ANNUAL ENVIRONMENTAL REPORT

For

BALLYNACARRICK LANDFILL SITE

Co. Donegal

Waste Licence Reference W0024-04

Reporting Period: January 2012 to December 2012

By

Donegal County Council

To

Environmental Protection Agency

April 2013

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1. INTRODUCTION & REPORTING PERIOD

1.1 This Annual Environmental Report (AER) has been prepared to meet the requirements of Condition 11.11 of Waste Licence W0024-4 for Ballynacarrick Landfill and includes the information listed in Schedule G of the Waste Licence.

1.2 Ballynacarrick Landfill Site has been in operation since 1980. In 2000 Donegal County Council submitted an application to the Environmental Protection Agency for the continued operation of the landfill site, as required by the Waste Management (Licensing) Regulations, 1997. On the 7th of December 2000 the Environmental Protection Agency granted the Council a Waste Licence (registration number 24-1) for the facility, in accordance with the Third Schedule of the Waste Management Act, 1996.

1.3 An application to review the Waste Licence (ref. W0024-1) for Ballynacarrick Landfill Site was made to the Agency in November 2003. This review of the licence was completed in December 2004 and a new licence (ref. W0024-2) granted for an extension to the Site. The new licence was granted on 10th December, 2004, and was active from this date. In December 2007 an application was made to the Agency to review Licence W0024-2 in order to regularise tonnage. A Preliminary Decision for Licence W0024-3 was issued on 26th September 2008 and a Final Decision on 27th November 2008. During 2009 the Agency instigated a further review of all waste licences in Ireland. A Preliminary Decision for W0024-4 was issued to Donegal County Council on 19th October 2009. A Final Decision was granted on 24th March 2010. The site closed on 31st July 2012 due to the capacity of the facility being exhausted.

1.4 The site is located at Ballynacarrick, Ballintra, Co Donegal and occupies an area of approximately 9 hectares. The facility, as shown on Drawing no. IBR0125/051, is located in a rural setting and surrounding land use is agricultural. The site lies approximately 3km southeast of Ballintra and 7 km south of Laghey. The site is located in a low-lying position in an area of marginal hill land and is bounded by chain link fencing and a 2.0m high security fence. The current site layout is shown on Drawing no. IBL0125/054.

1.5 This report covers the period from January to December 2012.

2. WASTE ACTIVITIES CARRIED OUT AT THE FACILITY

2.1 The licensed waste disposal activities, in accordance with the Third Schedule of the Waste Management Act, 1996 to 2008 are restricted to those listed as follows

- **Class 5 - Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.**
- **Class 6 - Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1. to 10 of this Schedule.**
- **Class 13 - Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.**.

2.2 Licensed waste recovery activities, in accordance with the Fourth Schedule of the Waste Management Act, 1996 to 2008 are restricted to those listed as follows:

- **Class 2 - Recycling or reclamation of organic substances, which are not used as solvents (including composting and other biological transformation processes).**
- **Class 3 - Recycling or reclamation of metals and metal compounds.**
- **Class 4 - Recycling or reclamation of other inorganic materials.**
- **Class 13 – Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.**

2.3 The maximum tonnage of individual waste types for disposal is listed in Schedule A of the Waste Licence with a total tonnage of 35,000 tonnes per annum.

2.4 Access to site is controlled by the Site Manager. All persons availing of the site must report to the site office at the time of entering and leaving the landfill site. Access is restricted to those times when staff are on duty and out of operating hours the site is secured to prevent unauthorised entry.

3. CALCULATED REMAINING CAPACITY OF THE FACILITY AND THE YEAR IN WHICH FINAL CAPACITY IS EXPECTED TO BE REACHED

3.1 The site was filled to capacity on 31st July 2012. The site closed on this date.

4. METHODS OF DEPOSITION OF WASTE

4.1 When the landfill was open waste was accepted between 08.30 to 17.00 hours Monday to Friday and 09.00 to 13.00 hours on Saturdays with the exception of Bank Holidays.

4.2 The landfill was filled in accordance with a series of filling plans as referenced in previous AER's

4.3 All waste loads were directed to the working face where the waste was infilled within a pre-designated area under the direction of the machine operator. The waste was inspected and, if acceptable for disposal, spread and compacted.

4.4 At the end of the working day the waste was covered to reduce the incidence of nuisance. Imported clay / subsoil was used to cover waste on a daily basis and an interim cover of depth not less than 150mm is applied at the end of each week.

5. REPORT ON RESTORATION OF COMPLETED CELLS / PHASES

5.1 During this period restoration of the penultimate section of the site was completed. This area comprised Phase 1 and Cells 2A and 2B of the extension together with the area beneath the former civic amenity site. Drg nos. IBR0148/202 and IBR0148/215 show the extent of the area restored. Restoration works for this area were completed in October 2012. This covers an area of approximately 21,000m^2. The final part of the site to be restored covers an area of approximately 16,000m^2. This area is being given 6 months for settlement before the final restoration contract is procured using a list of pre-qualified contractors.

6. EMISSIONS FROM THE FACILITY (INCLUDING RESULTS SUMMARY AND INTERPRETATION OF ENVIRONMENTAL MONITORING)

6.1 This section considers emissions of mainly leachate or landfill gas from the Ballinacarrick facility into the environment. The monitoring data, the results of which are contained in Appendix A**,** has been reviewed, and leachate and gas emissions considered generally in terms of ammonia levels (mg/l) and methane levels (%v/v) respectively.

Monitoring locations referred to are shown on drg IBR0125/053.

6.2 Leachate Emissions

Levels of ammonia in both surface and groundwater downstream of the facility have been considered relative to baseline levels upstream of the landfill and relative to levels detected during the previous period.

6.2.1 To Groundwater

Groundwater is monitored at nine locations, one upstream, three downstream and five wells installed around the perimeter of the site at the request of the Agency in September 2009 (GW1, GW2, GW4, GW5, GW6, GW7, GW8, GW9 and GW10 respectively). All monitoring data and graphical presentations are contained in Appendix A**.** Results indicate that baseline upstream groundwater is contaminated. Levels downstream indicate that leachate is still being released into the environment from the unengineered part of the site. Levels of ammonia in groundwater are comparable to those detected during the last period except at GW2 at which ammonia levels are generally lower this period.

6.2.2 To Surface Water

Surface water is monitored at four locations, one upstream and three downstream (SW2 & SW1, SW3 , SW4 respectively). All monitoring data and graphical presentations are contained in Appendix A. Results indicate that baseline surface water upstream of the facility is slightly contaminated. Levels downstream indicate that leachate is still being released from the unengineered part of the site into downstream surface water but at very low levels, especially for a partially unlined site with such small receiving waters. In general, levels of ammonia detected in surface water are at their lowest since monitoring commenced.

6.2.3 Leachate Quality

Leachate results for 2012 are presented in Appendix A and some of the characteristic parameters of the raw leachate are listed in Table 6.1.

Raw leachate results have been compared to "Typical Leachate Composition of 30 Samples from UK/Irish Landfills accepting mainly Domestic Waste" (Landfill Operational Practices). Parameters are within the minimum and maximum concentrations stated and generally show similar levels to those detected during the last reporting period.

Table 6.1 Raw Leachate Concentrations 2012

	Ballynacarrick Landfill Site		From 30 samples from UK/Irish landfills accepting domestic waste Results in mg/l		
PARAMETER	**Min.Conc**	**Max.Conc**	**Min.Conc**	**Max.Conc**	**Mean**
Ammonia (mg/N)	0.12	410	<0.2	1700	491
BOD	<1.0	48	4.5	>4800	>834
COD	25	1247	<10	33,700	3078
Chloride (mg/l)	21	530	27	3410	1256
Iron (mg/l)	0.03	0.23	0.4	664	54.4
Potassium (mg/l)	19.2	158	2.7	1480	491
TON (mg/l N)	<0.01	268	/	/	/
Conductivity (µS/cm)	873	6140	503	19,200	7789
pH (pH units)	6.52	8.33	6.4	8.0	7.2

6.3 Gas Emissions

6.3.1 Gas Management Infrastructure

Gas emissions are managed by means of a gas collection network and a permanent flare that runs continuously. At the end of the reporting period there were a total of 57 wells across the site (including horizontal extraction points) from which gas can be extracted and delivered to the flare. In addition there are four location at which gas levels are monitored within the waste (at LG2, LG4, LG5 & LG6) and 10 perimeter monitoring wells (Labels LG8 to LG17) which determine whether gas is migrating off site or not. There is also a gas cut-off trench located along the north-eastern boundary near to the entrance gate.

6.3.2 Gas Wells in Waste

Gas levels within the waste body (all in the unlined part of the site) are monitored at locations LG2, LG4, LG5 & LG6 as shown on drawing no. IBR0125/053. The ranges of levels detected during the period are summarised in Table 6.2.

Table 6.2 Summary of Gas Levels in Waste

Parameter	2011		2012	
	Max	Min	Max	Min
Methane	85.6%	43.7%	87.1%	36.2%
Carbon Dioxide	36.4%	14.3%	36.6%	12.9%

6.3.3 Perimeter Gas Wells

Perimeter wells were installed during 2005. Nine wells were initially installed labelled LG8 – LG16 inclusive. As described above, a well was also installed at a later stage just outside the site boundary at LG17. All of these locations are shown on drawing no. IBR0125/053 – Monitoring Locations.

Results from these wells detected over the period are summarised in Table 6.3 as follows:

Table 6.3 Summary of Gas Levels in Perimeter Wells

Parameter	2012	
	Max	Min
Methane	14.6%	0%
Carbon Dioxide	20.4%	0%

6.4 Dust Monitoring

Dust monitoring was carried out three times during the year at five monitoring locations. The results are shown in Table 6.4 below. No exceedances of the 350mg/m^2/day limit contained in the Waste Licence were recorded during monitoring.

Table 6.4 Results from dust monitoring analysis for 2012 (in mg/m^2/day)

Date Sampled:	Dust Point: DG1	Dust Point: DG2	Dust Point: DG3	Dust Point: DG4	Dust Point: DG5
February	148	112	144	162	162
June	140	100	110	142	135
July	120	98	111	125	106

7. FLOW DATA FOR WATER COURSE RECEIVING SURFACE WATER EMISSIONS

7.1 Condition 6.1 requires that the Council installs monitoring equipment and telemetry to monitor the surface water management system. As part of the on-going leachate infrastructure improvement works increased pumping capacity was introduced in 2011 to improve containment and eliminate sources of contamination draining into the surface water system.

Under Condition 6.19 the Council requested (DCC letter of 12/10/09) that the requirement to install this equipment and telemetry be deferred until the need for it can be reviewed in the light of anticipated benefits to surface water quality accruing from the drainage improvement works. The results for surface water this period continue to show improved quality and ammonia in surface water is at its lowest since monitoring began.

8. ESTIMATED ANNUAL AND CUMULATIVE QUANTITIES OF LANDFILL GAS EMITTED FROM THE FACILITY

8.1 Modelling of waste inputs estimate the cumulative quantity of landfill gas emitted from the facility since 1980 at 66.5Mm^3. Current annual output is at a rate of c.490m^3/hour for the period totalling an estimated 4.3Mm^3 for 2012. See Appendix D for further details.

8.2 The modelling results using Gas Sim are presented in Appendix D.

9. VOLUME OF LEACHATE PRODUCED AND VOLUME OF LEACHATE TRANSPORTED / DISCHARGED OFF-SITE

9.1 The WBC (ref. Appendix C) indicates that 24,455m^3 of leachate should have been generated on this site given the recorded rainfall (Appendix F). As shown in Table 9.1 59,103m^3 of leachate was actually pumped, stored and tankered off-site to Letterkenny Wastewater Treatment Works. These figures do not compare well. This large volume of leachate was removed due to additional pumping capacity now being available, however further investigations are ongoing into the source of this leachate on foot of the hydregoelogical investigation completed in 2010 with a view to limiting potential for leachate being generated from shallow groundwater contributions. Work is currently underway to limit the pumping of leachate from the groundwater chamber to times when rainfall is low in order to make the volumes of leachate pumped from groundwater more sustainable whilst not deteriorating surface and groundwater quality.

Table 9.1 Leachate quantities removed from site during 2012

Month	Quantity of Leachate(m^3)
January	**9,261,660**
February	**7,119,420**
March	**3,568,660**
April	**2,860,200**
May	**3,188,620**
June	**4,153,770**
July	**4,965,060**
August	**4,197,940**
September	**4,535,840**
October	**6,349,620**
November	**5,923,960**
December	**2,978,740**
TOTAL (m^3)	**59,103.490**

10. ANNUAL WATER BALANCE CALCULATION AND INTERPRETATION

10.1 The annual water balance calculation is contained in Appendix C and discussed in the previous section.

11. WASTE MANAGEMENT RECORD

11.1 In accordance with Condition 5 of the waste licence only those wastes types and quantities listed in Schedule A shall be recovered or disposed of at the facility unless prior agreement of the Agency has been obtained. The maximum annual tonnage of individual waste categories for acceptance to the site is listed in Schedule A of the Waste Licence. The quantity of waste received at the facility (during the reporting period) and each previous year (back to 1997) are presented in Table 11.2 and Table 11.1 respectively. Waste data figures were derived from weighbridge records. Quantities of waste accepted under each EWC Code are provided in Table 11.3. The site closed at the end of July 2012 as it had been filled to capacity. No more waste will be received at the site.

Table 11.1 Waste quantities accepted (tonnes)

Year	**1997**	**1998**	**1999**	**2000**	**2001**
Total	23,000	24,000	25,000	9,100	8,300
Year	**2002**	**2003**	**2004**	**2005**	**2006**
Total	17,189	16,872	37,746	36,141	32,908
Year	**2007**	**2008**	**2009**	**2010**	**2011**
Total	35,143	30,332	24,535	23,761#	16,170
Year	**2012**				
Total					

- excludes 28,342 tonnes of repatriated waste imported from Northern Ireland under agreement of DEHLG and EPA.

Table 11.2 Waste quantities accepted per month during the reporting period

Month	**Quantity of waste (Tonnes)**
January	1018.05
February	2325.46
March	3524.68
April	2813.28
May	2352.90
June	2565.78
July	5589.84
August	0
September	0
October	0
November	0
December	0
Total	**20,189.99**

Table 11.3 Waste quantities per EWC Code in 2012

Waste Type	EWC Code	Total (tonnes)
Construction and Demolition (conc blocks, bricks, ceramics and tiles)	17 01 07	0
Construction and Demolition (soil and stones)	17 05 04	0
Sludges from water clarification	19 09 02	1158.76
Mixed residual waste	19 12 12	5,596.66
Biodegradable kitchen and canteen waste	20 01 08	3.72
Mixed Municipal Waste	23 03 01	13,427.21
Street-cleaning residues	20 03 03	3.64
Bulky waste	20 03 07	0
Grand Total (tonnes)		**20,189.99**

12. WASTE RECOVERY REPORT

12.1 There was no waste recovery carried out on the site in the reporting period.

13. TOPOGRAPHICAL SURVEY

13.1 A site survey from the recently completed restoration contract is currently being finalised. This will be issued to the EPA under separate cover when it is available.

14. SLOPE STABILITY SURVEY

14.1 A slope stability survey was conducted in February-March 2011. Results were forwarded to the Agency under separate cover in March 2011. As soon as the topographical survey referred to above is available, an updated slope stability survey will be completed and issued to the Agency under separate cover.

15. RESOURCE CONSUMPTION SUMMARY

The consumption of electricity and fuel for the period is summarised as follows:

- Diesel consumption: 33,340 litres
- Electrical consumption: 171,382 kwhrs.

16. COMPLAINTS SUMMARY

16.1 There were no complaints received during the reporting period.

17. SCHEDULE OF ENVIRONMENTAL OBJECTIVES AND TARGETS

Table 17.1 **Environmental Objectives and Targets**
Objective 1: Final restoration of the facility.
Reason: To comply with the conditions of the waste licence. To return the site to an aesthetically acceptable landform with the potential for beneficial after use. To provide a comprehensive capping system that will ensure the effective long-term management of leachate and landfill gas.
Individual Targets: (a) Complete restoration of Phases 2B and 2C.
Timescales for individual targets: 1. Year end 2013.
Personnel Responsible for implementation of targets Senior Executive Engineer (Capital) and appointed consultants
Estimated cost and funding available to implements objectives Estimated project cost of Restoration of Phases 2B and 2C = €548,800k (exc. VAT)
Payback from Project Restoration will reduce emissions to the surrounding environment and minimise the generation of leachate to be tankered. It will also improve the aesthetics of the local area.

18. ENVIRONMENTAL MANAGEMENT PROGRAMME – REPORT FOR PREVIOUS YEAR

Objective 1: **(a)** **Restoration complete.**

(b) **Pre-qualification complete. Tender assessment currently underway, project commencement estimated Q2, 2013.**

19. ENVIRONMENTAL MANAGEMENT PROGRAMME – REPORT FOR CURRENT YEAR

19.1 Programme for 2013 outlined in Table 17.1.

20. POLLUTANT RELEASE TRANSFER REGISTER – REPORT FOR PREVIOUS YEAR

20.1 Not applicable.

21. POLLUTANT RELEASE TRANSFER REGISTER – PROPOSAL FOR CURRENT YEAR

21.1 Not applicable.

22. NOISE MONTORING SUMMARY REPORT

22.1 Noise monitoring was carried out in accordance with Schedule C of the Waste Licence. Results are shown in Table 22.1. The limit for daytime reading is 55 dB(A), therefore there were no exceedances recorded.

Table 22.1 Results from noise monitoring analysis in September 2012

	N 1	N 2	N 3
GPS Location	**IG 9385 6767**	**IG 9386 6754**	**IG 9336 6755**
L eq dB A 30 min.	41.5	40.1	40.6
L 90	40.0	39.8	39.7
L 10	41.7	40.8	41.1

23. METEOROLOGICAL DATA SUMMARY

23.1 Meteorological data is contained in Appendix C.

24. AMBIENT MONITORING SUMMARY, INCLUDING BIOLOGICAL ASSESSMENT

24.1 All results of the ambient monitoring are contained in Appendix A and these results have been summarised and discussed in Section 6 of this report.

24.2 Biological assessments were carried out in July and August. The report for the biological assessment is as follows:

- SW2 (upstream) could not be biologically assessed due to the nature of the water body bed;
- SW1 (downstream) could not be assessed because the sampling point is a lined lagoon that forms part of a piped system;

- SW3:- Kick sampling was carried out at this point over a two-minute period. The Q-Value recorded in July and August was Q3 (**Pollution Status**: Moderate pollution; **Condition**: Unsatisfactory);
- SW4 – no kick sampling was carried out due to the nature of the stream bed. The sediment had the appearance of a dark mud indicative of anaerobic conditions. Upstream of this point there is only a soil parent rock present therefore a survey could not be carried out, so a sample was taken further downstream at the next accessible point (500m further downstream from SW4). At this point the Q-Value recorded in both July and August was Q3 (**Pollution Status**: Moderate pollution; **Condition**: Unsatisfactory).

25. CURRENT MONITORING LOCATION REFERENCE DRAWING

25.1 Drawing ref. IBR0125/053 shows the layout of all monitoring locations for the site.

26. TANK, PIPELINE AND BUND TESTING AND INSPECTION REPORT.

26.1 Integrity testing of the leachate storage tanks was conducted in February and March of 2010 and the report was forwarded to the Agency in June 2010. The tanks are due to be re-tested during 2013.

27. REPORTED INCIDENTS SUMMARY

27.1 There was one environmental incident reported during the period. This was due to the gas flare going out on high temperature due to faulty louvres. This occurred on 24/7/12 at 14:44hrs.

28. ENERGY EFFICIENCY IMPLEMENTATION PROGRAMME

28.1 An Energy Audit Report was produced for the Council in 2007 and submitted to the Agency at that time. It concluded that there was limited scope for energy reduction on the site but that consideration should be given to:

(a) Harnessing energy from the flare in terms of energy generation and connection to the national grid;

(b) Improving metering and control systems;

(c) Changing electricity supplier.

29. ENERGY REVIEW AUDIT REPORT SUMMARY

29.1 After consideration of the scale of gas production required for cost effective electricity generation and grid connection the Council did not originally seek to generate electricity from from its flare because the operation is not sufficiently large scale. However, recently, the evolution of technology involved with harnessing power from landfill gas has improved the

viability of small operations such as Ballynacarrick. The Council is currently investigating the business case for proceeding with such a project.

