg/l	242.7			225.2
Chromium	ug/l	<0.05			11
Copper	ug/l	<0.05			1
Iron	ug/l	0.17			21
Lead	ug/l	<0.05			<1
Magnesium	mg/l	15.6			11.04
Manganeese	ug/l	0.82			567
Dissolved Nickel	ug/l	<0.05			10
Zinc	ug/l	<0.05			11
List 1&2 Organics	_				
Total Alkalinity	mg/l CaCO3	390			570
Sulphate	mg/l SO4	358			64
Orthphosphate	mg/l P	<0.03			
Residue on evaporation					
Flouride	mg/l F	<0.1			0.2
Cyanide	mg/l CN	<0.05			<0.05
Total Solids	mg/l				676
nitrate as no3	mg/1	3.5			
nitrite as no2	mg/1	0.06			

MW3

Lab				
Date		07/10/2008	06/03/2008	4.07.07
	Units			
Temp.				
D.O.	mg/l	7.5	4.6	4.1
рH		7.71	7.21	7.27
Conductivity	uS/cm	0.813	0.805	0.75
Ammonical Nitrogen	mg/l N	0.5	1.9	2.5
Total Ox Nitrogen	mg/l N	0.8	<1.5	2
Chloride	mg/l Cl	23	27	30
Total Carbon	mg/l			
Total Inorganic Carbon	mg/l			
Total Organic Carbon	mg/l C	6	11	8
Total Coliforms	No/100ml	400	<1	<1
Faecal Coliforms	No/100ml	<1	<1	<1
Phenols	ug/l	0.03	0.01	<0.01
Sodium	mg/l	16.3	18.7	18
Potassium	mg/l		2.2	6.2
Iron	ug/l	0.07		33
Lead	ug/l	0.07		<1
List 1&2 Organics				
Magnesium	mg/l	14.02		13.07
Manganeese	ug/l	<0.05		48
Mercury	ug/l	<0.05		<0.05
Total Alkalinity	mg/l CaCO3	340		350
Sulphate	mg/l SO4	104		73
Total Phosphorous	mg/l P	<0.05	0.23	0.56
Orthphosphate	mg/l P	<0.03		
Residue on evapration				
Zinc	ug/l	<0.05		7
Flouride	mg/l F	0.2		0.3
Calcium	mg/l	159		141.3
Cadmium	ug/l	<0.05		<0.4
Copper	ug/l	<0.05		1
Cyanide	mg/l CN	<0.05		<0.05
Total Solids	mg/l			1312
Boron	ug/l	<0.05		17
Chromium	ug/l	<0.05		8
total Nickel	mg/1	<0.05		
dissolved potassium	mg/1	1.6		
nitrate as no3	mg/1	2.9		
nitrite as no2	mg/1	0.37		

MW7D			
Lab			
Date		07/10/2008	06/03/2008
	Units		
Temp.			
D.O.	mg/l	1.4	5.5
рH		7.73	8.04
Conductivity	uS/cm	1.008	0.777
Ammonical Nitrogen	mg/l N	4.4	0.4
Total Ox Nitrogen	mg/l N	1.6	4.1
Chloride	mg/l Cl		38
Total Carbon	mg/l		
Total Inorganic Carbon	mg/l		
Total Organic Carbon	mg/l C	15	6
Total Coliforms	No/100ml	140000	2600
Faecal Coliforms	No/100ml	100	8
Phenols	ug/l	0.11	0.02
Sodium	mg/l	23.2	190
Potassium	mg/l	51.4	41.6
Iron	ug/l	0.12	
Lead	ug/l	<0.05	
List 1&2 Organics			
Magnesium	mg/l	12.48	
Manganeese	ug/l	0.05	
Mercury	ug/l	<0.05	
Total Alkalinity	mg/l CaCO3	470	
Sulphate	mg/l SO4	237	
Total Phosphorous	mg/l P	<0.05	0.18
Orthphosphate	mg/l P	0.04	
Residue on evaporation			
Zinc	ug/l	<0.05	
Flouride	mg/l F	<0.01	
Calcium	mg/l	212.3	
Cadmium	ug/l	<0.05	
Copper	ug/l	<0.05	
Cyanide	mg/l CN	<0.05	
Total Solids	mg/l		
Boron	ug/l	<0.05	
Chromium	ug/l	<0.05	