29.2 The control systems on the site have been continuously developed and upgraded since the time of the Energy Audit Report. Since 2011 additional meters have been added to the leachate control infrastructure on a continual basis to allow for improved management of that system. Furthermore a data collection project is on-going to analyse leachate flow data.

29.3 The Council moved from the ESB to Airtricity for its electricity supply during in November 2009. It changed supplier again early in 2012.

30. DEVELOPMENT INFRASTRUCTURE WORKS SUMMARY (COMPLETED PREVIOUS YEAR OF PREPARED FOR CURRENT YEAR)

Table 30.1 Development works undertaken during 2012

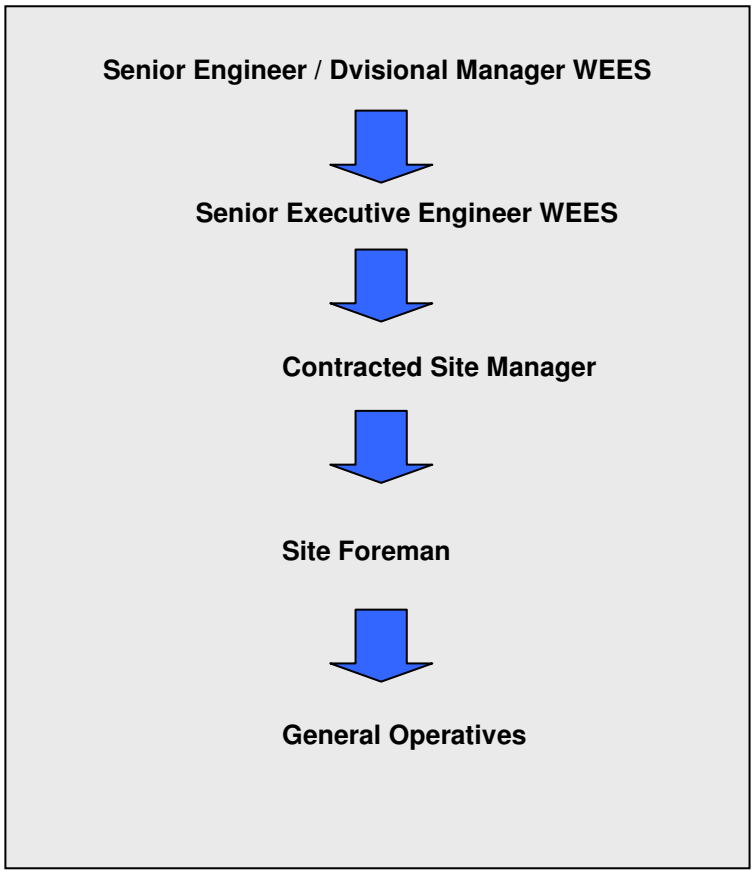
Project	Description and Date
Restoration of Phase 1 and Cell 2A	Completion by end 2012

Table 30.2 Development works proposed for 2013

Licence requirements	Timescale
Restoration of Phases 2, Cells B & C	Completion by end 2013

31. REPORT ON MANAGEMENT AND STAFFING STRUCTURE OF THE INSTALLATION/FACILITY

31.1 Management Structure at Ballynacarrick Landfill site is as follows. This is the present status and maybe subject to change at a later stage.



Responsibility is as follows:

Senior Engineer: Overall responsibility for the management of the landfill activity and the implementation of the waste licence.

Senior Executive Engineer: Responsible for the ongoing management of the facility as directed by the Senior Engineer

Site Manager: Responsible for the day to day management of the landfill as per licence requirements and as directed by Senior Executive Engineer or Senior Engineer.

Site Foreman: Carry out daily landfill operations as per operational and management procedures

General Operatives: Carry out daily landfill operations as per operational and management procedures under direction of site manager and foreman.

Scientific Officers: Carry out inspections, environmental monitoring, analysis and reporting in accordance with licence requirements.

32. REPORT ON PROGRAMME FOR PUBLIC INFORMATION

32.1 A public information programme is in place in accordance with Condition 2 of the Waste Licence to ensure that information regarding the environmental performance is available from Council Headquarters in Lifford at all reasonable times. Details of this are contained in the Environmental Management System Manual.

33. REPORT ON FINANCIAL PROVISION MADE UNDER THIS LICENCE

33.1 Donegal County Council is a Local Authority and is committed to provide for the proper management, development and restoration of Ballynacarrick Landfill Site.

34. STATEMENT ON COSTS OF LANDFILL

Ballynacarrick Landfill AER 2012	
Statement of Account	
EXPENDITURE	
Operational Expenses	**€915,719**
Loan Repayments	**€547,895**
Landfill Levy Paid	**€1,073,891**
TOTAL EXPENDITURE	**€2,537,505**
INCOME	
Landfill Charges Accrued (incl VAT)	**€1,682,843**
BALANCE	**€854,662**

35. REVIEW OF ENVIRONMENTAL LIABILITIES

35.1 Efforts are made on a continuous basis to contain leachate and gas emissions by means of extraction systems and treatment of pollutants to protect the local environment. In terms of leachate containment, the number of locations from which leachate is pumped has been increased along with the capacity to convey and store leachate. Gas continues to be continuously collected and flared.

35.2 The Council does not specifically underwrite environmental risks but as a Local Authority is committed to provide for the proper environmental management of the site.

36. ANY AMENDMENTS TO CRAMP

36.1 The CRAMP for Ballynacarrick Landfill Site was submitted to the Agency for approval in April 2010. There have been no amendments to the Plan since this time.

37. DETAILED STATEMENT, WITH MASS BALANCE, OF CONSTRUCTION AND DEMOLITION WASTES AND COMPOST USED IN CONSTRUCTION

37.1 No such wastes are used in construction at this site.

38. STATEMENT OF COMPLIANCE OF FACILITY WITH ANY UPDATES OF THE RELEVANT WASTE MANAGEMENT PLAN

38.1 None applicable.

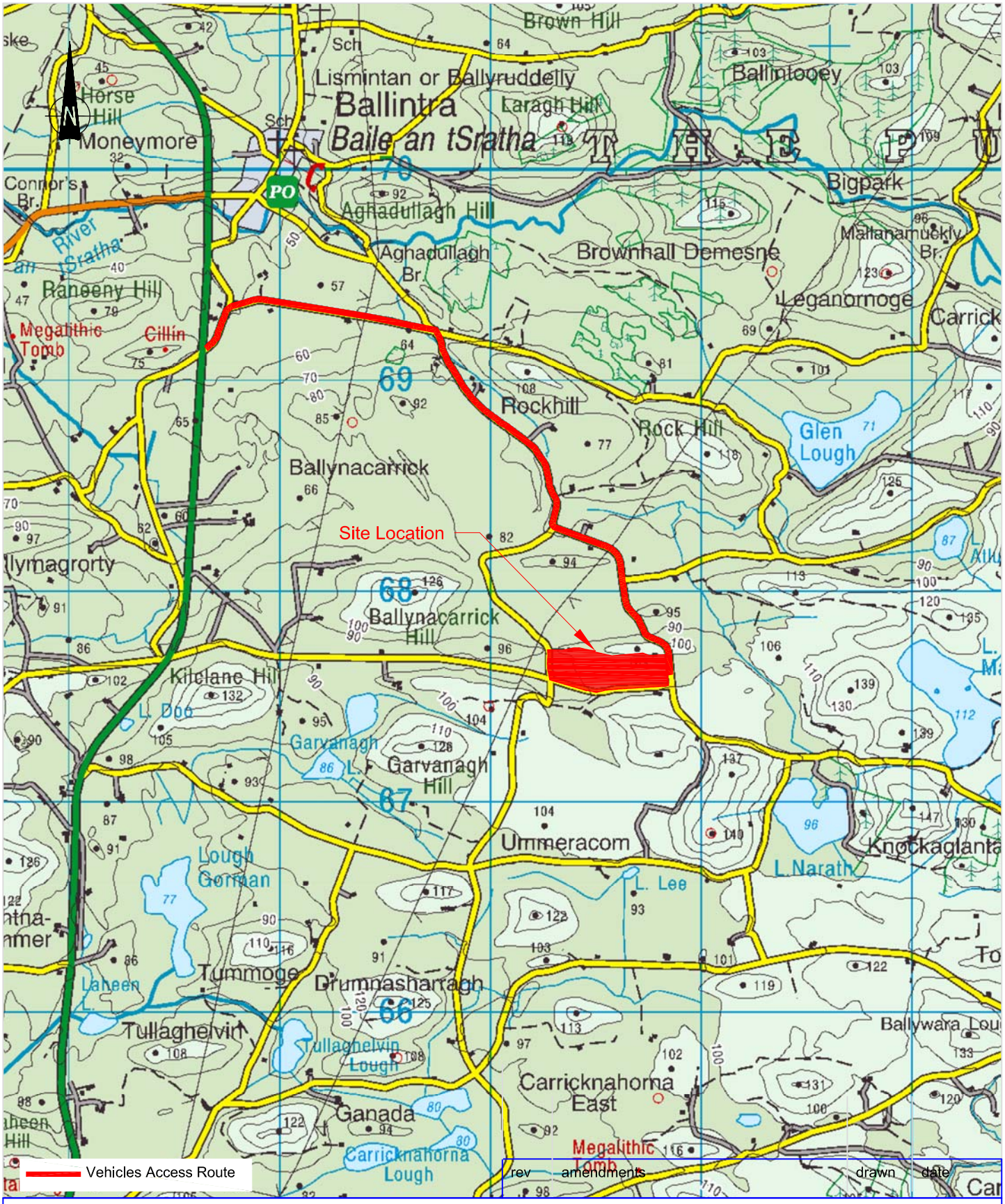
39. STATEMENT ON THE ACHIEVEMENT OF THE WASTE ACCEPTANCE AND TREATMENT OBLIGATIONS

39.1 Condition 8 of the Waste Licence requires that all waste accepted at the site has been subject to appropriate pre-treatment and that a reduction in BMW content to 47% by weight is achieved. The Council has submitted ten quarterly BMW returns to date. These reported the following as regards these criteria:-

Table 39.1 – Statement on Achievement of Waste Acceptance and Treatment Obligations

Return Date	% of Waste Pre-Treated	% BMW
October 2010	94.1%	60.9%
January 2011	96.6%	60.3%
April 2011	96.0%	57.4%
July 2011	80.2%	53.2%
October 2011	98.4%	57.5%
January 2012	96.8%	58.6%
April 2012	98.9%	59.3%
July 2012	99.3%	60.4%

October 2012	99.6%	59.8%
January 2013	n/a	0%



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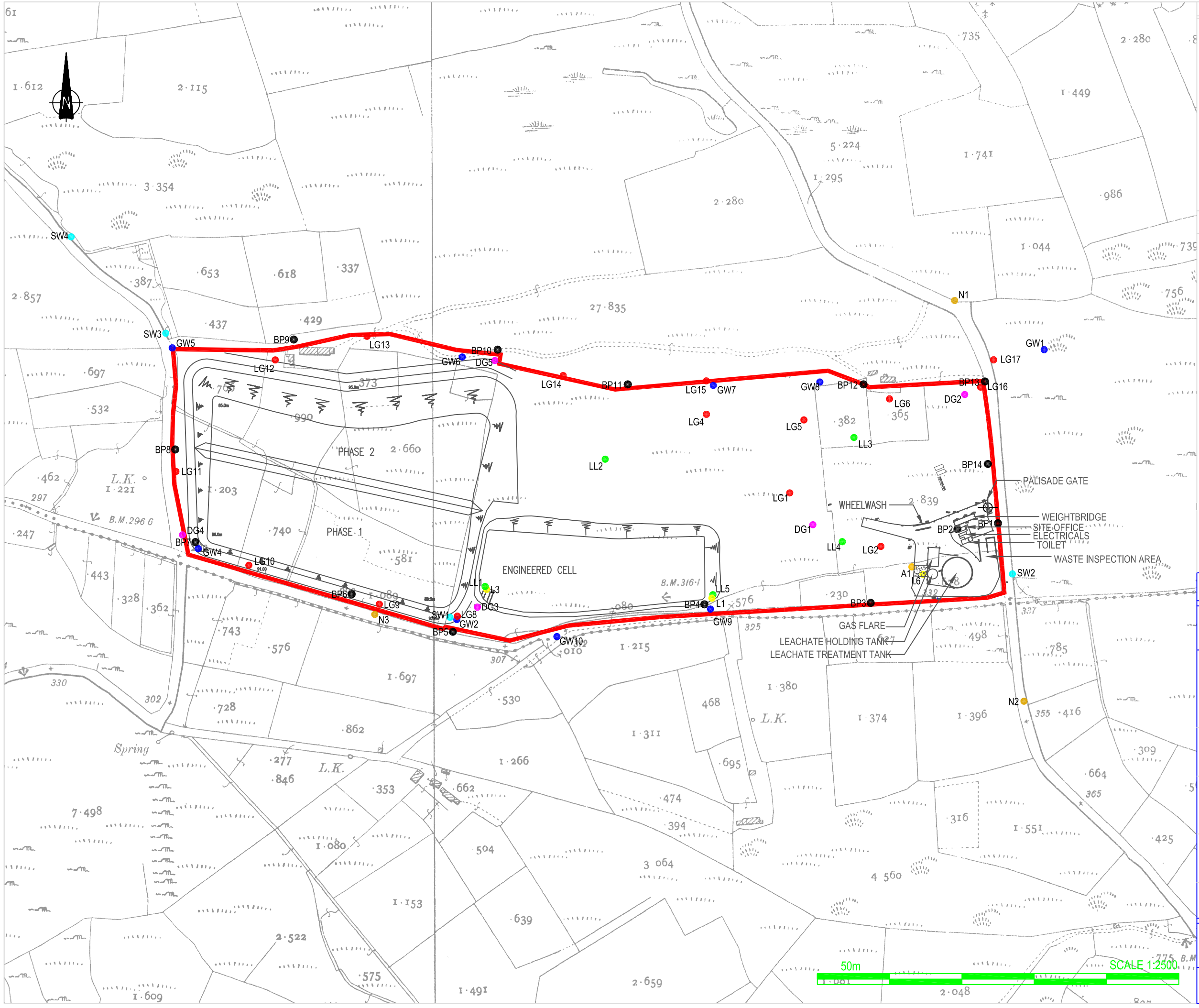
Drawing Number	Rev
IBR0125/051	A

Project	Title
Ballynacarrick Landfill Site	Ballynacarrick Landfill Site Location
Client	**Architect**
Donegal County Council	

Drawing Status	Sheet Size	Drawing Scale	Project Leader	Drawn By	Date	Initial Review
Prelim	A4	1:25,000	DD	AMB	Mar '11	AMcG



NOTES

1. Verifying Dimensions.
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.

2. Existing Services.
Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.

3. Issue of Drawings.
Hard copies, dwf and pdf will form a controlled issue of the drawing. All other formats (dwg, dxf etc.) are deemed to be an uncontrolled issue and any work carried out based on these files is at the recipients own risk. RPS will not accept any responsibility for any errors arising from the use of these files, either by human error by the recipient, listing of un-dimensioned measurements, compatibility issues with the recipient's software, and any errors arising when these files are used to aid the recipients drawing production, or setting out on site.

4. DATUM:

5. KEYS

- SITE BOUNDARY
- LG1 — LANDFILL GAS MONITORING POINT
- DG1 — DUST MONITORING POINT
- N1 — NOISE MONITORING POINT
- SW1 — SURFACE WATER MONITORING POINT
- GW1 — GROUND WATER MONITORING POINT
- L1 — LEACHATE MONITORING POINT
- LL1 — LEACHATE LEVEL
- BP1 — BAIT POINT
- A1 — LANDFILL GAS FLARE

rev	amendments	drawn date	checked date

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DONEGAL COUNTY COUNCIL

Project
BALLYNACARRICK LANDFILL SITE

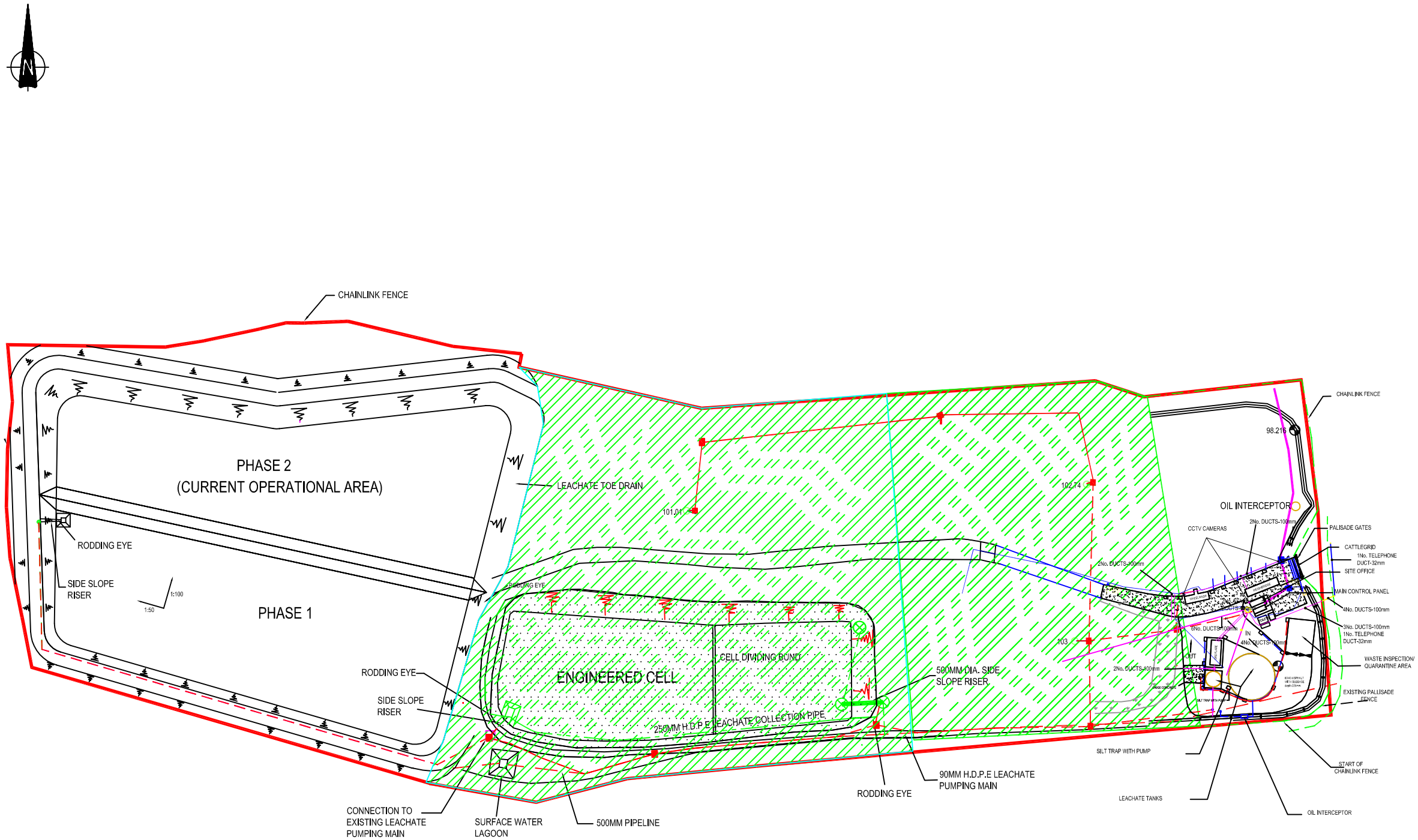
Title
Monitoring Locations

Architect

Drawing Status	Sheet Size	Drawing Scale
Prelim	A3	AS SHOWN

Drawing Number	Rev
IBR0125/053	0

Drawn By / Date	Checked By / Date	Approved By / Date
AMB JAN '10	NR JAN '10	DD JAN '10



10m SCALE 1:2000

NOTES

1. Verifying Dimensions.
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.

2. Existing Services.
Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.

3. Issue of Drawings.
Hard copies, dwf and pdf will form a controlled issue of the drawing. All other formats (dwg, dxf etc.) are deemed to be an uncontrolled issue and any work carried out based on these files is at the recipients own risk. RPS will not accept any responsibility for any errors arising from the use of these files, either by human error by the recipient, listing of un-dimensioned measurements, compatibility issues with the recipient's software, and any errors arising when these files are used to aid the recipients drawing production, or setting out on site.