MW8D			
Lab			
Date		07/10/2008	06/03/2008
	Units		
Temp.			
D.O.	mg/l	6	4.5
pН		7.57	7.22
Conductivity	uS/cm	1.006	0.902
Ammonical Nitrogen	mg/l N	0.7	<0.2
Total Ox Nitrogen	mg/l N	3.5	2
Chloride	mg/I CI		61
Total Carbon	mg/l		
Total Inorgnic Carbon	mg/l		
Total Organic Carbon	mg/l C	12	5
Total Coliforms	No/100ml	1600	
Faecal Coliforms	No/100ml	9	3
Phenols	ug/l	0.03	0.01
Sodium	mg/l	33.6	30
Potassium	mg/l	5	7.3
Iron	ug/l	0.15	
Lead	ug/l	<0.05	
Magnesium	mg/l	8	
Manganeese	ug/l	0.08	
Mercury	ug/l	<0.05	
Total Alkalinity	mg/I CaCO3	430	
Sulphate	mg/I SO4	48	
Total Phosphorous	mg/l P	0.05	0.06
Orthphosphate	mg/l P	0.03	
Zinc	ug/l	<0.05	
Flouride	mg/l F	0.02	
Calcium	mg/l	196.9	
Cadmium	ug/l	<0.05	
Copper	ug/l	<0.05	
Cyanide	mg/I CN	< 0.05	
Boron	ug/l	< 0.05	
Chromium	ug/l	< 0.05	
Dissolved Nickel	ug/l		
total nickel	mg/1	<0.05	•
chloride	mg/1	62	
nitrate as no3	mg/1	13.4	
nitrite as no2	mg/1	1.17	

MW9				
Lab				
Date		07/10/2009	06/03/2008	06.12.07
	Units			
Temp.				
D.O.	mg/l	3.4	5.3	5.6
Hq		7.93	7.73	7.56
Conductivity	uS/cm	0.836	0.833	0.857
Ammonical Nitrogen	mg/l N	1	1.4	0.4
Total Ox Nitrogen	mg/l N	<0.3	<0.3	<0.3
Chloride	mg/l Cl	30	28	26
Total Carbon	mg/l			
Total Inorganic Carbon	mg/l			
Total Organic Carbon	mg/l C	3	3	5
Total Coliforms	No/100ml	100	7	2
Faecal Coliforms	No/100ml	<1	<1	<1
Phenols	ug/l	0.02	0.01	0.01
Sodium	mg/l	37.8	38.1	38.5
Potassium	mg/l	6.7	6.1	6.5
Iron	ug/l	<0.05		
Lead	ug/l	<0.05		
Magnesium	mg/l	44.9		
Manganeese	ug/l	0.26		
Mercury	ug/l	<0.05		
Total Alkalinity	mg/l CaCO3	430		
Sulphate	mg/l SO4	44		
Total Phosphorous	mg/l P	<0.05	0.58	0.07
Orthphosphate	mg/l P	<0.03		
Zinc	ug/l	<0.05		
Flouride	mg/l F	1.8		
Calcium	mg/l	75.16		
Cadmium	ug/l	<0.05		
Copper	ug/l	<0.05		
Cyanide	mg/l CN	<0.05		
Total Solids	mg/l			
Boron	ug/l	0.29		
Chromium	ug/l	<0.05		
Dissolved Nickel	mg/l			
Nickel	ug/l	<0.05	1	
nitrate as no3	mg/1	0.5		
nitrite as no2	mg/1	<0.05		

MW10D			<u>г</u>	
Lab				06 10 5-
Date		07/10/2009	06/03/2008	06.12.07
	Units			
Temp.				
D.O.	mg/l	9.6	4.5	5.9
рH		7.56	7.45	7.23
Conductivity	uS/cm	0.667	0.81	0.807
Ammonical Nitrogen	mg/l N	0.4	<0.2	<0.2
Total Ox Nitrogen	mg/l N	<0.3	<0.3	1.8
Chloride	mg/l Cl	32	33	24
Total Carbon	mg/l			
Cotal Inorganic Carbon	mg/l			
Total Organic Carbon	mg/l C	3	<2	4
Total Coliforms	No/100ml	3200	<1	2300
Faecal Coliforms	No/100ml	9	<1	3
Phenols	ug/l	0.03	0.02	0.01
Sodium	mg/l	19.3	20.6	17.5
Potassium	mg/l	1.8	1.2	1.2
Iron	ug/l	0.12		
Lead	ug/l	<0.05		
List 1&2 Organics				
Magnesium	mg/l	14.92		
Manganeese	ug/l	0.09		
Mercury	ug/l	<0.05		
Total Alkalinity	mg/l CaCO3	290		
Sulphate	mg/l SO4	24		
Total Phosphorous	mg/l P	<0.05	0.12	<0.05
Orthphosphate	mg/l P	<0.03		
Residue on evaporation				
Zinc	ug/l	<0.05		
Flouride	mg/l F	1.3		
Calcium	mg/l	127.4		
Cadmium	ug/1	<0.05		
Copper	ug/l	<0.05		
Cyanide	mg/l CN	<0.05		
Total Solids	mg/l			
Boron	ug/l	<0.05		
Chromium	ug/1	<0.05		
Nickel	ug/1 ug/1	<0.05		
nitrate as no3	mg/1	<0.05		
nitrite as no3	mg/1	<0.05		

Lab				
Date		07/10/2008	06/03/2008	06.12.07
	Units			
Temp.				
D.O.	mg/l	8.3	5.3	5
рH		7.41	7.54	7.27
Conductivity	uS/cm	0.729	0.81	0.827
Ammonical Nitrogen	mg/l N	0.2	<0.2	<0.2
Total Carbon	mg/l			
Total Inorganic Carbon	mg/l			4
Faecal Coliforms	No/100ml	2100	2	15
Total Coliforms	No/100ml	38	4	500
Sodium	mg/l	18.1	4 18.4	19
Potassium	mg/l	1.3	1.1	1.7
Phenols	ug/1	0.03	0.02	0.02
Total Phosphorous	mg/l P	<0.05	<0.02	<0.02
Total Organic Carbon	mg/l F	2	<2	<0.05
Chloride	mg/l Cl	29	29	26
Orthphosphate	mg/l P	<0.03	27	20
Total Ox Nitrogen	mg/l N	1	1	1.7
Iron	ug/1	6.76	_	
Lead	ug/l	<0.05		
List 1&2 Organics				
Magnesium	mg/l	17.65		
Manganeese	ug/l	0.23		
Mercury	ug/l	<0.05		
Sulphate	mg/l SO4	17		
Residue on evaporation				
Zinc	ug/l	<0.05		
Flouride	mg/l F	0.8		
Calcium	mg/l	155.2		
Cadmium	ug/l	<0.05		
Copper	ug/l	<0.05		
Cyanide	mg/l CN	<0.05		K
Total Solids	mg/l			
Boron	ug/l	<0.05		K
Chromium	ug/l	<0.05		
Nickel	ug/l	<0.05		
nitrate as no3	mg/1	4.3		
nitrite as no2	mg/1	0.08		



DSW1								
Lab								
Date		18.11.08	30.09.08	27.06.08	10.04.08	6.03.08	6.02.08	15.01.08
Temp	degrees C						0	16.9
DO	% sat	1	10.3	8.1		4.9	0	
Ammonical Nitrogen	mg/l N	<0.2	<0.2	0.3	<0.2	1.1	<0.2	<0.2
BOD	mg/l 02		3	<2	23	2	<2	<2
COD	mg/l 02		24	33	0	25	0	
Chloride	mg/l Cl		13	34		33		
Conductivity		0.206	0.207	0.753	0.672	0.717	0.626	0.602
PH	pH units	7.55	7.98	7.76	7.81	7.76	7.94	7.69
Total Suspended Solids	mg/l	<10	40	<10	15	<10	66	22
Total Phosphourous	mg/l P	0.11	<0.05	<0.05	0.07	0.09	0.08	<0.05
Orthophosphate	mg/l P	<0.03	0.05	0.08	<0.03	0.1	0.03	0.24
Cadmium	ug/l		<1					
Calcium	mg/l		57.64					
Chromium	ug/l		19					
Copper	ug/l		31					
Iron	ug/l		925					
Lead	ug/l		68					
Magnesium	mg/l		4.24					
Manganeese	ug/l		29					
Mercury	ug/l		<0.05					
Potassium	mg/l		1.9	5.2		5.2		
Sulphate	mg/l SO4		9					
Sodium	mg/l		6.7	20.2	0	20.7		
Alkalinity	mg/l CaCO3		340					
Total Oxidised Nitrogen	mg/l N		<0.3					
Zinc	ug/l		227					
List 1 & 2 Organics								
Nickel			7					
Total Ammonia as N	mg/l			0.29				