5. DATUM:

ENGINEERED CELL
RESTORED AREA
CABLE DUCTS & CHAMBERS
3 PUMP NUMBER
MAIN ESB POWER LINE
CABLE DUCTS
ROAD LIGHTING CABLE DUCTS

rev	amendments	drawn date	checked date

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Client
DONEGAL COUNTY COUNCIL

Project
BALLYNACARRICK LANDFILL SITE

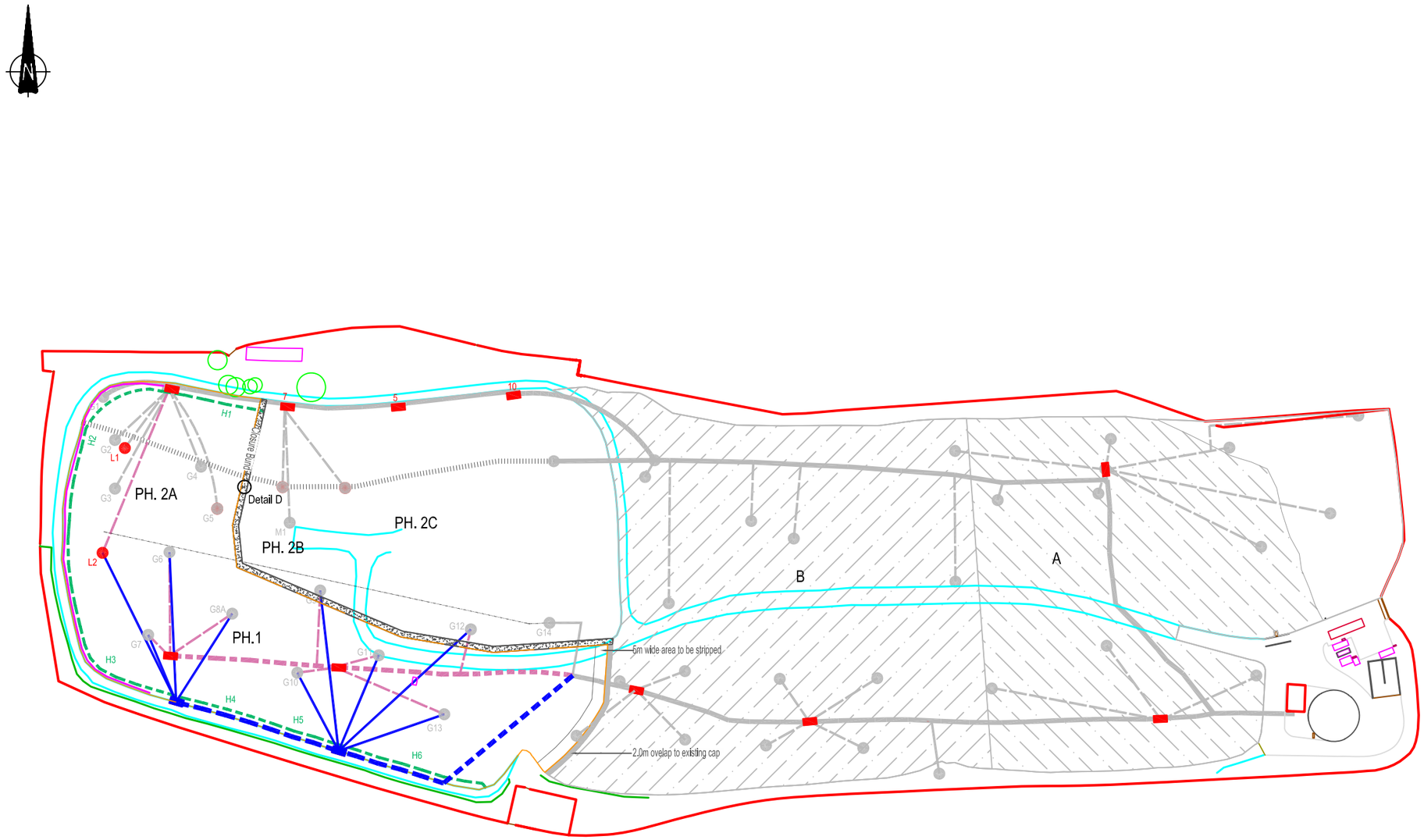
Title
Site Layout

Architect

Drawing Status	Sheet Size	Drawing Scale
Prelim	A3	1:2000

Drawing Number	Rev
IBR0125/054	0

Drawn By / Date		Checked By / Date		Approved By / Date	
AMB	FEB '10	NR	FEB '10	DD	FEB '10



10m SCALE 1:2000

NOTES

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4. Key:

- Site Fence
- Existing 250mm Dia Gas Main
- Existing 250mm Dia Gas Main to be removed
- Existing 90mm Dia OD HDPE Pipework to be removed
- Proposed 90mm Dia Perforated Horizontal Pipework
- Proposed250mm Dia OD HDPE Pipework
- Proposed 90mm Dia OD HDPE Pipework
- Existing 90mm Dia OD HDPE Pipework
- Existing 250mm Dia Leachate Collection Pipework
- Restored Area
- Existing Gas Wells
- Leachate Monitoring Tower to be extended
- 10 Number of Horizontal Well Connect to Manifold
- Proposed Manifolds (Phase I Restoration)

rev	amendments	drawn date	checked date

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Client: Donegal County Council

Project: Ballynacarrick Landfill Site

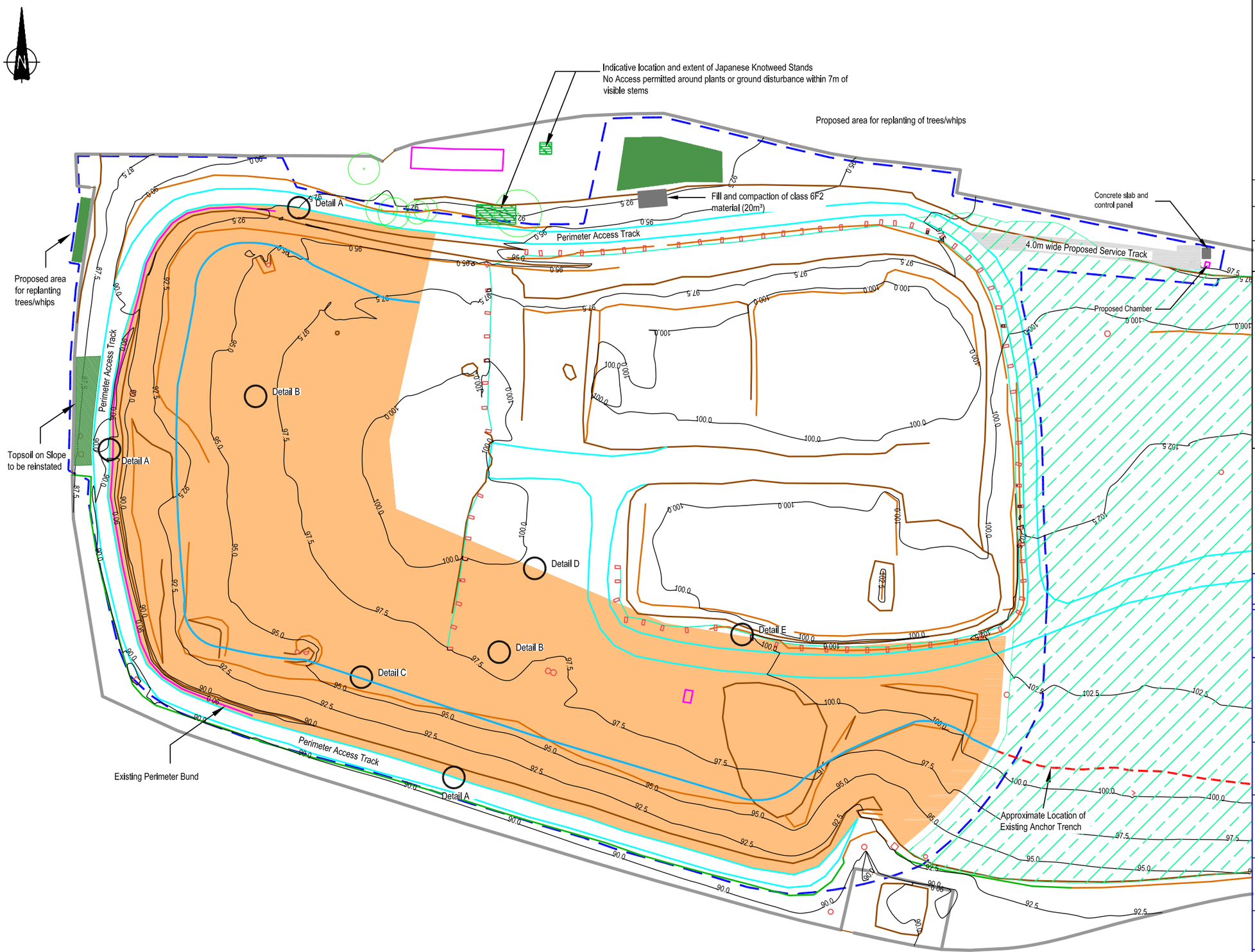
Title: Landfill Gas Management

Architect:

Drawing Status	Sheet Size	Drawing Scale
Prelim	A3	1:2,000

Drawing Number	Rev
IBR0125/056	0

Drawn By / Date		Checked By / Date		Approved By / Date	
AMB	Mar '11	AMcG	Mar '11	DD	Mar '11



NOTES

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2. Existing Services.
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4. Elevation in metres to OS Datum Malin Head (Irish Grid)
   Survey undertaken on 11 February 2011by ORICA BQS.
5. Access to Councils authorised vehicles and staff to be maintained at all times in accordance with the specification
6. Keys

- Proposed Capping Area
- Restored Area
- Main Works Area
- Fence
- Road
- Bank Top
- Existing Bund to be removed
- Approximate location of existing anchor trench
- Bank Bottom
- Vegetation
- Proposed Anchor Trench
- 97.5 Contour Prominent
- Concrete
- Hut
- Netting

For Details A-E please refer to Drawing IBR0148/204

rev	amendments	drawn date	checked date

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Client
Donegal County Council

Project
Ballynacarrick Landfill Site
Restoration Contract - Phase I

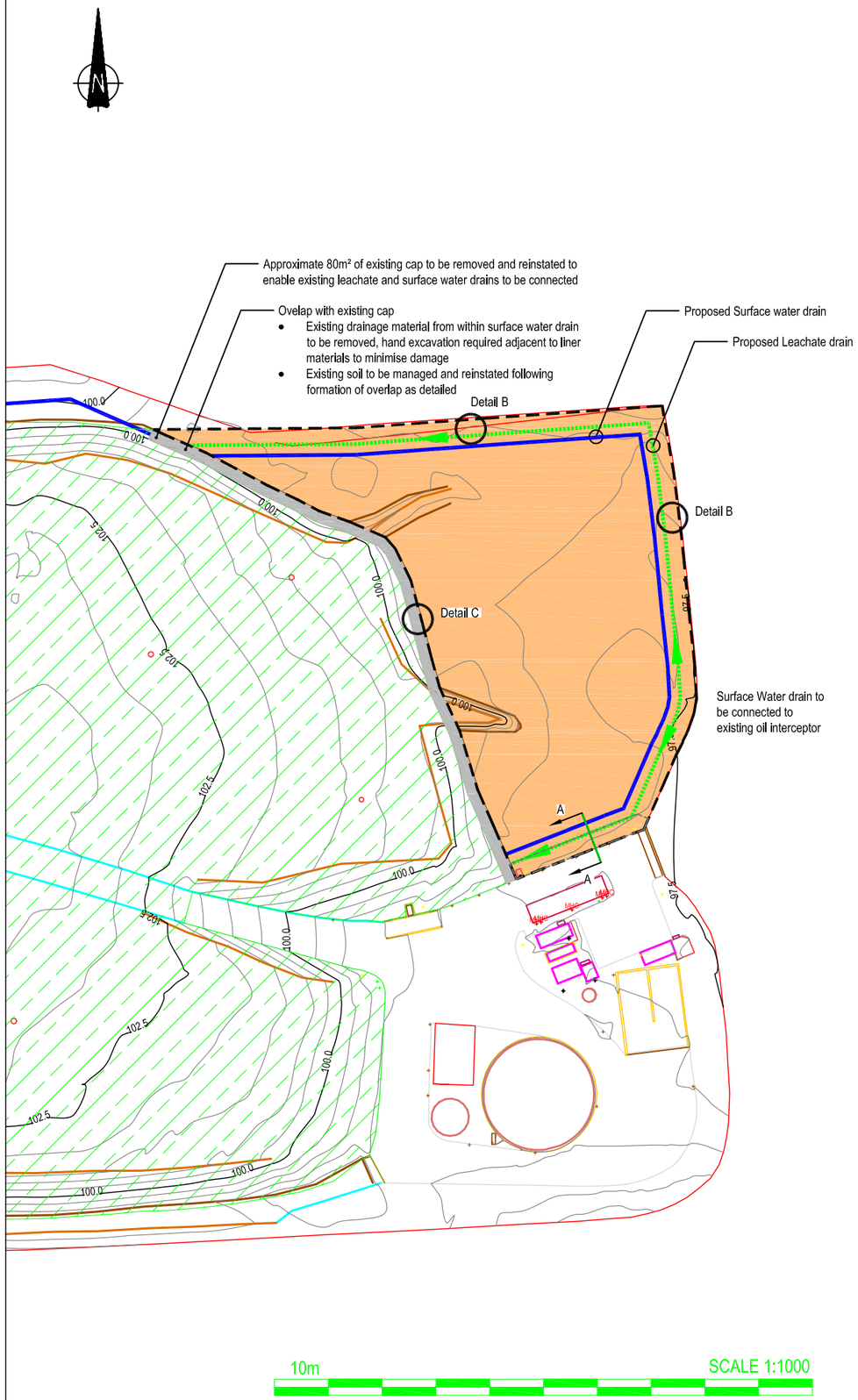
Title
Proposed Restoration Area (West)

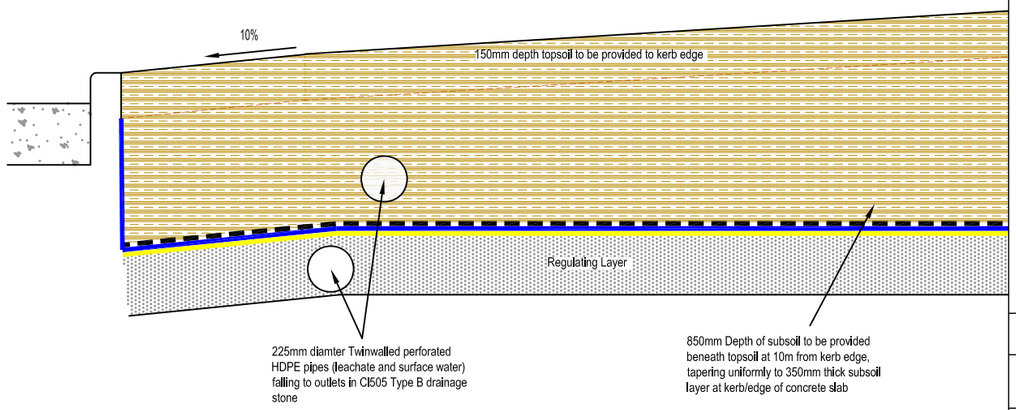
Architect

Drawing Status	Sheet Size	Drawing Scale
Tender	A3	1:1,000

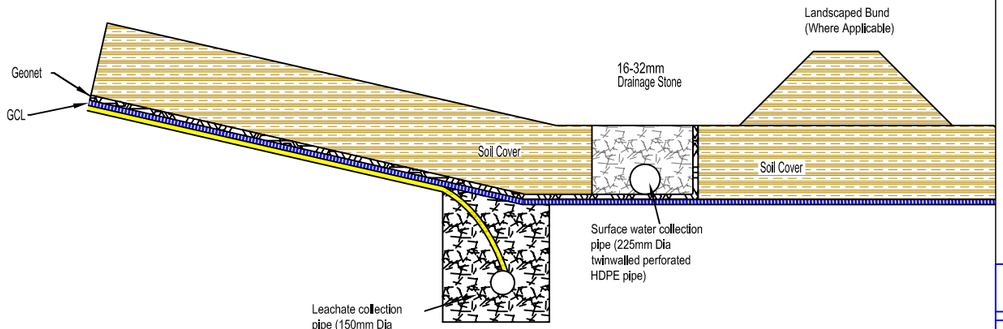
Drawing Number	Rev
IBR0148/202	0

Drawn By / Date		Checked By / Date		Approved By / Date	
AMB	Aug '11	NR	Aug '11	DD	Aug '11

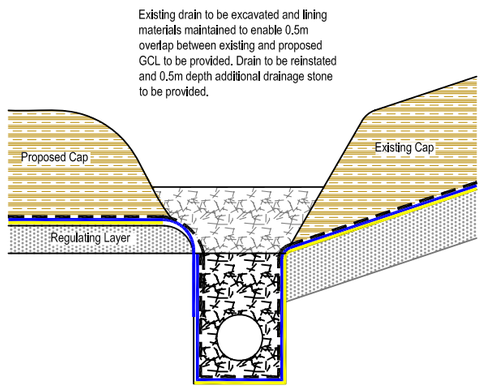




Section A-A (Not to Scale)



Detail B (Not to Scale)



Detail C (Not to Scale)

NOTES

1. Verifying Dimensions.
   The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
2. Existing Services.
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4. Elevation in metres to OS Datum Malin Head (Irish Grid) Survey undertaken on 11 February 2011by ORICA BQS.
5. Access to Councils authorised vehicles and staff to be maintained at all times in accordance with the specification
6. Keys

- Proposed Capping Area
- Overlap with existing cap
- Restored Area
- Main Works Area
- Fence
- Road
- Bank Top
- Existing Bund to be removed
- Approximate location of existing anchor trench
- Bank Bottom
- Vegetation
- Proposed Archor Trench
- 97.5 Contour Prominent
- Concrete
- Hut
- Netting

rev	amendments	drawn date	checked date

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Client
Donegal County Council

Project
Ballynacarrick Landfill Site
Restoration Contract - Phase I

Title
Proposed Restoration Area (East)

Architect

Drawing Status	Sheet Size	Drawing Scale
Tender	A3	1:1,000

Drawing Number	Rev
IBR0148/215	0

Drawn By / Date		Checked By / Date		Approved By / Date	
JD	Aug '11	NR	Aug '11	DD	Aug '11

APPENDIX A

MONITORING DATA

Location		*Ballynacarrick, Ballintra,Co. Donegal*											
Sample Type		Surface water											
Site No		SW1											
Date of Sample		Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sept 12	Oct 12	Nov 12	Dec 12
Lab No		1200	1385	1700	2086	2460	2982	3555	4118	4732	5326	5441	
pH		6.60	6.86	6.90	6.86	6.82	6.71	6.99	6.84	7.28	7.23	7.78	
Temp	C	7.70	8.20	8.7	8.00	10.1	12.8	14.3	15.8	11.6	8.3	9.50	
Electrical Conductivity	uS/cm	345	215	161	144	208	242	167	150	135	200	230	
Ammonical Nitrogen	mg/l	0.18	0.12	0.01	0.02	22.50	0.19	0.62	0.10	<0.01	0.23	0.56	
COD	mg/l	20	22	31	48	47	55	89	60	55	68	42	
BOD	mg/l	1.55	1.19	1.16	1.18	0.35	3.41	1.35	2.85	1.16	7.25	3.45	
Dissolved Oxygen	mg/l	11.18	11.14	11.96	11.79	11.12	6.55	9.59	9.31	11.1	11.2	11.34	
SS	mg/l	3	1	1	1	3	9	6	2	2	5	5	
Residue on Evaporator	mg/l												
Calcium	ug/l												
Cadmium	ug/l						<0.1						
Chromium	ug/l						<3						
Chloride	mg/l	47	29	18	23	14	25	21	21	19	18	23	
Chlorine	mg/l												
Copper	ug/l						1.0						
Cyanide	mg/l												
Dissolved Iron	ug/l						0.2						
Lead	ug/l						0.3						
Magnesium	ug/l						4.0						
Manganese	ug/l						1.0						
Mercury	ug/l						<0.01						
Nickel	ug/l												
Potassium	mg/l						<2.34						
Sodium	mg/l												
Sulphate	mg/l						31						
Zinc	ug/l						3.0						
Total Alkalinity as CaCO3	mg/l						61						
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l	0.02	0.02	0.04	<0.01	0.64	0.05	0.1	0.07	0.08	<0.01	0.02	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Total Phenols	mg/l												
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Mircrotox	Toxic Units												
Microtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l						0.02						
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m												

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

Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Surface water											
Site No		SW2											
Date of Sample		Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sept 12	Oct 12	Nov 12	Dec 12
Lab No		1201	1386	1701	2087	2461	2983	3556	4119	4733	5327	5442	
pH		6.70	6.77	6.86	6.32	6.5	6.75	6.6	6.5	7.0	7.1	7.21	
Temp	C	7.50	8.10	8.5	7	10.0	12.8	14.3	15.9	11.0	8.1	9.00	
Electrical Conductivity	uS/cm	204	205	122	117	89	285	170	132	96	148	137	
Ammonical Nitrogen	mg/l	0.23	0.07	<0.01	0.05	0.22	0.17	0.19	<0.01	<0.01	0.10	0.28	
COD	mg/l	20	20	30	38	52	68	69	81	58	90	48	
BOD	mg/l	1.2	1.1	0.87	1.0	0.03	3.7	1.1	3.0	0.9	1.6	2.8	
Dissolved Oxygen	mg/l	8.92	8.35	6.45	8.0	9.14	9.1	3.62	3.99	8.84	8.96	5.29	
SS	mg/l	2	2	5	2	3	11	998	32	5	7	8	
Residue on Evaporator	mg/l												
Calcium	ug/l												
Cadmium	ug/l						<0.1						
Chromium	ug/l						<3						
Chloride	mg/l	40	25	23	23	18	18	23	22	22	22	25	
Chlorine	mg/l												
Copper	ug/l						2.0						
Cyanide	mg/l												
Dissolved Iron	ug/l						0.2						
Lead	ug/l						0.2						
Magnesium	ug/l						4.0						
Manganese	ug/l						1.0						
Mercury	ug/l						<0.01						
Nickel	ug/l												
Potassium	mg/l						<2.34						
Sodium	mg/l												
Sulphate	mg/l						34						
Zinc	ug/l						3.0						
Total Alkalinity as CaCO3	mg/l						60						
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l	<0.01	0.02	0.02	<0.01	0.01	0.03	0.02	0.03	0.01	<0.01	<0.01	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Total Phenols	mg/l												
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Mircrotox	Toxic Units												
Microtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l						0.01						
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m												

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

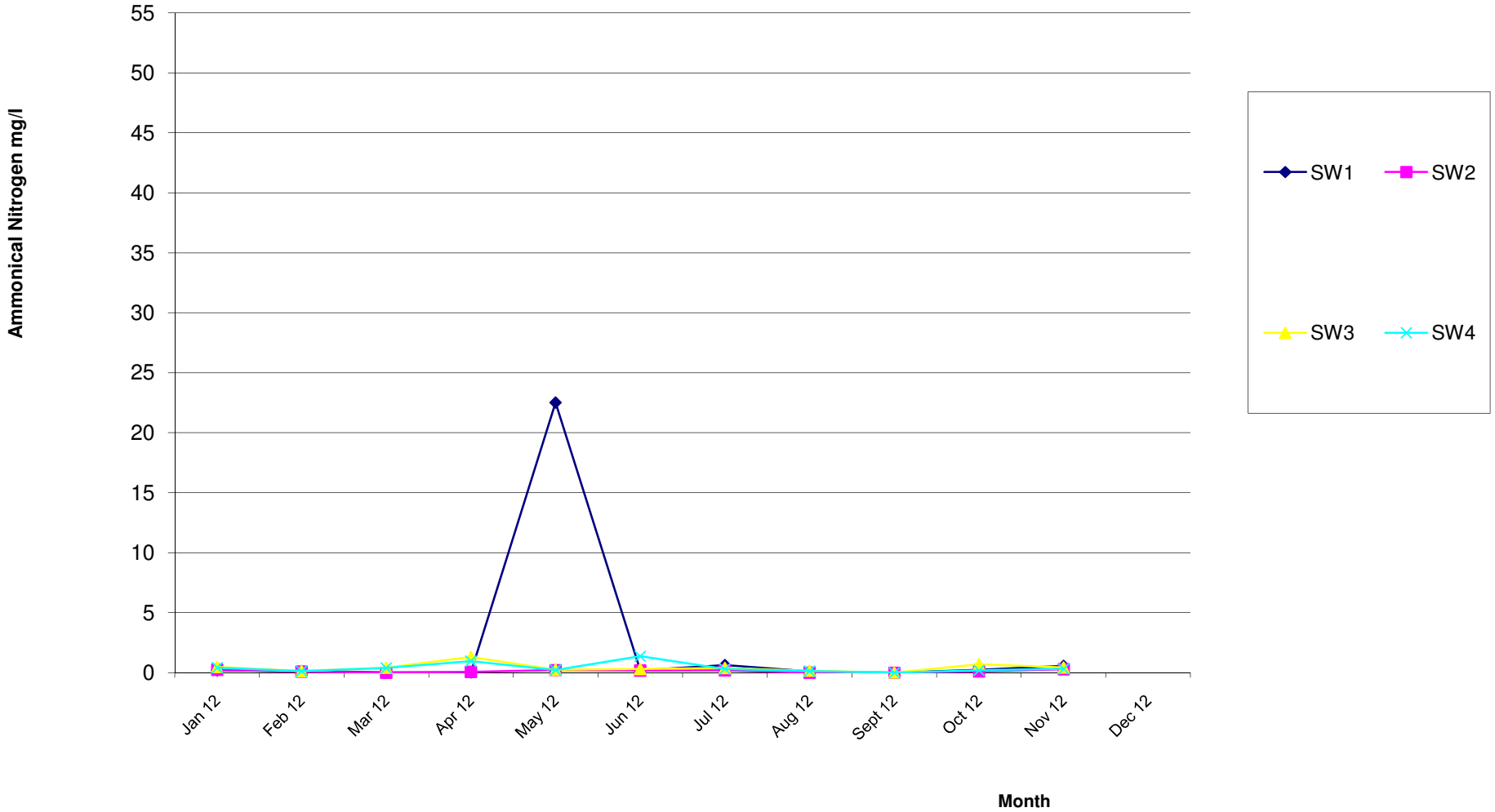
Location		*Ballynacarrick, Ballintra,Co. Donegal*											
Sample Type		Surface water											
Site No		SW3											
Date of Sample		Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sept 12	Oct 12	Nov 12	Dec 12
Lab No		1202	1387	1702	2088	2462	2984	3557	4120	4734	5328	5443	
pH		6.67	6.83	6.75	7.04	6.94	6.82	6.84	7.4	7.66	7.46	7.36	
Temp	C	7.50	8.30	8.4	7.1	9.8	12.4	13.5	14.9	10.9	8.3	9.8	
Electrical Conductivity	uS/cm	282	341	384	364	283	183	352	416	257	200	286	
Ammonical Nitrogen	mg/l	0.47	0.12	0.41	1.29	0.2	0	0.38	0.15	<0.01	0.68	0.43	
COD	mg/l	32	20	20	35	57	66	69	30	48	101	30	
BOD	mg/l	4.60	1.03	1.97	1.33	0.5	4.00	2.04	2.30	0.67	6.84	1.4	
Dissolved Oxygen	mg/l	11.01	11.27	10.72	10.54	10.23	9.5	8.89	8.53	10.81	11.35	11.06	
SS	mg/l	8	2	2	2	6	13	55	4	2	14	1	
Residue on Evaporator	mg/l												
Calcium	ug/l												
Cadmium	ug/l						<0.1						
Chromium	ug/l						<3						
Chloride	mg/l	48	30	28	29	20	19	24	25	21	21	25	
Chlorine	mg/l												
Copper	ug/l						2.3						
Cyanide	mg/l												
Dissolved Iron	ug/l						0.27						
Lead	ug/l						0.14						
Magnesium	ug/l						2.78						
Manganese	ug/l						1.08						
Mercury	ug/l						0.0106						
Nickel	ug/l												
Potassium	mg/l						<2.34						
Sodium	mg/l												
Sulphate	mg/l						22						
Zinc	ug/l						2.5						
Total Alkalinity as CaCO3	mg/l						105						
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l	0.30	0.44	0.91	0.6	0.20	0.1	0.57	0.44	0.31	0.05	0.03	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Total Phenols	mg/l												
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Mircrotox	Toxic Units												
Microtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l						0.05						
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m												

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

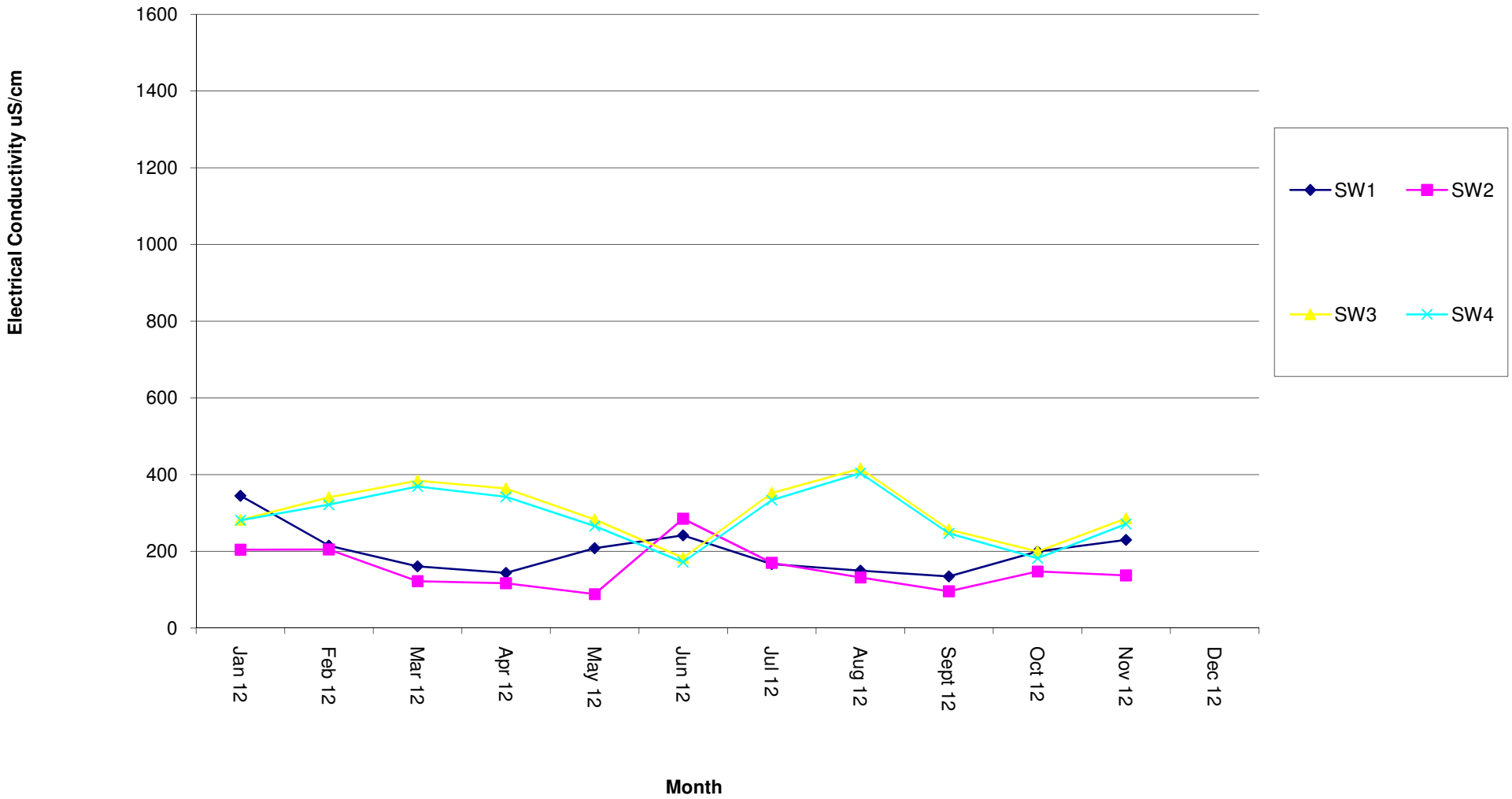
Location		*Ballynacarrick, Ballintra,Co. Donegal*											
Sample Type		Surface water											
Site No		SW4											
Date of Sample		Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sept 12	Oct 12	Nov 12	Dec 12
Lab No		1203	1388	1703	2089	2463	2985	3558	4121	4735	5329	5444	
pH		6.69	6.90	6.80	7.20	7.05	6.84	6.59	7.58	7.79	7.53	7.88	
Temp	C	7.50	8.30	8.5	7.1	9.5	12.2	13.6	15.0	11.0	8.2	9.30	
Electrical Conductivity	uS/cm	281	322	369	342	266	172	334	404	247	182	271	
Ammonical Nitrogen	mg/l	0.40	0.12	0.4	1.0	0.2	1.4	0.29	0.12	<0.01	0.20	0.33	
COD	mg/l	38	25	13	34	55	63	59	27	50	95	26	
BOD	mg/l	5.19	0.82	1.60	1.36	0.30	4.22	2.4	2.29	0.68	4.69	1.61	
Dissolved Oxygen	mg/l	11	11	11.28	11.3	10.71	9.36	9.3	9.28	11.14	11.34	11.46	
SS	mg/l	7	2	2	2	5	11	6	3	2	12	2	
Residue on Evaporator	mg/l												
Calcium	ug/l												
Cadmium	ug/l						<0.1						
Chromium	ug/l						<3						
Chloride	mg/l	48	30	29	29	21	19	20	25	21	21	24	
Chlorine	mg/l												
Copper	ug/l						2.3						
Cyanide	mg/l												
Dissolved Iron	ug/l						0.27						
Lead	ug/l						0.17						
Magnesium	ug/l						2.59						
Manganese	ug/l						1.09						
Mercury	ug/l						0.0104						
Nickel	ug/l												
Potassium	mg/l						<2.34						
Sodium	mg/l												
Sulphate	mg/l						14						
Zinc	ug/l						2.7						
Total Alkalinity as CaCO3	mg/l						102						
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l	0.20	0.40	0.96	0.64	0.20	0.08	<0.01	0.12	0.25	<0.01	0.03	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Total Phenols	mg/l												
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Mircrotox	Toxic Units												
Microtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l						0.05						
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m												

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

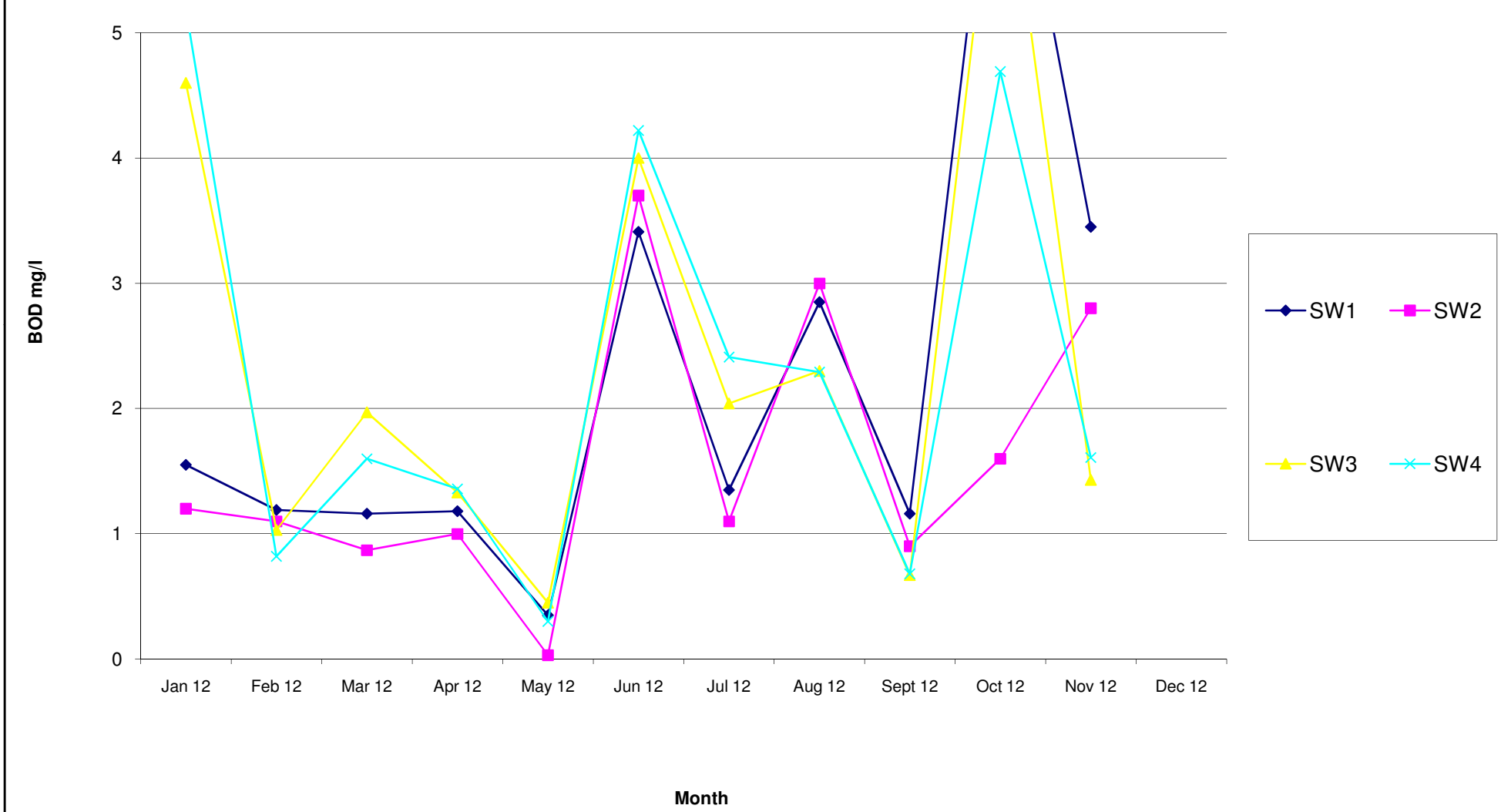
Surfacewater Ammonical Nitrogen Levels



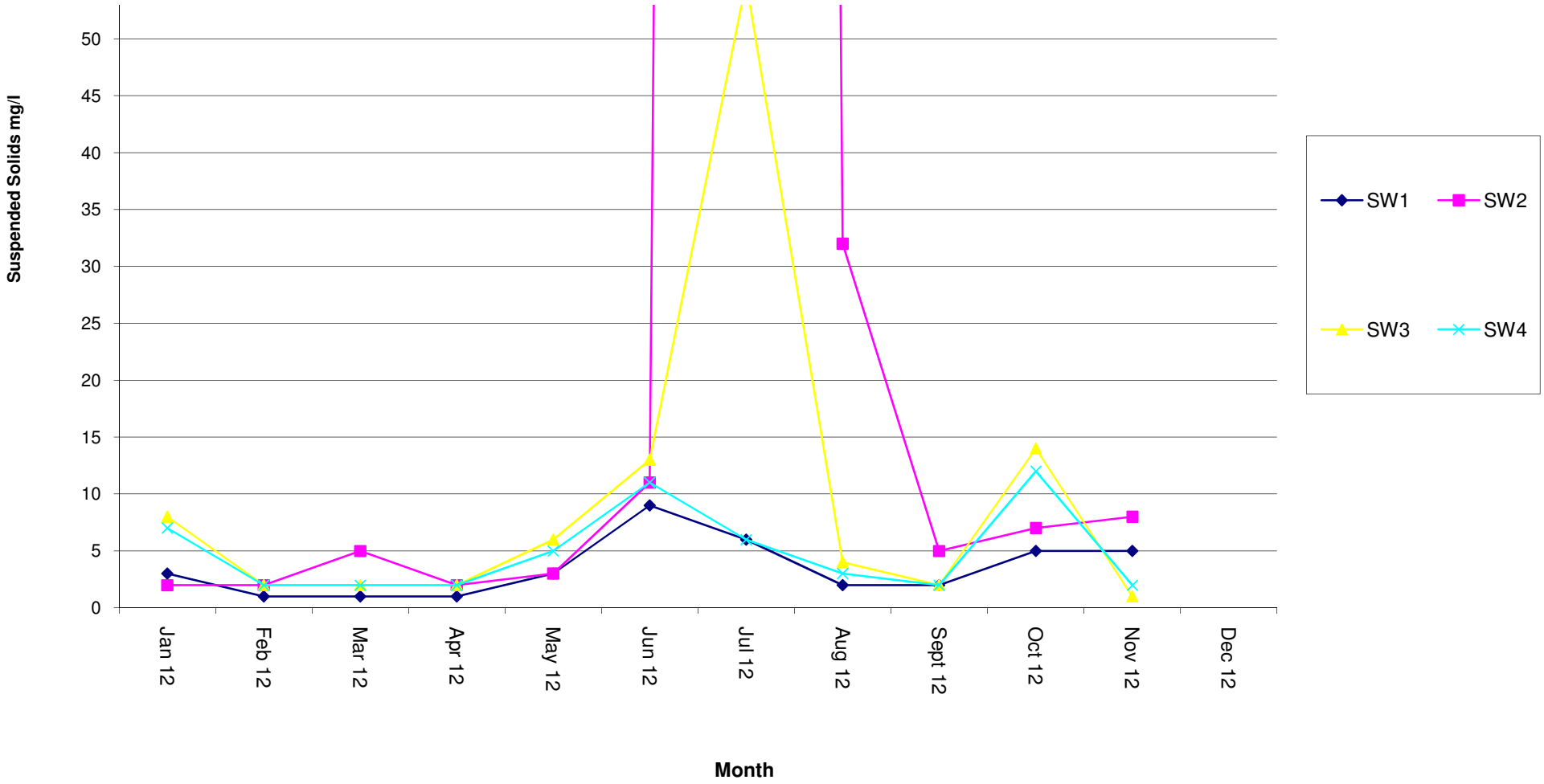
Surfacewater Electrical Conductivity Levels:



Surfacewater BOD Levels:



Surfacewater Suspended Solids Levels:



Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Groundwater											
Site No		GW1											
Date of Sample		Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sept 12	Oct 12	Nov 12	Dec 12
Lab No		1264	1273	1820	2140	2718	3319	3693	4330			5421	
pH		6.50	6.46	6.48	6.70	6.67	6.66	6.53	6.65			6.72	
Temp	C	8.00	7.50	10.1	10.4	12	12	13.6	13.9			10.6	
Electrical Conductivity	uS/cm	470	479	419	422	413	424	418	328			330	
Ammonical Nitrogen	mg/l	0.75	0.86	1.5	1.61	1.1	0.81	0.80	1.00			1.75	
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l					6.60							
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	ug/l												
Cadmium	ug/l					<0.1							
Chromium	ug/l					2.220							
Chloride	mg/l	27	27	21	26	26	26	20	41			40	
Chlorine	mg/l												
Copper	ug/l					<0.85							
Cyanide	mg/l					<0.05							
Dissolved Iron	mg/l	0.020	0.015	0.225	0.230	<0.019	0.102	0.115	0.137			0.101	
Lead	ug/l					<0.02							
Magnesium	ug/l					4.3							
Manganese	ug/l					0.320							
Mercury	ug/l					<0.01							
Nickel	ug/l					0.8760							
Potassium	mg/l					3.1							
Sodium	mg/l												
Sulphate	mg/l					21							
Zinc	ug/l					<0.41							
Total Alkalinity as CaCO3	mg/l					182							
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l	0.07	0.08	0.13	0.11	<0.01	0.4	0.35	0.29			0.01	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Total Phenols	mg/l					<0.002							
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Mircrotox	Toxic Units												
Microtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l					0.01							
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m	2.2	2.3	2.1	2.7	2.8	0.0	2.6	2.9			2.3	

*** Insufficient Sample / No Access

--- Not Applicable

Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Groundwater											
Site No		GW2											
Date of Sample		Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sept 12	Oct 12	Nov 12	Dec 12
Lab No		1265	1274.00	1821	2141	2719	3320	3694	4331			5422	
pH		6.41	6.38	6.43	6.65	6.6	6.50	6.87	6.67			6.85	
Temp	C	8.70	8.40	10.0	10.30	14.0	12.9	14.1	14.5			11	
Electrical Conductivity	uS/cm	851	850.00	695	689	637	699	598	459			513	
Ammonical Nitrogen	mg/l	17.7	67.60	21.0	15.0	15.1	13	12	11			17	
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l					6.6							
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	ug/l												
Cadmium	ug/l					<0.1							
Chromium	ug/l					11.6							
Chloride	mg/l	55	56	70	55	75	84	62	41			20	
Chlorine	mg/l												
Copper	ug/l					<0.85							
Cyanide	mg/l					<0.05							
Dissolved Iron	mg/l	0.081	0.073	0.075	1.307	2.340	2.445	2.290	2.975			2.660	
Lead	ug/l					0.048							
Magnesium	ug/l					11							
Manganese	ug/l					317							
Mercury	ug/l					<0.01							
Nickel	ug/l					2.0							
Potassium	mg/l					14							
Sodium	mg/l												
Sulphate	mg/l					23							
Zinc	ug/l					2.0							
Total Alkalinity as CaCO3	mg/l					236							
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l	<0.01	<0.01	0.19	0.06	0.29	1.1	1.4	1.9			<0.01	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Total Phenols	mg/l					<0.002							
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Mircrotox	Toxic Units												
Microtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l					0.01							
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m	1.2	1.3	1.3	1.8	1.6	0.0	1.8	1.7			1.6	

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

Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Groundwater											
Site No		GW4											
Date of Sample		Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sept 12	Oct 12	Nov 12	Dec 12
Lab No		1266	1275	1822	2142	2720	3321	3695	4332			5423	
pH		6.70	6.69	6.83	7.03	7.01	6.95	7.06	7.45			7.50	
Temp	C	8.50	8.40	10.3	10.50	11.7	12.0	13.8	14.4			10.9	
Electrical Conductivity	uS/cm	603	625	630	665	682	665	708	550			530	
Ammonical Nitrogen	mg/l	0.12	0.26	0.70	0.21	0.13	0.13	0.13	0.32			0.05	
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l					8.0							
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	ug/l												
Cadmium	ug/l					<0.1							
Chromium	ug/l					5							
Chloride	mg/l	30	30	20	20	22	22	23	20			63	
Chlorine	mg/l												
Copper	ug/l					0.85							
Cyanide	mg/l					<0.05							
Dissolved Iron	mg/l	0.010	0.006	0.010	0.011	<0.019	0.013	0.019	0.033			0.093	
Lead	ug/l					<0.02							
Magnesium	ug/l					15							
Manganese	ug/l					4.8							
Mercury	ug/l					0.02							
Nickel	ug/l					2.1							
Potassium	mg/l					<2.34							
Sodium	mg/l												
Sulphate	mg/l					227							
Zinc	ug/l					0.9							
Total Alkalinity as CaCO3	mg/l					130							
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l	0.1500	<0.01	0.11	<0.01	<0.01	0.04	0.04	0.16			<0.01	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Total Phenols	mg/l					<0.002							
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Mircrotox	Toxic Units												
Microtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l					0.01							
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m	3.8	3.8	3.8	3.3	4	0.0	3.8	3.3			3.7	

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

Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Groundwater											
Site No		GW5											
Date of Sample		Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sept 12	Oct 12	Nov 12	Dec 12
Lab No		1267	1276	1823	2143	2721	3322	3696	4333			5424	
pH		6.71	6.69	6.92	7.09	6.86	6.90	7.20	7.43			7.20	
Temp	C	8.00	7.60	10.0	10.20	12.3	12.4	14.1	15.4			10.4	
Electrical Conductivity	uS/cm	801	794	606	670	743	684	750	602			615	
Ammonical Nitrogen	mg/l	0.21	0.22	0.14	0.22	0.37	0.8	0.67	0.30			0.29	
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l					7.02							
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	ug/l												
Cadmium	ug/l					<0.1							
Chromium	ug/l					14.4							
Chloride	mg/l	66	64	49	53	67	48	66	65			160	
Chlorine	mg/l												
Copper	ug/l					<0.85							
Cyanide	mg/l					<0.05							
Dissolved Iron	mg/l	0.014	0.014	0.022	0.014	<0.019	0.021	0.044	0.046			0.058	
Lead	ug/l					0.048							
Magnesium	ug/l					48							
Manganese	ug/l					3.5							
Mercury	ug/l					<0.01							
Nickel	ug/l					0.8							
Potassium	mg/l					3.2							
Sodium	mg/l												
Sulphate	mg/l					<2							
Zinc	ug/l					0.8							
Total Alkalinity as CaCO3	mg/l					332							
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l	<0.01	<0.01	<0.01	0.12	<0.01	0.02	0.01	0.10			<0.01	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Total Phenols	mg/l					<0.002							
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Mircrotox	Toxic Units												
Microtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l					0.01							
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m	1.0	1.1	1.1	1.1	1.3	0.0	1.3	1.0			1.1	

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

Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Groundwater											
Site No		GW6											
Date of Sample		Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sept 12	Oct 12	Nov 12	Dec 12
Lab No		1268	1277	***	***	2722	***	***	***			5425	
pH		6.52	6.5	***	***	6.60	***	***	***			6.98	
Temp	C	9.00	8.9	***	***	12.1	***	***	***			10.9	
Electrical Conductivity	uS/cm	419	431	***	***	428	***	***	***			227	
Ammonical Nitrogen	mg/l					0.2	***	***	***			0	
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l					6.8							
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	ug/l												
Cadmium	ug/l					<0.1							
Chromium	ug/l					1.74							
Chloride	mg/l	44	45	***	***	45	***	***	***			28	
Chlorine	mg/l												
Copper	ug/l					3.77							
Cyanide	mg/l					<0.05							
Dissolved Iron	mg/l	0.03	0.03	***	***	<0.019	***	***	***			0.18	
Lead	ug/l					<0.02							
Magnesium	ug/l					3.4							
Manganese	ug/l					0.13							
Mercury	ug/l					<0.01							
Nickel	ug/l					1.3							
Potassium	mg/l					<2.34							
Sodium	mg/l												
Sulphate	mg/l					14							
Zinc	ug/l					<0.41							
Total Alkalinity as CaCO3	mg/l					146							
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l	<0.01	<0.01	***	***	<0.01	***	***	***			<0.01	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Total Phenols	mg/l					<0.002							
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Mircrotox	Toxic Units												
Microtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l					0.02							
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m	6.00	6.00	***	***	7.00	***	***	***			7.20	

*** Insufficient Sample / No Access

--- Not Applicable

Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Groundwater											
Site No		GW7											
Date of Sample		Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sept 12	Oct 12	Nov 12	Dec 12
Lab No		1269	1278	1824	2144	2723	3323	3697	4334			5426	
pH		6.48	6.5	6.5	6.64	6.52	6.54	6.87	6.70			6.77	
Temp	C	8.60	8.4	10.8	11.2	12.1	12.4	13.0	13.5			11.1	
Electrical Conductivity	uS/cm	652	660	571	592	582	598	559	435			464	
Ammonical Nitrogen	mg/l					0.2							
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l					6.9							
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	ug/l												
Cadmium	ug/l					<0.1							
Chromium	ug/l					2.19							
Chloride	mg/l	32	34	30	30	33	32	34	53			36	
Chlorine	mg/l												
Copper	ug/l					5.07							
Cyanide	mg/l					<0.05							
Dissolved Iron	mg/l	0.010	0.010	0.010	0.007	<0.019	0.010	0.124	0.035			0.090	
Lead	ug/l					0.033							
Magnesium	ug/l					9.5							
Manganese	ug/l					290							
Mercury	ug/l					<0.01							
Nickel	ug/l					4.3							
Potassium	mg/l					<2.34							
Sodium	mg/l												
Sulphate	mg/l					6.1							
Zinc	ug/l					1.0							
Total Alkalinity as CaCO3	mg/l					270							
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l	0.1	0.2	0.14	0.3	<0.01	0.01	0.02	<0.01			0.01	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Total Phenols	mg/l					<0.002							
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Mircrotox	Toxic Units												
Microtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l					0.01							
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m	2.90	2.90	3.00	3.00	3.20	0.00	3.10	3.10			3.20	

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

Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Groundwater											
Site No		GW8											
Date of Sample		Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sept 12	Oct 12	Nov 12	Dec 12
Lab No		1270	1279	1825	2145	2724	3324	3698	4335			5427	
pH		6.55	6.5	6.7	6.91	6.84	6.67	6.91	7.06			7.11	
Temp	C	8.20	8.0	10.4	10.7	12.7	12.6	13.2	13.8			10.8	
Electrical Conductivity	uS/cm	600	596	518	547	616	550	550	500			405	
Ammonical Nitrogen	mg/l	0.10	0.08	0.21	0.79	0.36	0.40	0.31	1			0.11	
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l					6.2							
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	ug/l												
Cadmium	ug/l					<0.1							
Chromium	ug/l					2.35							
Chloride	mg/l	54	56	55	50	60	55.00	48	53			25	
Chlorine	mg/l												
Copper	ug/l					5.49							
Cyanide	mg/l					<0.05							
Dissolved Iron	mg/l	0.021	0.019	0.020	0.468	0.71	0.374	0.311	0.128			0.231	
Lead	ug/l					0.032							
Magnesium	ug/l					7.7							
Manganese	ug/l					100							
Mercury	ug/l					<0.01							
Nickel	ug/l					4.6							
Potassium	mg/l					12							
Sodium	mg/l												
Sulphate	mg/l					24							
Zinc	ug/l					1.7							
Total Alkalinity as CaCO3	mg/l					242							
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l	0.12	0.27	0.41	<0.01	<0.01	0.11	0.06	0.30			<0.01	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Total Phenols	mg/l					<0.002							
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Mircrotox	Toxic Units												
Microtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l					0.02							
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m	1.80	1.90	2.10	2.60	3.00	0.00	2.70	2.60	0.00	0.00	2.80	

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

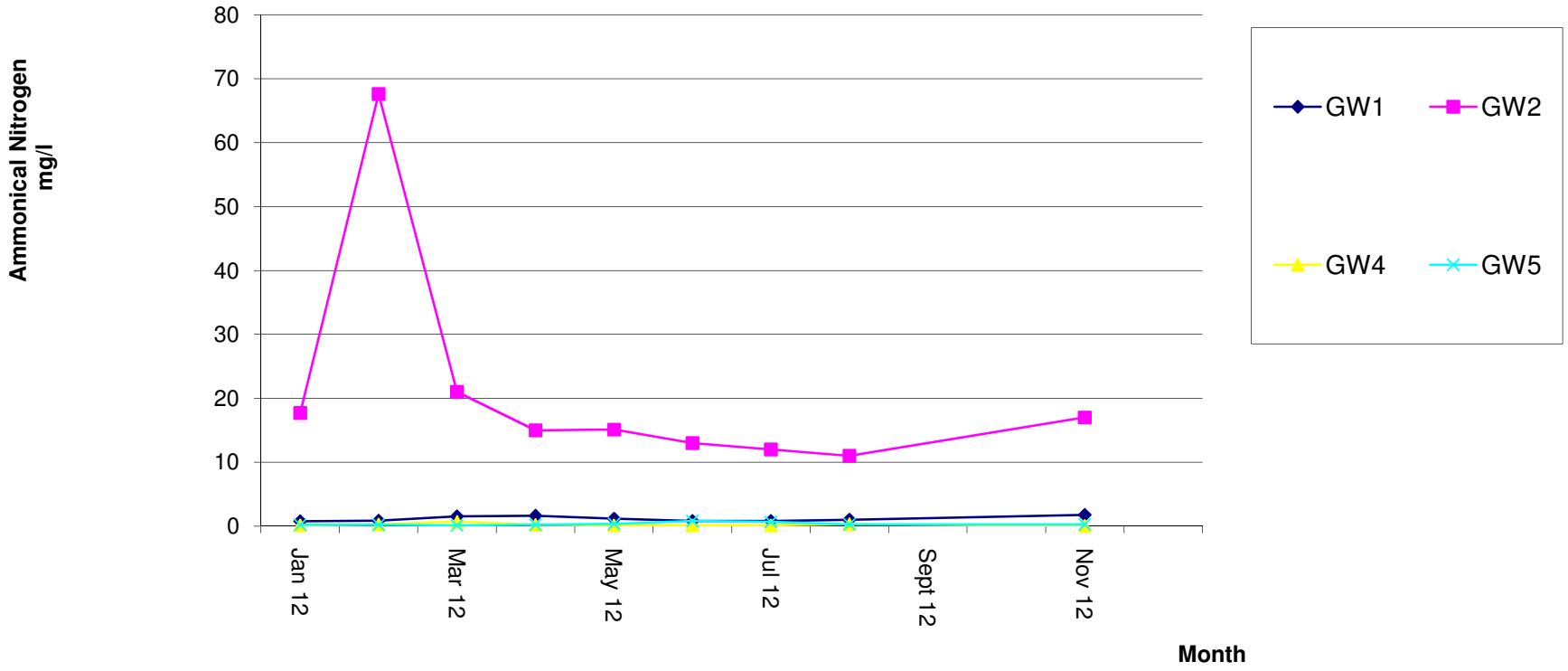
Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Groundwater											
Site No		GW9											
Date of Sample		Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sept 12	Oct 12	Nov 12	Dec 12
Lab No		1271	1280	1826	2146	2725	3325	3699	***			5428	
pH		6.50	6.5	6.4	6.65	6.44	6.48	6.68	***			6.76	
Temp	C	8.50	8.4	10.4	10.8	13.0	12.9	14.0	***			11.1	
Electrical Conductivity	uS/cm	784	813	881	763	955	867	782	***			628	
Ammonical Nitrogen	mg/l	2.0	1.7	11	2	16.6	3.2	6.0	***			2.9	
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l					5.7							
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	ug/l												
Cadmium	ug/l					<0.1							
Chromium	ug/l					4.52							
Chloride	mg/l	35	35	44	31	43	48	31	***			24	
Chlorine	mg/l												
Copper	ug/l					1.78							
Cyanide	mg/l					<0.05							
Dissolved Iron	mg/l	0.051	0.046	0.05	0.04	0.26	0.050	0.490	***			3.450	
Lead	ug/l					0.026							
Magnesium	ug/l					12							
Manganese	ug/l					413							
Mercury	ug/l					<0.01							
Nickel	ug/l					3.7							
Potassium	mg/l					10							
Sodium	mg/l												
Sulphate	mg/l					7.1							
Zinc	ug/l					10							
Total Alkalinity as CaCO3	mg/l					470							
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l	0.16	0.15	0.32	0.41	<0.01	0.4	0.32	***			0.03	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Total Phenols	mg/l					<0.002							
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Mircrotox	Toxic Units												
Microtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l					0.02							
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m	3.30	3.40	3.00	2.80	3.80	0.00	2.90	***			3.80	