SW1				
Lab				
Date		30.09.08	26.06.08	6.03.08
Temp	degrees C			
DO	% sat	10.1	7.7	
Ammonical Nitrogen	mg/l N	<0.2	<0.2	<0.2
BOD	mg/l 02	3	16	2
COD	mg/l 02	57	42	144
Chloride	mg/l Cl	40	41	39
Conductivity		0.808	0.811	0.708
рH	pH units	7.71	7.44	7.61
Total Suspended Solids	mg/l	26	<10	259
Total Phosphourous	mg/l P	<0.05	<0.05	0.44
Orthophosphate	mg/l P	<0.03	0.1	0.06
Cadmium	ug/l	<1		
Calcium	mg/l	190.1		
Chromium	ug/l	10		
Copper	ug/l	35		
Iron	ug/l	700		
Lead	ug/l	27		
Magnesium	mg/l	11.06		
Manganeese	ug/l	34		
Mercury	ug/l	<0.05		
Potassium	mg/l	10.7	7.8	6.7
Sulphate	mg/l SO4	49		
Sodium	mg/l	19.2	19.9	20.8
Alkalinity	mg/l CaCO3	350		
Total Oxidised				
Nitrogen	mg/l N	1.2		
Zinc	ug/l	310		
List 1 & 2 Organics				
Nickel	ug/l	12		
Total Ammonia as N	mg/l		0.11	
dissolved oxygen	mg/1			6.9

SW2				
Lab				
Date		30.09.08	26.06.08	6.03.08
Temp	degrees C			
DO	% sat	9.7	10.2	
Ammonical Nitrogen	mg/l N	7.8	0.3	4.2
BOD	mg/l 02	3	<2	4
COD	mg/l 02	67	31	58
Chloride	mg/l Cl	34	22	44
Conductivity		0.616	0.751	0.643
PH	pH units	7.36	7.65	7.38
Total Suspended Solids	mg/l	74	<10	14
Total Phosphourous	mg/l P	0.74	<0.05	0.18
Orthophosphate	mg/l P	0.06	0.07	0.22
Cadmium	ug/l	<1		
Calcium	mg/l	147		
Chromium	ug/l	8		
Copper	ug/l	40		
Iron	ug/l	2654		
Lead	ug/l	18		
Magnesium	mg/l	11.32		
Manganeese	ug/l	600		
Mercury	ug/l	<0.05		
Potassium	mg/l	6.7	4.4	9.6
Sulphate	mg/l SO4	50		
Sodium	mg/l	18.5	19.8	29
Alkalinity	mg/l CaCO3	320		
Total Oxidised Nitrogen	mg/l N	1.5		
Zinc	ug/l	176		
List 1 & 2 Organics				
Nickel	ug/l	9		
Total Ammonia as N	mg/l		0.3	
dissolved oxygen	mg/1			4.4

Date		30.09.08	27.06.08	6.03.08	6.12.07
			2,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		0122107
Temp	degrees C				
DO	% sat	10.7	10.9	5.5	5
Ammonical Nitrogen	mg/l N	0.9	0.3	1.6	0.3
BOD	mg/l 02	3	<2	<2	5
COD	mg/l 02	42	30	29	32
Chloride	mg/l Cl	41	35	34	28
Conductivity		0.752	0.752	69	0.729
PH	pH units	7.78	7.7	7.61	7.87
Total Suspended Solids	mg/l	<10	<10	<10	<10
Total Phosphourous	mg/l P	0.86	<0.05	<0.05	0.19
Orthophosphate	mg/l P	<0.03	0.12	0.12	0.15
Cadmium	ug/l	<1			
Calcium	mg/l	169.5			
Chromium	ug/l	15			
Copper	ug/l	36			
Iron	ug/l	454			
Lead	ug/l	57			
Magnesium	mg/l	12.89			
Manganeese	ug/l	33			
Mercury	ug/l	<0.05			
Potassium	mg/l	7.1	5.5	4.9	6.2
Sulphate	mg/l SO4	30			
Sodium	mg/l	22.7	20.4	21.3	18
Alkalinity	mg/l CaCO3	360			
Total Oxidised Nitrogen	mg/l N	3.1			
Zinc	ug/l	50			
List 1 & 2 Organics					
Nickel	ug/l	10			
Total Ammonia as N	mg/l		0.29		