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

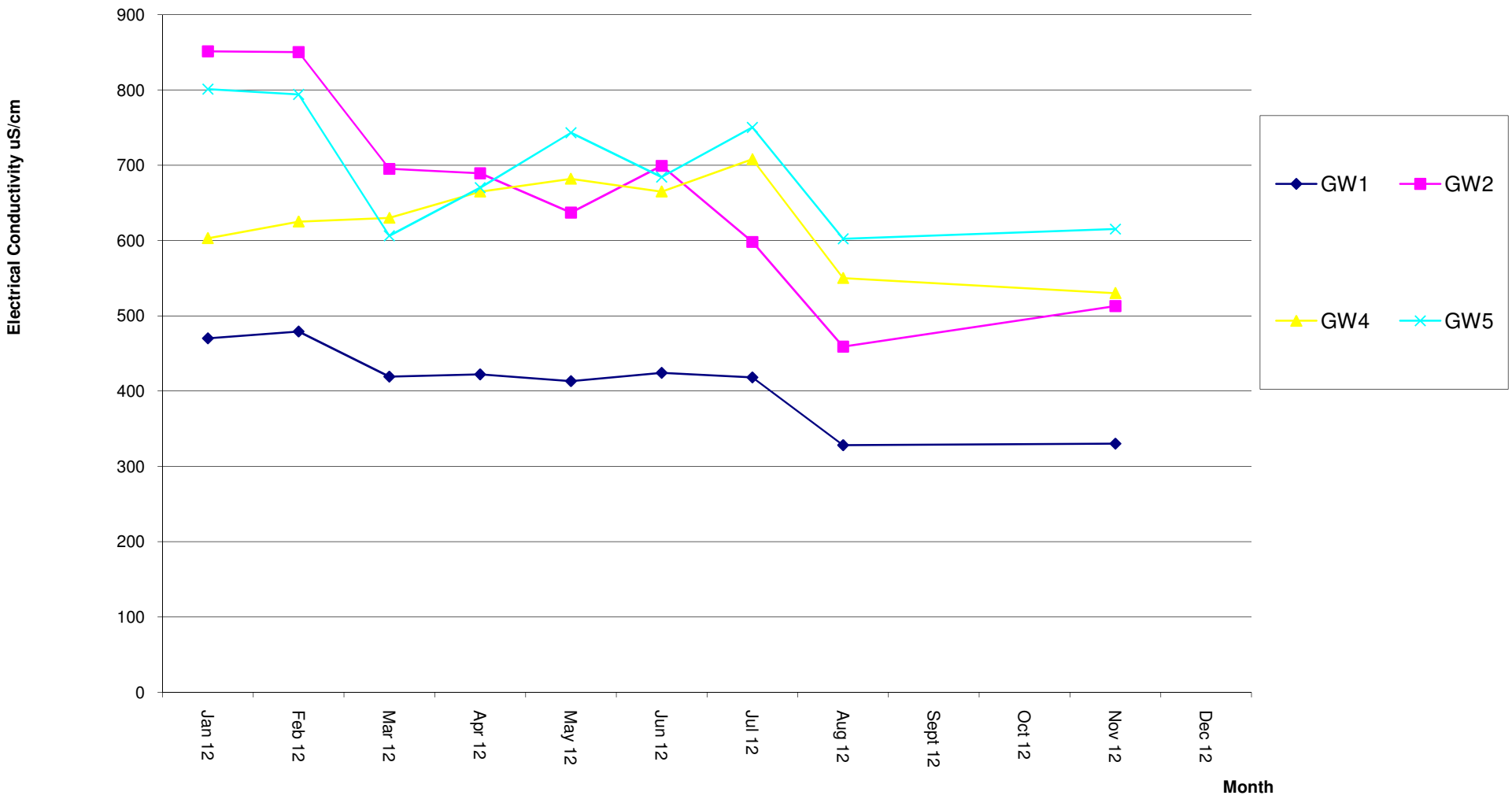
Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Groundwater											
Site No		GW10											
Date of Sample		Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sept 12	Oct 12	Nov 12	Dec 12
Lab No		1272	1281	1827	2147	2726	3326	3700	4336			5429	
pH		6.43	6.4	6.5	6.59	6.54	6.49	6.78	6.63			6.70	
Temp	C	9.80	9.7	10.8	10.9	13.1	12.9	13.0	14.4			11.6	
Electrical Conductivity	uS/cm	410	487	406	428	453	454	433	316			301	
Ammonical Nitrogen	mg/l	0.8	1.5	1.8	2.0	4.2	3.1	2.8	1.0			1.5	
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l					5.5							
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	ug/l												
Cadmium	ug/l					<0.1							
Chromium	ug/l					9.38							
Chloride	mg/l	28	27	26	26	29	28	31	25			24	
Chlorine	mg/l												
Copper	ug/l					1.04							
Cyanide	mg/l					<0.05							
Dissolved Iron	mg/l	0.660	0.632	0.661	6.550	3.85	3.820	9.320	4.974			6.130	
Lead	ug/l					0.796							
Magnesium	ug/l					10							
Manganese	ug/l					249							
Mercury	ug/l					<0.01							
Nickel	ug/l					1.4							
Potassium	mg/l					3.6							
Sodium	mg/l												
Sulphate	mg/l					<2							
Zinc	ug/l					9							
Total Alkalinity as CaCO3	mg/l					224							
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l	<0.01	<0.01	0.08	<0.01	<0.01	0.1	0.02	0.01			<0.01	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Total Phenols	mg/l					<0.002							
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Mircrotox	Toxic Units												
Microtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l					0.02							
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m	1.60	1.80	1.70	1.90	1.90	0.00	2.00	1.80	0.00	0.00	1.90	

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

Groundwater Ammonical Nitrogen Levels:



Groundwater Electrical Conductivity Levels:



VOLATILE ORGANIC COMPOUNDS		*Ballynacarrick Landfill Site Ballintra, Co.Donegal*	
Month:			
Location:	**GW1**		
Lab No:			
PARAMETERS	**UNITS**	**PARAMETERS**	**UNITS**
	ug/l		**ug/l**
Dichlorodifluoromethane	<1	**1,2-Dibromoethane**	<1
Chloromethane	<1	**Tetrachloroethene**	<1
Vinyl Chloride	<1	**1,1,1,2-Tetrachloroethane**	<1
Bromomethane	<1	**Chlorobenzene**	<1
Chloroethane	<1	**Ethylbenzene**	<1
Trichlorofluoromethane	<1	**p/m-Xylene**	<1
trans-1,2-Dichloroethene	<1	**Bromoform**	<1
Dichloromethane	<3	**Styrene**	<1
Carbon disulphide	<1	**1,1,2,2-Tetrachloroethane**	<1
1,1-Dichloroethene	<1	**o-Xylene**	<1
1,1-Dichloroethane	<1	**1,2,3-Trichloropropane**	<1
tert-butyl methyl ether	<1	**Isopropylbenzene**	<1
cis-1,2-Dichloroethene	<1	**Bromobenzene**	<1
Bromochloromethane	<1	**2-Chlorotoluene**	<1
Chloroform	<1	**Propylbenzene**	<1
2,2-Dichloropropane	<1	**4-Chlorotoluene**	<1
1,2-Dichloroethane	<1	**1,2,4-Trimethylbenzene**	<1
1,1,1-Trichloroethane	<1	**4-Isopropyltoluene**	<1
1,1-Dichloropropene	<1	**1,3,5-Trimethylbenzene**	<1
Benzene	<1	**1,3-Dichlorobenzene**	<1
Carbontetrachloride	<1	**1,4-Dichlorobenzene**	<1
Dibromomethane	<1	**sec-Butylbenzene**	<1
1,2-Dichloropropane	<1	**tert-Butylbenzene**	<1
Bromodichloromethane	<1	**1,2-Dichlorobenzene**	<1
Trichloroethene	<1	**n-Butylbenzene**	<1
cis-1,3-Dichloropropene	<1	**1,2-Dibromo-3-chloropropane**	<1
trans-1,3-Dichloropropene	<1	**1,2,4-Trichlorobenzene**	<1
1,1,2-Trichloroethane	<1	**Naphthalene**	<1
Toluene	<1	**1,2,3-Trichlorobenzene**	<1
1,3-Dichloropropane	<1	**Hexachlorobutadiene**	<1
Dibromochloromethane	<1	**tert-Amyl methyl ether**	<1
		1,3,5-Trichlorobenzene	<1

VOLATILE ORGANIC COMPOUNDS		*Ballynacarrick Landfill Site Ballintra, Co.Donegal*	
Month:			
Location:	**GW2**		
Lab No:			
PARAMETERS	**UNITS**	**PARAMETERS**	**UNITS**
	ug/l		ug/l
Dichlorodifluoromethane	<1	**1,2-Dibromoethane**	<1
Chloromethane	<1	**Tetrachloroethene**	<1
Vinyl Chloride	<1	**1,1,1,2-Tetrachloroethane**	<1
Bromomethane	<1	**Chlorobenzene**	<1
Chloroethane	<1	**Ethylbenzene**	<1
Trichlorofluoromethane	<1	**p/m-Xylene**	<1
trans-1,2-Dichloroethene	<1	**Bromoform**	<1
Dichloromethane	<3	**Styrene**	<1
Carbon disulphide	<1	**1,1,2,2-Tetrachloroethane**	<1
1,1-Dichloroethene	<1	**o-Xylene**	<1
1,1-Dichloroethane	<1	**1,2,3-Trichloropropane**	<1
tert-butyl methyl ether	<1	**Isopropylbenzene**	<1
cis-1,2-Dichloroethene	<1	**Bromobenzene**	<1
Bromochloromethane	<1	**2-Chlorotoluene**	<1
Chloroform	<1	**Propylbenzene**	<1
2,2-Dichloropropane	<1	**4-Chlorotoluene**	<1
1,2-Dichloroethane	<1	**1,2,4-Trimethylbenzene**	<1
1,1,1-Trichloroethane	<1	**4-Isopropyltoluene**	<1
1,1-Dichloropropene	<1	**1,3,5-Trimethylbenzene**	<1
Benzene	<1	**1,3-Dichlorobenzene**	<1
Carbontetrachloride	<1	**1,4-Dichlorobenzene**	<1
Dibromomethane	<1	**sec-Butylbenzene**	<1
1,2-Dichloropropane	<1	**tert-Butylbenzene**	<1
Bromodichloromethane	<1	**1,2-Dichlorobenzene**	<1
Trichloroethene	<1	**n-Butylbenzene**	<1
cis-1,3-Dichloropropene	<1	**1,2-Dibromo-3-chloropropane**	<1
trans-1,3-Dichloropropene	<1	**1,2,4-Trichlorobenzene**	<1
1,1,2-Trichloroethane	<1	**Naphthalene**	<1
Toluene	<1	**1,2,3-Trichlorobenzene**	<1
1,3-Dichloropropane	<1	**Hexachlorobutadiene**	<1
Dibromochloromethane	<1	**tert-Amyl methyl ether**	<1
		1,3,5-Trichlorobenzene	<1

VOLATILE ORGANIC COMPOUNDS		*Ballynacarrick Landfill Site Ballintra, Co.Donegal*	
Month:			
Location:	**GW4**		
Lab No:			
PARAMETERS	**UNITS**	**PARAMETERS**	**UNITS**
	ug/l		ug/l
Dichlorodifluoromethane	<1	**1,2-Dibromoethane**	<1
Chloromethane	<1	**Tetrachloroethene**	<1
Vinyl Chloride	<1	**1,1,1,2-Tetrachloroethane**	<1
Bromomethane	<1	**Chlorobenzene**	<1
Chloroethane	<1	**Ethylbenzene**	<1
Trichlorofluoromethane	<1	**p/m-Xylene**	<1
trans-1,2-Dichloroethene	<1	**Bromoform**	<1
Dichloromethane	<3	**Styrene**	<1
Carbon disulphide	<1	**1,1,2,2-Tetrachloroethane**	<1
1,1-Dichloroethene	<1	**o-Xylene**	<1
1,1-Dichloroethane	<1	**1,2,3-Trichloropropane**	<1
tert-butyl methyl ether	<1	**Isopropylbenzene**	<1
cis-1,2-Dichloroethene	<1	**Bromobenzene**	<1
Bromochloromethane	<1	**2-Chlorotoluene**	<1
Chloroform	<1	**Propylbenzene**	<1
2,2-Dichloropropane	<1	**4-Chlorotoluene**	<1
1,2-Dichloroethane	<1	**1,2,4-Trimethylbenzene**	<1
1,1,1-Trichloroethane	<1	**4-Isopropyltoluene**	<1
1,1-Dichloropropene	<1	**1,3,5-Trimethylbenzene**	<1
Benzene	<1	**1,3-Dichlorobenzene**	<1
Carbontetrachloride	<1	**1,4-Dichlorobenzene**	<1
Dibromomethane	<1	**sec-Butylbenzene**	<1
1,2-Dichloropropane	<1	**tert-Butylbenzene**	<1
Bromodichloromethane	<1	**1,2-Dichlorobenzene**	<1
Trichloroethene	<1	**n-Butylbenzene**	<1
cis-1,3-Dichloropropene	<1	**1,2-Dibromo-3-chloropropane**	<1
trans-1,3-Dichloropropene	<1	**1,2,4-Trichlorobenzene**	<1
1,1,2-Trichloroethane	<1	**Naphthalene**	<1
Toluene	<1	**1,2,3-Trichlorobenzene**	<1
1,3-Dichloropropane	<1	**Hexachlorobutadiene**	<1
Dibromochloromethane	<1	**tert-Amyl methyl ether**	<1
		1,3,5-Trichlorobenzene	<1

VOLATILE ORGANIC COMPOUNDS		*Ballynacarrick Landfill Site Ballintra, Co.Donegal*	
Month:			
Location:	**GW5**		
Lab No:			
PARAMETERS	**UNITS**	**PARAMETERS**	**UNITS**
	ug/l		ug/l
Dichlorodifluoromethane	<1	**1,2-Dibromoethane**	<1
Chloromethane	<1	**Tetrachloroethene**	<1
Vinyl Chloride	<1	**1,1,1,2-Tetrachloroethane**	<1
Bromomethane	<1	**Chlorobenzene**	<1
Chloroethane	<1	**Ethylbenzene**	<1
Trichlorofluoromethane	<1	**p/m-Xylene**	<1
trans-1,2-Dichloroethene	<1	**Bromoform**	<1
Dichloromethane	<3	**Styrene**	<1
Carbon disulphide	<1	**1,1,2,2-Tetrachloroethane**	<1
1,1-Dichloroethene	<1	**o-Xylene**	<1
1,1-Dichloroethane	<1	**1,2,3-Trichloropropane**	<1
tert-butyl methyl ether	<1	**Isopropylbenzene**	<1
cis-1,2-Dichloroethene	<1	**Bromobenzene**	<1
Bromochloromethane	<1	**2-Chlorotoluene**	<1
Chloroform	<1	**Propylbenzene**	<1
2,2-Dichloropropane	<1	**4-Chlorotoluene**	<1
1,2-Dichloroethane	<1	**1,2,4-Trimethylbenzene**	<1
1,1,1-Trichloroethane	<1	**4-Isopropyltoluene**	<1
1,1-Dichloropropene	<1	**1,3,5-Trimethylbenzene**	<1
Benzene	<1	**1,3-Dichlorobenzene**	<1
Carbontetrachloride	<1	**1,4-Dichlorobenzene**	<1
Dibromomethane	<1	**sec-Butylbenzene**	<1
1,2-Dichloropropane	<1	**tert-Butylbenzene**	<1
Bromodichloromethane	<1	**1,2-Dichlorobenzene**	<1
Trichloroethene	<1	**n-Butylbenzene**	<1
cis-1,3-Dichloropropene	<1	**1,2-Dibromo-3-chloropropane**	<1
trans-1,3-Dichloropropene	<1	**1,2,4-Trichlorobenzene**	<1
1,1,2-Trichloroethane	<1	**Naphthalene**	<1
Toluene	<1	**1,2,3-Trichlorobenzene**	<1
1,3-Dichloropropane	<1	**Hexachlorobutadiene**	<1
Dibromochloromethane	<1	**tert-Amyl methyl ether**	<1
		1,3,5-Trichlorobenzene	<1

VOLATILE ORGANIC COMPOUNDS		*Ballynacarrick Landfill Site Ballintra, Co.Donegal*	
Month:			
Location:	**GW6**		
Lab No:			
PARAMETERS	**UNITS**	**PARAMETERS**	**UNITS**
	ug/l		ug/l
Dichlorodifluoromethane	<1	**1,2-Dibromoethane**	<1
Chloromethane	<1	**Tetrachloroethene**	<1
Vinyl Chloride	<1	**1,1,1,2-Tetrachloroethane**	<1
Bromomethane	<1	**Chlorobenzene**	<1
Chloroethane	<1	**Ethylbenzene**	<1
Trichlorofluoromethane	<1	**p/m-Xylene**	<1
trans-1,2-Dichloroethene	<1	**Bromoform**	<1
Dichloromethane	<3	**Styrene**	<1
Carbon disulphide	<1	**1,1,2,2-Tetrachloroethane**	<1
1,1-Dichloroethene	<1	**o-Xylene**	<1
1,1-Dichloroethane	<1	**1,2,3-Trichloropropane**	<1
tert-butyl methyl ether	<1	**Isopropylbenzene**	<1
cis-1,2-Dichloroethene	<1	**Bromobenzene**	<1
Bromochloromethane	<1	**2-Chlorotoluene**	<1
Chloroform	<1	**Propylbenzene**	<1
2,2-Dichloropropane	<1	**4-Chlorotoluene**	<1
1,2-Dichloroethane	<1	**1,2,4-Trimethylbenzene**	<1
1,1,1-Trichloroethane	<1	**4-Isopropyltoluene**	<1
1,1-Dichloropropene	<1	**1,3,5-Trimethylbenzene**	<1
Benzene	<1	**1,3-Dichlorobenzene**	<1
Carbontetrachloride	<1	**1,4-Dichlorobenzene**	<1
Dibromomethane	<1	**sec-Butylbenzene**	<1
1,2-Dichloropropane	<1	**tert-Butylbenzene**	<1
Bromodichloromethane	<1	**1,2-Dichlorobenzene**	<1
Trichloroethene	<1	**n-Butylbenzene**	<1
cis-1,3-Dichloropropene	<1	**1,2-Dibromo-3-chloropropane**	<1
trans-1,3-Dichloropropene	<1	**1,2,4-Trichlorobenzene**	<1
1,1,2-Trichloroethane	<1	**Naphthalene**	<1
Toluene	<1	**1,2,3-Trichlorobenzene**	<1
1,3-Dichloropropane	<1	**Hexachlorobutadiene**	<1
Dibromochloromethane	<1	**tert-Amyl methyl ether**	<1
		1,3,5-Trichlorobenzene	<1

VOLATILE ORGANIC COMPOUNDS		*Ballynacarrick Landfill Site Ballintra, Co.Donegal*	
Month:			
Location:	**GW7**		
Lab No:			
PARAMETERS	**UNITS**	**PARAMETERS**	**UNITS**
	ug/l		ug/l
Dichlorodifluoromethane	<1	**1,2-Dibromoethane**	<1
Chloromethane	<1	**Tetrachloroethene**	<1
Vinyl Chloride	<1	**1,1,1,2-Tetrachloroethane**	<1
Bromomethane	<1	**Chlorobenzene**	<1
Chloroethane	<1	**Ethylbenzene**	<1
Trichlorofluoromethane	<1	**p/m-Xylene**	<1
trans-1,2-Dichloroethene	<1	**Bromoform**	<1
Dichloromethane	<3	**Styrene**	<1
Carbon disulphide	<1	**1,1,2,2-Tetrachloroethane**	<1
1,1-Dichloroethene	<1	**o-Xylene**	<1
1,1-Dichloroethane	<1	**1,2,3-Trichloropropane**	<1
tert-butyl methyl ether	<1	**Isopropylbenzene**	<1
cis-1,2-Dichloroethene	<1	**Bromobenzene**	<1
Bromochloromethane	<1	**2-Chlorotoluene**	<1
Chloroform	<1	**Propylbenzene**	<1
2,2-Dichloropropane	<1	**4-Chlorotoluene**	<1
1,2-Dichloroethane	<1	**1,2,4-Trimethylbenzene**	<1
1,1,1-Trichloroethane	<1	**4-Isopropyltoluene**	<1
1,1-Dichloropropene	<1	**1,3,5-Trimethylbenzene**	<1
Benzene	<1	**1,3-Dichlorobenzene**	<1
Carbontetrachloride	<1	**1,4-Dichlorobenzene**	<1
Dibromomethane	<1	**sec-Butylbenzene**	<1
1,2-Dichloropropane	<1	**tert-Butylbenzene**	<1
Bromodichloromethane	<1	**1,2-Dichlorobenzene**	<1
Trichloroethene	<1	**n-Butylbenzene**	<1
cis-1,3-Dichloropropene	<1	**1,2-Dibromo-3-chloropropane**	<1
trans-1,3-Dichloropropene	<1	**1,2,4-Trichlorobenzene**	<1
1,1,2-Trichloroethane	<1	**Naphthalene**	<1
Toluene	<1	**1,2,3-Trichlorobenzene**	<1
1,3-Dichloropropane	<1	**Hexachlorobutadiene**	<1
Dibromochloromethane	<1	**tert-Amyl methyl ether**	<1
		1,3,5-Trichlorobenzene	<1