SW3

degrees C % sat mg/l N mg/l O2 mg/l O2 mg/l Cl	30.09.08 10.2 4.9 3 71 49	27.06.08 8.3 2.7 5	6.03.08 4.6 4.6	6.12.07
C % sat mg/l N mg/l O2 mg/l O2 mg/l Cl	4.9 3 71	2.7		5 1
C % sat mg/l N mg/l O2 mg/l O2 mg/l Cl	4.9 3 71	2.7		5 1
<pre>% sat mg/l N mg/l O2 mg/l O2 mg/l C1</pre>	4.9 3 71	2.7		5 1
mg/l N mg/l O2 mg/l O2 mg/l Cl	4.9 3 71	2.7		5 1
mg/l 02 mg/l 02 mg/l Cl	3 71	-	1 6	2.1
mg/l O2 mg/l Cl	71	5		<0.2
mg/l Cl			7	4
	49	51	59	40
		37	44	30
	0.774	0.628	0.719	0.708
pH units	7.1	7.22	7.25	7.72
mg/l	45	<10	<10	<10
mg/l P	0.12	0.15	0.15	0.23
mg/l P	0.05	0.15	0.2	0.2
ug/l	<1			
mg/l	152.4			
ug/l	10			
ug/l	32			
ug/l	675			
ug/l	33			
mg/l	15.12			
ug/l	31			
ug/l	<0.05			
mg/l	11	8.1	9.5	6.3
mg/l SO4	35			
mg/l	29.3	23	29.8	18.5
mg/l CaCO3	270			
uy/I	109			
uq/l	9			
n	ug/l ug/l ug/l ug/l ug/l ug/l ug/l mg/l SO4 mg/l	ug/l 10 ug/l 32 ug/l 675 ug/l 33 mg/l 15.12 ug/l 31 ug/l 31 ug/l 31 ug/l 29.3 mg/l 29.3 mg/l 270 mg/l N <0.3	ug/l 10 ug/l 32 ug/l 675 ug/l 33 mg/l 15.12 ug/l 31 ug/l 31 ug/l 32 ug/l 31 ug/l 20.05 mg/l 11 ng/l 29.3 mg/l 29.3 mg/l 270 mg/l N <0.3	ug/l 10 ug/l 32 ug/l 32 ug/l 675 ug/l 33 mg/l 15.12 ug/l 31 ug/l 31 ug/l 40.05 mg/l 11 8.1 9.5 ng/l 29.3 mg/l 29.3 mg/l 29.8 mg/l 70 mg/l N <0.3

Date		30.09.08	27.06.08	6.03.08	6.12.07
Temp	degrees C				
DO	% sat	10.6	8.2	4.7	6.2
Ammonical Nitrogen	mg/l N	31	0.3	1.1	<0.2
BOD	mg/l 02	<2	3	<2	2
COD	mg/l 02		34	24	32
Chloride	mg/l Cl	36	35	33	28
Conductivity		0.751	0.745	2.399	0.727
рН	pH units	8.11	8.01	7.87	7.83
Total Suspended Solids	mg/l	<10	<10	<10	<10
Total Phosphourous	mg/l P	<0.05	<0.05	<0.05	0.08
Orthophosphate	mg/l P	<0.03	0.09	0.09	0.13
Cadmium	ug/l	<1			
Calcium	mg/l	163.9			
Chromium	ug/l	5			
Copper	ug/l	28			
Iron	ug/l	577			
Lead	ug/l	6			
Magnesium	mg/l	11.56			
Manganeese	ug/l	28			
Mercury	ug/l	<0.05			
Potassium	mg/l	5.9	5.3	5.1	6.2
Sulphate	mg/l SO4	31			
Sodium	mg/l	19.4	20.1	20.6	17.5
Alkalinity	mg/l CaCO3	100			
Total Oxidised Nitrogen	mg/l N	1.9			
Zinc	ug/l	116			
List 1 & 2 Organics					
Nickel	ug/l	7			
Total Ammonia as N	mg/l		0.29		

S	W	5



BOD mg/l 65 283 1233 552 267 410 2 COD mg/l 296 491 2208 998 545 658 20 Ammonia mg/l 78.9 210.4 159.7 381.6 198.8 90 41.4 72 Sulphate mg/l 0.3 7 381.6 198.8 90 41.4 72 Mitrate mg/l 0.3 7 381.6 198.8 90 41.4 72 Alkalinity mg/l 153 439 257 607 39 157 105 17 Conductivity us/cm 2.038 4.263 3.248 7 3.832 0.803 1.631 1.5 gupended Solids 7.42 7.54 8 7.49 7.09 7. Suspended Solids <th>Main Sump</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	Main Sump									
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$\begin{array}{ c c c c c c c c c c c c c c c c c c c$		-		010.4						
Sulphate mg/l 80				210.4	159.7	381.6	198.8	90	41.4	72.5
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Suspended Solids C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C <thc< th=""> C <thc< th=""></thc<></thc<>	-	uS/cm								1.958
Temperature C Image: constraint of the second seco			7.66	7.86	7.42	7.54	8	7.49	7.09	7.33
Boron B ug/l 180.7 180.7 Calcium Ca mg/l 180.7 180.7 180.7 Sodium Na mg/l 340 180.7 180.7 180.7 Cadmium Cd ug/l 310 180.7 180.7 180.7 180.7 Cadmium Cd ug/l 31 190.7 190.7 190.7 190.7 Chromium Cd ug/l 35 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 190.7 <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	-									
Calcium Ca mg/l 180.7 Image: Calcium Na mg/l Sodium Na mg/l Sodium Sodium Na mg/l Sodium Sodium Na mg/l Sodium	Temperature	С								
Sodium Na mg/l 340 Image: Sodium Sodium Cd ug/l Sodium Cd ug/l Sodium Sodium Cd ug/l Sodium Sodium Cd ug/l Sodium Sodium <t< td=""><td>Boron</td><td>B ug/l</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Boron	B ug/l								
Cadmium Cd ug/l <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Calcium	Ca mg/l		180.7						
Chromium Cr ug/l 35 Image: constraint of the state of the sta	Sodium	Na mg/l		340						
Copper Cu ug/l 35 Image: constraint of the state	Cadmium	Cd ug/l		<1						
Iron Fe ug/l 8808 Image: line	Chromium	Cr ug/l		35						
Lead Pb ug/l 52 Image: Constraint of the system of the	Copper	Cu ug/l		35						
Manganeese Mn ug/l 780 Image: Constraint of the system	Iron	Fe ug/l		8808						
Manganeese Mn ug/l 780 Image: Constraint of the system	Lead	Pb uq/l		52						
Magnesium Mg mg/l 67.28 Image: Constraint of the system of the syste	Manganeese	Mn uq/l		780						
Potassium K mg/l 200.2 Image: mg/l Image:		-		67.28						
Zinc Zn ug/l 185 Image: Constraint of the system Image: Consystem Image: Con										
Total phosphorous mg/l P 1.68 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>										
Total Coliforms No/100ml 90000 Image: Coliforms No/100ml Image: Coliforms No/100ml Image: Coliforms No/100ml Image: Coliforms										
Faecal coliforms No/100ml 10000 Image: Coliforms Im		~								
Cyanide mg/l F										
Flouride mg/l F 0.2 Image: Constraint of the state of the sta										
Toluene ug/l	4	mg/l F								
Mercury ug/l <0.05 0.8 <0.3 0.7 <0.3 <0.3 <0 Total Ox Nitrogen mg/l N <0.3										
Total Ox Nitrogen mg/l N <0.3 0.4 0.8 <0.3 0.7 <0.3 <0.3 <0				<0.05			1		1	
	-	-	<0.3		0.8	<0.3	0.7	< 0.3	<0.3	<0.3
Darburac mal 1		~	-0.5		0.0		0.7	-0.5		
Orthophosphate mg/l PO4		-								
Nickel ug/1 45		~		45						
Total Phenols mg/l 0.01		-								