VOLATILE ORGANIC COMPOUNDS		*Ballynacarrick Landfill Site Ballintra, Co.Donegal*	
Month:			
Location:	**GW8**		
Lab No:			
PARAMETERS	**UNITS**	**PARAMETERS**	**UNITS**
	ug/l		ug/l
Dichlorodifluoromethane	<1	**1,2-Dibromoethane**	<1
Chloromethane	<1	**Tetrachloroethene**	<1
Vinyl Chloride	<1	**1,1,1,2-Tetrachloroethane**	<1
Bromomethane	<1	**Chlorobenzene**	<1
Chloroethane	<1	**Ethylbenzene**	<1
Trichlorofluoromethane	<1	**p/m-Xylene**	<1
trans-1,2-Dichloroethene	<1	**Bromoform**	<1
Dichloromethane	<3	**Styrene**	<1
Carbon disulphide	<1	**1,1,2,2-Tetrachloroethane**	<1
1,1-Dichloroethene	<1	**o-Xylene**	<1
1,1-Dichloroethane	<1	**1,2,3-Trichloropropane**	<1
tert-butyl methyl ether	<1	**Isopropylbenzene**	<1
cis-1,2-Dichloroethene	<1	**Bromobenzene**	<1
Bromochloromethane	<1	**2-Chlorotoluene**	<1
Chloroform	<1	**Propylbenzene**	<1
2,2-Dichloropropane	<1	**4-Chlorotoluene**	<1
1,2-Dichloroethane	<1	**1,2,4-Trimethylbenzene**	<1
1,1,1-Trichloroethane	<1	**4-Isopropyltoluene**	<1
1,1-Dichloropropene	<1	**1,3,5-Trimethylbenzene**	<1
Benzene	<1	**1,3-Dichlorobenzene**	<1
Carbontetrachloride	<1	**1,4-Dichlorobenzene**	<1
Dibromomethane	<1	**sec-Butylbenzene**	<1
1,2-Dichloropropane	<1	**tert-Butylbenzene**	<1
Bromodichloromethane	<1	**1,2-Dichlorobenzene**	<1
Trichloroethene	<1	**n-Butylbenzene**	<1
cis-1,3-Dichloropropene	<1	**1,2-Dibromo-3-chloropropane**	<1
trans-1,3-Dichloropropene	<1	**1,2,4-Trichlorobenzene**	<1
1,1,2-Trichloroethane	<1	**Naphthalene**	<1
Toluene	<1	**1,2,3-Trichlorobenzene**	<1
1,3-Dichloropropane	<1	**Hexachlorobutadiene**	<1
Dibromochloromethane	<1	**tert-Amyl methyl ether**	<1
		1,3,5-Trichlorobenzene	<1

VOLATILE ORGANIC COMPOUNDS		*Ballynacarrick Landfill Site Ballintra, Co.Donegal*	
Month:			
Location:	**GW9**		
Lab No:			
PARAMETERS	**UNITS**	**PARAMETERS**	**UNITS**
	ug/l		ug/l
Dichlorodifluoromethane	<1	**1,2-Dibromoethane**	<1
Chloromethane	<1	**Tetrachloroethene**	<1
Vinyl Chloride	<1	**1,1,1,2-Tetrachloroethane**	<1
Bromomethane	<1	**Chlorobenzene**	<1
Chloroethane	<1	**Ethylbenzene**	<1
Trichlorofluoromethane	<1	**p/m-Xylene**	<1
trans-1,2-Dichloroethene	<1	**Bromoform**	<1
Dichloromethane	<3	**Styrene**	<1
Carbon disulphide	<1	**1,1,2,2-Tetrachloroethane**	<1
1,1-Dichloroethene	<1	**o-Xylene**	<1
1,1-Dichloroethane	<1	**1,2,3-Trichloropropane**	<1
tert-butyl methyl ether	<1	**Isopropylbenzene**	<1
cis-1,2-Dichloroethene	<1	**Bromobenzene**	<1
Bromochloromethane	<1	**2-Chlorotoluene**	<1
Chloroform	<1	**Propylbenzene**	<1
2,2-Dichloropropane	<1	**4-Chlorotoluene**	<1
1,2-Dichloroethane	<1	**1,2,4-Trimethylbenzene**	<1
1,1,1-Trichloroethane	<1	**4-Isopropyltoluene**	<1
1,1-Dichloropropene	<1	**1,3,5-Trimethylbenzene**	<1
Benzene	<1	**1,3-Dichlorobenzene**	<1
Carbontetrachloride	<1	**1,4-Dichlorobenzene**	<1
Dibromomethane	<1	**sec-Butylbenzene**	<1
1,2-Dichloropropane	<1	**tert-Butylbenzene**	<1
Bromodichloromethane	<1	**1,2-Dichlorobenzene**	<1
Trichloroethene	<1	**n-Butylbenzene**	<1
cis-1,3-Dichloropropene	<1	**1,2-Dibromo-3-chloropropane**	<1
trans-1,3-Dichloropropene	<1	**1,2,4-Trichlorobenzene**	<1
1,1,2-Trichloroethane	<1	**Naphthalene**	<1
Toluene	<1	**1,2,3-Trichlorobenzene**	<1
1,3-Dichloropropane	<1	**Hexachlorobutadiene**	<1
Dibromochloromethane	<1	**tert-Amyl methyl ether**	<1
		1,3,5-Trichlorobenzene	<1

VOLATILE ORGANIC COMPOUNDS		*Ballynacarrick Landfill Site Ballintra, Co.Donegal*	
Month:			
Location:	**GW10**		
Lab No:			
PARAMETERS	**UNITS**	**PARAMETERS**	**UNITS**
	ug/l		ug/l
Dichlorodifluoromethane	<1	**1,2-Dibromoethane**	<1
Chloromethane	<1	**Tetrachloroethene**	<1
Vinyl Chloride	<1	**1,1,1,2-Tetrachloroethane**	<1
Bromomethane	<1	**Chlorobenzene**	<1
Chloroethane	<1	**Ethylbenzene**	<1
Trichlorofluoromethane	<1	**p/m-Xylene**	<1
trans-1,2-Dichloroethene	<1	**Bromoform**	<1
Dichloromethane	<3	**Styrene**	<1
Carbon disulphide	<1	**1,1,2,2-Tetrachloroethane**	<1
1,1-Dichloroethene	<1	**o-Xylene**	<1
1,1-Dichloroethane	<1	**1,2,3-Trichloropropane**	<1
tert-butyl methyl ether	<1	**Isopropylbenzene**	<1
cis-1,2-Dichloroethene	<1	**Bromobenzene**	<1
Bromochloromethane	<1	**2-Chlorotoluene**	<1
Chloroform	<1	**Propylbenzene**	<1
2,2-Dichloropropane	<1	**4-Chlorotoluene**	<1
1,2-Dichloroethane	<1	**1,2,4-Trimethylbenzene**	<1
1,1,1-Trichloroethane	<1	**4-Isopropyltoluene**	<1
1,1-Dichloropropene	<1	**1,3,5-Trimethylbenzene**	<1
Benzene	<1	**1,3-Dichlorobenzene**	<1
Carbontetrachloride	<1	**1,4-Dichlorobenzene**	<1
Dibromomethane	<1	**sec-Butylbenzene**	<1
1,2-Dichloropropane	<1	**tert-Butylbenzene**	<1
Bromodichloromethane	<1	**1,2-Dichlorobenzene**	<1
Trichloroethene	<1	**n-Butylbenzene**	<1
cis-1,3-Dichloropropene	<1	**1,2-Dibromo-3-chloropropane**	<1
trans-1,3-Dichloropropene	<1	**1,2,4-Trichlorobenzene**	<1
1,1,2-Trichloroethane	<1	**Naphthalene**	<1
Toluene	<1	**1,2,3-Trichlorobenzene**	<1
1,3-Dichloropropane	<1	**Hexachlorobutadiene**	<1
Dibromochloromethane	<1	**tert-Amyl methyl ether**	<1
		1,3,5-Trichlorobenzene	<1

SEMIVOLATILE ORGANIC COMPOUNDS		*Ballynacarrick Landfill Site Ballintra, Co.Donegal*	
Month:			
Location:	**GW1**		
Lab No:			
PARAMETERS	**UNITS**	**PARAMETERS**	**UNITS**
	ug/L		**ug/l**
Phenol	<1.0	**Bis(2-ethylhexyl)phthalate**	<2.0
2-Chlorophenol	<1.0	**Dimethyl phthalate**	<1.0
2-Methylphenol	<1.0	**Di-n-butylphthalate**	<1.0
4-Methylphenol	<1.0	**Di-n-octylphthalate**	<5
2-Nitrophenol	<1.0	**Hexachlorobutadiene**	<1.0
4-Nitrophenol	<1.0	**Indeno(1,2,3-cd)pyrene**	<1.0
2,4-Dichlorophenol	<1.0	**2-Methylnaphthalene**	<1.0
2,4-Dimethylphenol	<1.0	**2-Nitroanaline**	<1.0
4-Chloro-3-methylphenol	<1.0	**3-Nitroaniline**	<1.0
2,4,6-Trichlorophenol	<1.0	**4-Nitroaniline**	<1.0
2,4,5-Trichlorophenol	<1.0	**2,4-Dinitrotoluene**	<1.0
Pentachlorophenol	<1.0	**2,6-Dinitrotoluene**	<1.0
1,3-Dichlorobenzene	<1.0	**N-nitrosodi-n-propylamine**	<1.0
1,4-Dichlorobenzene	<1.0	**Acenaphthylene**	<1.0
1,2-Dichlorobenzene	<1.0	**Acenaphtene**	<1.0
1,2,4-Trichlorobenzene	<1.0	**Anthracene**	<1.0
Nitrobenzene	<1.0	**Benzo(a)anthracene**	<1.0
Azobenzene	<1.0	**Benzo(b)fluoranthene**	<1.0
Hexachlorobenzene	<1.0	**Benzo(a)pyrene**	<1.0
Naphthalene	<1.0	**Benzo(g,h,i)perylene**	<1.0
Benzo(k)fluoranthrene	<1.0	**Chrysene**	<1.0
Carbazole	<1.0	**Dibenzo(a,h)anthracene**	<1.0
Bis(2-chloroethyl)ether	<1.0	**Fluroanthene**	<1.0
Butylbenzylphthalate	<1.0	**Fluorene**	<1.0
Bis(2-chloroethoxy)methane	<2	**Hexachloroethane**	<1.0
2-Chloronaphthalene	<1.0	**Isophorone**	<1.0
4-Chloroaniline	<1.0	**Hexachlorocyclopentadien**	<1.0
4-Chlorophenylphenylether	<1.0	**Phenanthrene**	<1.0
Dibenzofuran	<1.0	**Indole(1,2,3-cd)pyrene**	<1.0
Diethyl phthalate	<1.0	**Pyrene**	<1.0

SEMIVOLATILE ORGANIC COMPOUNDS		*Ballynacarrick Landfill Site Ballintra, Co.Donegal*	
Month:			
Location:	**GW2**		
Lab No:			
PARAMETERS	**UNITS**	**PARAMETERS**	**UNITS**
	ug/L		**ug/l**
Phenol	<1.0	**Bis(2-ethylhexyl)phthalate**	<2.0
2-Chlorophenol	<1.0	**Dimethyl phthalate**	<1.0
2-Methylphenol	<1.0	**Di-n-butylphthalate**	<1.0
4-Methylphenol	<1.0	**Di-n-octylphthalate**	<5
2-Nitrophenol	<1.0	**Hexachlorobutadiene**	<1.0
4-Nitrophenol	<1.0	**Indeno(1,2,3-cd)pyrene**	<1.0
2,4-Dichlorophenol	<1.0	**2-Methylnaphthalene**	<1.0
2,4-Dimethylphenol	<1.0	**2-Nitroanaline**	<1.0
4-Chloro-3-methylphenol	<1.0	**3-Nitroaniline**	<1.0
2,4,6-Trichlorophenol	<1.0	**4-Nitroaniline**	<1.0
2,4,5-Trichlorophenol	<1.0	**2,4-Dinitrotoluene**	<1.0
Pentachlorophenol	<1.0	**2,6-Dinitrotoluene**	<1.0
1,3-Dichlorobenzene	<1.0	**N-nitrosodi-n-propylamine**	<1.0
1,4-Dichlorobenzene	<1.0	**Acenaphthylene**	<1.0
1,2-Dichlorobenzene	<1.0	**Acenaphtene**	<1.0
1,2,4-Trichlorobenzene	<1.0	**Anthracene**	<1.0
Nitrobenzene	<1.0	**Benzo(a)anthracene**	<1.0
Azobenzene	<1.0	**Benzo(b)fluoranthene**	<1.0
Hexachlorobenzene	<1.0	**Benzo(a)pyrene**	<1.0
Naphthalene	<1.0	**Benzo(g,h,i)perylene**	<1.0
Benzo(k)fluoranthrene	<1.0	**Chrysene**	<1.0
Carbazole	<1.0	**Dibenzo(a,h)anthracene**	<1.0
Bis(2-chloroethyl)ether	<1.0	**Fluroanthene**	<1.0
Butylbenzylphthalate	<1.0	**Fluorene**	<1.0
Bis(2-chloroethoxy)methane	<2	**Hexachloroethane**	<1.0
2-Chloronaphthalene	<1.0	**Isophorone**	<1.0
4-Chloroaniline	<1.0	**Hexachlorocyclopentadien**	<1.0
4-Chlorophenylphenylether	<1.0	**Phenanthrene**	<1.0
Dibenzofuran	<1.0	**Indole(1,2,3-cd)pyrene**	<1.0
Diethyl phthalate	<1.0	**Pyrene**	<1.0

SEMIVOLATILE ORGANIC COMPOUNDS		*Ballynacarrick Landfill Site Ballintra, Co.Donegal*	
Month:			
Location:	**GW4**		
Lab No:			
PARAMETERS	**UNITS**	**PARAMETERS**	**UNITS**
	ug/L		**ug/l**
Phenol	<1.0	**Bis(2-ethylhexyl)phthalate**	<2.0
2-Chlorophenol	<1.0	**Dimethyl phthalate**	<1.0
2-Methylphenol	<1.0	**Di-n-butylphthalate**	<1.0
4-Methylphenol	<1.0	**Di-n-octylphthalate**	<5
2-Nitrophenol	<1.0	**Hexachlorobutadiene**	<1.0
4-Nitrophenol	<1.0	**Indeno(1,2,3-cd)pyrene**	<1.0
2,4-Dichlorophenol	<1.0	**2-Methylnaphthalene**	<1.0
2,4-Dimethylphenol	<1.0	**2-Nitroanaline**	<1.0
4-Chloro-3-methylphenol	<1.0	**3-Nitroaniline**	<1.0
2,4,6-Trichlorophenol	<1.0	**4-Nitroaniline**	<1.0
2,4,5-Trichlorophenol	<1.0	**2,4-Dinitrotoluene**	<1.0
Pentachlorophenol	<1.0	**2,6-Dinitrotoluene**	<1.0
1,3-Dichlorobenzene	<1.0	**N-nitrosodi-n-propylamine**	<1.0
1,4-Dichlorobenzene	<1.0	**Acenaphthylene**	<1.0
1,2-Dichlorobenzene	<1.0	**Acenaphtene**	<1.0
1,2,4-Trichlorobenzene	<1.0	**Anthracene**	<1.0
Nitrobenzene	<1.0	**Benzo(a)anthracene**	<1.0
Azobenzene	<1.0	**Benzo(b)fluoranthene**	<1.0
Hexachlorobenzene	<1.0	**Benzo(a)pyrene**	<1.0
Naphthalene	<1.0	**Benzo(g,h,i)perylene**	<1.0
Benzo(k)fluoranthrene	<1.0	**Chrysene**	<1.0
Carbazole	<1.0	**Dibenzo(a,h)anthracene**	<1.0
Bis(2-chloroethyl)ether	<1.0	**Fluroanthene**	<1.0
Butylbenzylphthalate	<1.0	**Fluorene**	<1.0
Bis(2-chloroethoxy)methane	<2	**Hexachloroethane**	<1.0
2-Chloronaphthalene	<1.0	**Isophorone**	<1.0
4-Chloroaniline	<1.0	**Hexachlorocyclopentadien**	<1.0
4-Chlorophenylphenylether	<1.0	**Phenanthrene**	<1.0
Dibenzofuran	<1.0	**Indole(1,2,3-cd)pyrene**	<1.0
Diethyl phthalate	<1.0	**Pyrene**	<1.0

SEMIVOLATILE ORGANIC COMPOUNDS		*Ballynacarrick Landfill Site Ballintra, Co.Donegal*	
Month:			
Location:	**GW5**		
Lab No:			
PARAMETERS	**UNITS**	**PARAMETERS**	**UNITS**
	ug/L		**ug/l**
Phenol	<1.0	**Bis(2-ethylhexyl)phthalate**	<2.0
2-Chlorophenol	<1.0	**Dimethyl phthalate**	<1.0
2-Methylphenol	<1.0	**Di-n-butylphthalate**	<1.0
4-Methylphenol	<1.0	**Di-n-octylphthalate**	<5
2-Nitrophenol	<1.0	**Hexachlorobutadiene**	<1.0
4-Nitrophenol	<1.0	**Indeno(1,2,3-cd)pyrene**	<1.0
2,4-Dichlorophenol	<1.0	**2-Methylnaphthalene**	<1.0
2,4-Dimethylphenol	<1.0	**2-Nitroanaline**	<1.0
4-Chloro-3-methylphenol	<1.0	**3-Nitroaniline**	<1.0
2,4,6-Trichlorophenol	<1.0	**4-Nitroaniline**	<1.0
2,4,5-Trichlorophenol	<1.0	**2,4-Dinitrotoluene**	<1.0
Pentachlorophenol	<1.0	**2,6-Dinitrotoluene**	<1.0
1,3-Dichlorobenzene	<1.0	**N-nitrosodi-n-propylamine**	<1.0
1,4-Dichlorobenzene	<1.0	**Acenaphthylene**	<1.0
1,2-Dichlorobenzene	<1.0	**Acenaphtene**	<1.0
1,2,4-Trichlorobenzene	<1.0	**Anthracene**	<1.0
Nitrobenzene	<1.0	**Benzo(a)anthracene**	<1.0
Azobenzene	<1.0	**Benzo(b)fluoranthene**	<1.0
Hexachlorobenzene	<1.0	**Benzo(a)pyrene**	<1.0
Naphthalene	<1.0	**Benzo(g,h,i)perylene**	<1.0
Benzo(k)fluoranthrene	<1.0	**Chrysene**	<1.0
Carbazole	<1.0	**Dibenzo(a,h)anthracene**	<1.0
Bis(2-chloroethyl)ether	<1.0	**Fluroanthene**	<1.0
Butylbenzylphthalate	<1.0	**Fluorene**	<1.0
Bis(2-chloroethoxy)methane	<2	**Hexachloroethane**	<1.0
2-Chloronaphthalene	<1.0	**Isophorone**	<1.0
4-Chloroaniline	<1.0	**Hexachlorocyclopentadien**	<1.0
4-Chlorophenylphenylether	<1.0	**Phenanthrene**	<1.0
Dibenzofuran	<1.0	**Indole(1,2,3-cd)pyrene**	<1.0
Diethyl phthalate	<1.0	**Pyrene**	<1.0

SEMIVOLATILE ORGANIC COMPOUNDS		*Ballynacarrick Landfill Site Ballintra, Co.Donegal*	
Month:			
Location:	**GW6**		
Lab No:			
PARAMETERS	**UNITS**	**PARAMETERS**	**UNITS**
	ug/L		**ug/l**
Phenol	<1.0	**Bis(2-ethylhexyl)phthalate**	<2.0
2-Chlorophenol	<1.0	**Dimethyl phthalate**	<1.0
2-Methylphenol	<1.0	**Di-n-butylphthalate**	<1.0
4-Methylphenol	<1.0	**Di-n-octylphthalate**	<5
2-Nitrophenol	<1.0	**Hexachlorobutadiene**	<1.0
4-Nitrophenol	<1.0	**Indeno(1,2,3-cd)pyrene**	<1.0
2,4-Dichlorophenol	<1.0	**2-Methylnaphthalene**	<1.0
2,4-Dimethylphenol	<1.0	**2-Nitroanaline**	<1.0
4-Chloro-3-methylphenol	<1.0	**3-Nitroaniline**	<1.0
2,4,6-Trichlorophenol	<1.0	**4-Nitroaniline**	<1.0
2,4,5-Trichlorophenol	<1.0	**2,4-Dinitrotoluene**	<1.0
Pentachlorophenol	<1.0	**2,6-Dinitrotoluene**	<1.0
1,3-Dichlorobenzene	<1.0	**N-nitrosodi-n-propylamine**	<1.0
1,4-Dichlorobenzene	<1.0	**Acenaphthylene**	<1.0
1,2-Dichlorobenzene	<1.0	**Acenaphtene**	<1.0
1,2,4-Trichlorobenzene	<1.0	**Anthracene**	<1.0
Nitrobenzene	<1.0	**Benzo(a)anthracene**	<1.0
Azobenzene	<1.0	**Benzo(b)fluoranthene**	<1.0
Hexachlorobenzene	<1.0	**Benzo(a)pyrene**	<1.0
Naphthalene	<1.0	**Benzo(g,h,i)perylene**	<1.0
Benzo(k)fluoranthrene	<1.0	**Chrysene**	<1.0
Carbazole	<1.0	**Dibenzo(a,h)anthracene**	<1.0
Bis(2-chloroethyl)ether	<1.0	**Fluroanthene**	<1.0
Butylbenzylphthalate	<1.0	**Fluorene**	<1.0
Bis(2-chloroethoxy)methane	<2	**Hexachloroethane**	<1.0
2-Chloronaphthalene	<1.0	**Isophorone**	<1.0
4-Chloroaniline	<1.0	**Hexachlorocyclopentadien**	<1.0
4-Chlorophenylphenylether	<1.0	**Phenanthrene**	<1.0
Dibenzofuran	<1.0	**Indole(1,2,3-cd)pyrene**	<1.0
Diethyl phthalate	<1.0	**Pyrene**	<1.0

SEMIVOLATILE ORGANIC COMPOUNDS		*Ballynacarrick Landfill Site Ballintra, Co.Donegal*	
Month:			
Location:	**GW7**		
Lab No:			
PARAMETERS	**UNITS**	**PARAMETERS**	**UNITS**
	ug/L		**ug/l**
Phenol	<1.0	**Bis(2-ethylhexyl)phthalate**	<2.0
2-Chlorophenol	<1.0	**Dimethyl phthalate**	<1.0
2-Methylphenol	<1.0	**Di-n-butylphthalate**	<1.0
4-Methylphenol	<1.0	**Di-n-octylphthalate**	<5
2-Nitrophenol	<1.0	**Hexachlorobutadiene**	<1.0
4-Nitrophenol	<1.0	**Indeno(1,2,3-cd)pyrene**	<1.0
2,4-Dichlorophenol	<1.0	**2-Methylnaphthalene**	<1.0
2,4-Dimethylphenol	<1.0	**2-Nitroanaline**	<1.0
4-Chloro-3-methylphenol	<1.0	**3-Nitroaniline**	<1.0
2,4,6-Trichlorophenol	<1.0	**4-Nitroaniline**	<1.0
2,4,5-Trichlorophenol	<1.0	**2,4-Dinitrotoluene**	<1.0
Pentachlorophenol	<1.0	**2,6-Dinitrotoluene**	<1.0
1,3-Dichlorobenzene	<1.0	**N-nitrosodi-n-propylamine**	<1.0
1,4-Dichlorobenzene	<1.0	**Acenaphthylene**	<1.0
1,2-Dichlorobenzene	<1.0	**Acenaphtene**	<1.0
1,2,4-Trichlorobenzene	<1.0	**Anthracene**	<1.0
Nitrobenzene	<1.0	**Benzo(a)anthracene**	<1.0
Azobenzene	<1.0	**Benzo(b)fluoranthene**	<1.0
Hexachlorobenzene	<1.0	**Benzo(a)pyrene**	<1.0
Naphthalene	<1.0	**Benzo(g,h,i)perylene**	<1.0
Benzo(k)fluoranthrene	<1.0	**Chrysene**	<1.0
Carbazole	<1.0	**Dibenzo(a,h)anthracene**	<1.0
Bis(2-chloroethyl)ether	<1.0	**Fluroanthene**	<1.0
Butylbenzylphthalate	<1.0	**Fluorene**	<1.0
Bis(2-chloroethoxy)methane	<2	**Hexachloroethane**	<1.0
2-Chloronaphthalene	<1.0	**Isophorone**	<1.0
4-Chloroaniline	<1.0	**Hexachlorocyclopentadien**	<1.0
4-Chlorophenylphenylether	<1.0	**Phenanthrene**	<1.0
Dibenzofuran	<1.0	**Indole(1,2,3-cd)pyrene**	<1.0
Diethyl phthalate	<1.0	**Pyrene**	<1.0

SEMIVOLATILE ORGANIC COMPOUNDS		*Ballynacarrick Landfill Site Ballintra, Co.Donegal*	
Month:			
Location:	**GW8**		
Lab No:			
PARAMETERS	**UNITS**	**PARAMETERS**	**UNITS**
	ug/L		**ug/l**
Phenol	<1.0	**Bis(2-ethylhexyl)phthalate**	<2.0
2-Chlorophenol	<1.0	**Dimethyl phthalate**	<1.0
2-Methylphenol	<1.0	**Di-n-butylphthalate**	<1.0
4-Methylphenol	<1.0	**Di-n-octylphthalate**	<5
2-Nitrophenol	<1.0	**Hexachlorobutadiene**	<1.0
4-Nitrophenol	<1.0	**Indeno(1,2,3-cd)pyrene**	<1.0
2,4-Dichlorophenol	<1.0	**2-Methylnaphthalene**	<1.0
2,4-Dimethylphenol	<1.0	**2-Nitroanaline**	<1.0
4-Chloro-3-methylphenol	<1.0	**3-Nitroaniline**	<1.0
2,4,6-Trichlorophenol	<1.0	**4-Nitroaniline**	<1.0
2,4,5-Trichlorophenol	<1.0	**2,4-Dinitrotoluene**	<1.0
Pentachlorophenol	<1.0	**2,6-Dinitrotoluene**	<1.0
1,3-Dichlorobenzene	<1.0	**N-nitrosodi-n-propylamine**	<1.0
1,4-Dichlorobenzene	<1.0	**Acenaphthylene**	<1.0
1,2-Dichlorobenzene	<1.0	**Acenaphtene**	<1.0
1,2,4-Trichlorobenzene	<1.0	**Anthracene**	<1.0
Nitrobenzene	<1.0	**Benzo(a)anthracene**	<1.0
Azobenzene	<1.0	**Benzo(b)fluoranthene**	<1.0
Hexachlorobenzene	<1.0	**Benzo(a)pyrene**	<1.0
Naphthalene	<1.0	**Benzo(g,h,i)perylene**	<1.0
Benzo(k)fluoranthrene	<1.0	**Chrysene**	<1.0
Carbazole	<1.0	**Dibenzo(a,h)anthracene**	<1.0
Bis(2-chloroethyl)ether	<1.0	**Fluroanthene**	<1.0
Butylbenzylphthalate	<1.0	**Fluorene**	<1.0
Bis(2-chloroethoxy)methane	<2	**Hexachloroethane**	<1.0
2-Chloronaphthalene	<1.0	**Isophorone**	<1.0
4-Chloroaniline	<1.0	**Hexachlorocyclopentadien**	<1.0
4-Chlorophenylphenylether	<1.0	**Phenanthrene**	<1.0
Dibenzofuran	<1.0	**Indole(1,2,3-cd)pyrene**	<1.0
Diethyl phthalate	<1.0	**Pyrene**	<1.0

SEMIVOLATILE ORGANIC COMPOUNDS		*Ballynacarrick Landfill Site Ballintra, Co.Donegal*	
Month:			
Location:	**GW9**		
Lab No:			
PARAMETERS	**UNITS**	**PARAMETERS**	**UNITS**
	ug/L		**ug/l**
Phenol	<1.0	**Bis(2-ethylhexyl)phthalate**	<2.0
2-Chlorophenol	<1.0	**Dimethyl phthalate**	<1.0
2-Methylphenol	<1.0	**Di-n-butylphthalate**	<1.0
4-Methylphenol	<1.0	**Di-n-octylphthalate**	<5
2-Nitrophenol	<1.0	**Hexachlorobutadiene**	<1.0
4-Nitrophenol	<1.0	**Indeno(1,2,3-cd)pyrene**	<1.0
2,4-Dichlorophenol	<1.0	**2-Methylnaphthalene**	<1.0
2,4-Dimethylphenol	<1.0	**2-Nitroanaline**	<1.0
4-Chloro-3-methylphenol	<1.0	**3-Nitroaniline**	<1.0
2,4,6-Trichlorophenol	<1.0	**4-Nitroaniline**	<1.0
2,4,5-Trichlorophenol	<1.0	**2,4-Dinitrotoluene**	<1.0
Pentachlorophenol	<1.0	**2,6-Dinitrotoluene**	<1.0
1,3-Dichlorobenzene	<1.0	**N-nitrosodi-n-propylamine**	<1.0
1,4-Dichlorobenzene	<1.0	**Acenaphthylene**	<1.0
1,2-Dichlorobenzene	<1.0	**Acenaphtene**	<1.0
1,2,4-Trichlorobenzene	<1.0	**Anthracene**	<1.0
Nitrobenzene	<1.0	**Benzo(a)anthracene**	<1.0
Azobenzene	<1.0	**Benzo(b)fluoranthene**	<1.0
Hexachlorobenzene	<1.0	**Benzo(a)pyrene**	<1.0
Naphthalene	<1.0	**Benzo(g,h,i)perylene**	<1.0
Benzo(k)fluoranthrene	<1.0	**Chrysene**	<1.0
Carbazole	<1.0	**Dibenzo(a,h)anthracene**	<1.0
Bis(2-chloroethyl)ether	<1.0	**Fluroanthene**	<1.0
Butylbenzylphthalate	<1.0	**Fluorene**	<1.0
Bis(2-chloroethoxy)methane	<2	**Hexachloroethane**	<1.0
2-Chloronaphthalene	<1.0	**Isophorone**	<1.0
4-Chloroaniline	<1.0	**Hexachlorocyclopentadien**	<1.0
4-Chlorophenylphenylether	<1.0	**Phenanthrene**	<1.0
Dibenzofuran	<1.0	**Indole(1,2,3-cd)pyrene**	<1.0
Diethyl phthalate	<1.0	**Pyrene**	<1.0

SEMIVOLATILE ORGANIC COMPOUNDS		*Ballynacarrick Landfill Site Ballintra, Co.Donegal*	
Month:			
Location:	**GW10**		
Lab No:			
PARAMETERS	**UNITS**	**PARAMETERS**	**UNITS**
	ug/L		**ug/l**
Phenol	<1.0	**Bis(2-ethylhexyl)phthalate**	<2.0
2-Chlorophenol	<1.0	**Dimethyl phthalate**	<1.0
2-Methylphenol	<1.0	**Di-n-butylphthalate**	<1.0
4-Methylphenol	<1.0	**Di-n-octylphthalate**	<5
2-Nitrophenol	<1.0	**Hexachlorobutadiene**	<1.0
4-Nitrophenol	<1.0	**Indeno(1,2,3-cd)pyrene**	<1.0
2,4-Dichlorophenol	<1.0	**2-Methylnaphthalene**	<1.0
2,4-Dimethylphenol	<1.0	**2-Nitroanaline**	<1.0
4-Chloro-3-methylphenol	<1.0	**3-Nitroaniline**	<1.0
2,4,6-Trichlorophenol	<1.0	**4-Nitroaniline**	<1.0
2,4,5-Trichlorophenol	<1.0	**2,4-Dinitrotoluene**	<1.0
Pentachlorophenol	<1.0	**2,6-Dinitrotoluene**	<1.0
1,3-Dichlorobenzene	<1.0	**N-nitrosodi-n-propylamine**	<1.0
1,4-Dichlorobenzene	<1.0	**Acenaphthylene**	<1.0
1,2-Dichlorobenzene	<1.0	**Acenaphtene**	<1.0
1,2,4-Trichlorobenzene	<1.0	**Anthracene**	<1.0
Nitrobenzene	<1.0	**Benzo(a)anthracene**	<1.0
Azobenzene	<1.0	**Benzo(b)fluoranthene**	<1.0
Hexachlorobenzene	<1.0	**Benzo(a)pyrene**	<1.0
Naphthalene	<1.0	**Benzo(g,h,i)perylene**	<1.0
Benzo(k)fluoranthrene	<1.0	**Chrysene**	<1.0
Carbazole	<1.0	**Dibenzo(a,h)anthracene**	<1.0
Bis(2-chloroethyl)ether	<1.0	**Fluroanthene**	<1.0
Butylbenzylphthalate	<1.0	**Fluorene**	<1.0
Bis(2-chloroethoxy)methane	<2	**Hexachloroethane**	<1.0
2-Chloronaphthalene	<1.0	**Isophorone**	<1.0
4-Chloroaniline	<1.0	**Hexachlorocyclopentadien**	<1.0
4-Chlorophenylphenylether	<1.0	**Phenanthrene**	<1.0
Dibenzofuran	<1.0	**Indole(1,2,3-cd)pyrene**	<1.0
Diethyl phthalate	<1.0	**Pyrene**	<1.0

Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Leachate											
Site No		L1											
Date of Sample		Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sept 12	Oct 12	Nov 12	Dec 12
Lab No		1218	1414	1606	2009	2440	3023	3796	4473			5445	
pH		6.69	6.63	6.52	7.33	6.53	6.72	6.79	6.65			6.68	
Temp	C	10.30	11.30	11.00	12.50	12.40	14.30	17.10	16.10			12.10	
Electrical Conductivity	uS/cm	1343	2340	2610	6140	2062	2350	2370	1821			1795	
Ammonical Nitrogen	mg/l	31	79	75	410	0.06	65	110	96			174	
COD	mg/l	300	94	90	1247	92	119	85	105			104	
BOD	mg/l	27.00	0.20	2.36	48.40	0.14	3.18	3.90	5.58			6.00	
Dissolved Oxygen	mg/l												
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	ug/l												
Cadmium	ug/l						<0.1						
Chromium	ug/l						6.940						
Chloride	mg/l	115	150	190	590	140	220	225	170				
Chlorine	mg/l												
Copper	ug/l						<0.85						
Cyanide	mg/l												
Dissolved Iron	ug/l						0.05						
Lead	ug/l						0.08						
Magnesium	ug/l						34.5						
Manganese	ug/l						0.68						
Mercury	ug/l						<0.01						
Nickel	ug/l						5.36						
Potassium	mg/l						64.8						
Sodium	mg/l												
Sulphate	mg/l						42.6						
Zinc	ug/l						2.21						
Total Alkalinity as CaCO3	mg/l												
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.12			<0.01	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Total Phenols	mg/l												
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Mircrotox	Toxic Units												
Microtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l						0.20						
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m												

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

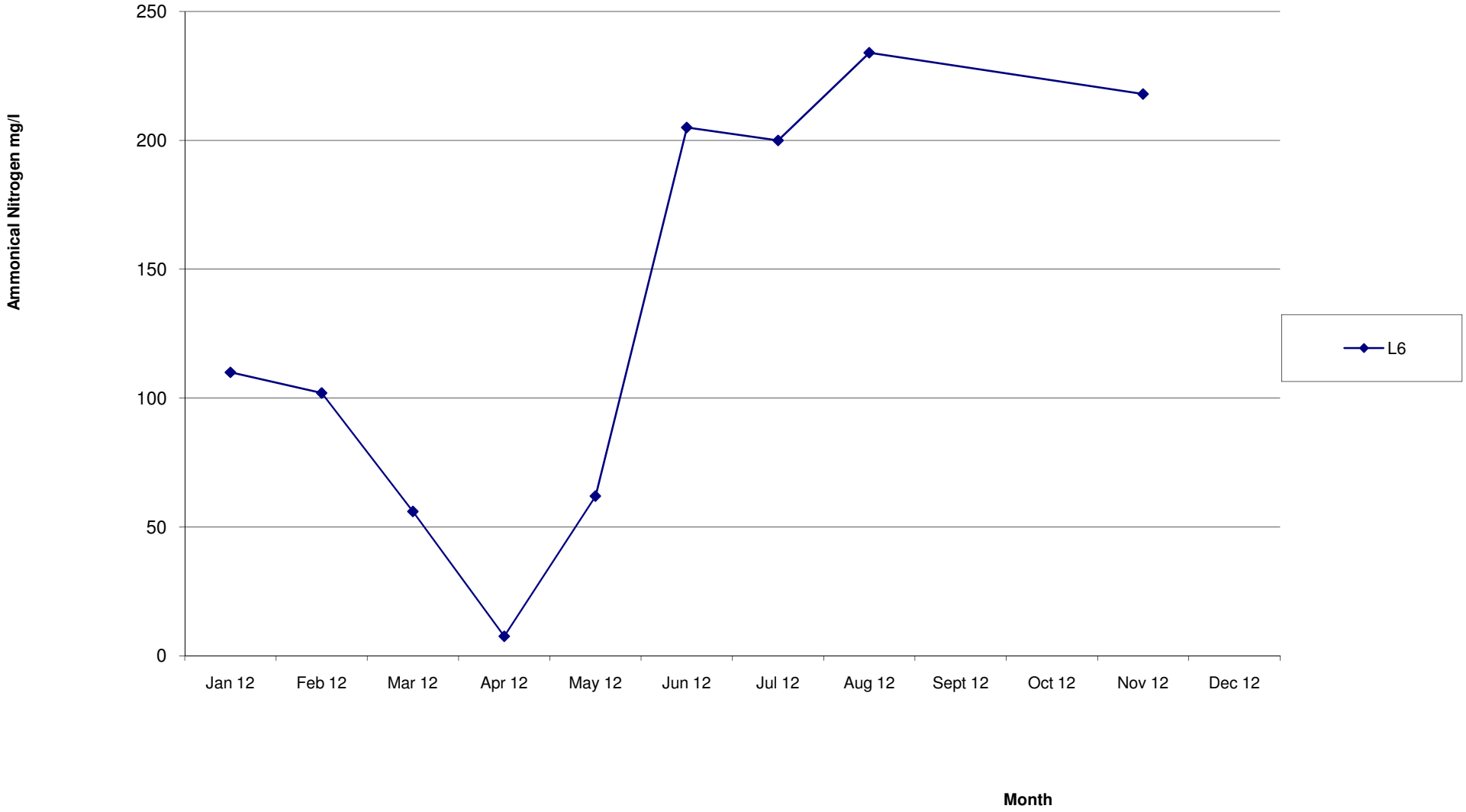
Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Leachate											
Site No		L6 Storage Tank											
Date of Sample		Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sept 12	Oct 12	Nov 12	Dec 12
Lab No		1219	1415	1607	2011	2441	3024	3797	4474			5446	
pH		7.80	7.7	7.6	7.45	7.87	7.95	8.33	8.32			7.99	
Temp	C	9.60	9.5	8.2	9.60	9.9	15.0	16.9	16.7			10.7	
Electrical Conductivity	uS/cm	2330	2460	2640	2520	2047	3940	3890	2400			2150	
Ammonical Nitrogen	mg/l	110	102	56	8	62.0	205	200	234			218	
COD	mg/l	252	303	197	323	172	328	429	240			191	
BOD	mg/l	39	4	14	22	2.6	21.2	27	27			23	
Dissolved Oxygen	mg/l												
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	ug/l												
Cadmium	ug/l						0.132						
Chromium	ug/l						21						
Chloride	mg/l	230	225	360	330	220	400	130	325			110	
Chlorine	mg/l												
Copper	ug/l						18						
Cyanide	mg/l												
Dissolved Iron	ug/l						0.23						
Lead	ug/l						0.18						
Magnesium	ug/l						58						
Manganese	ug/l						0.09						
Mercury	ug/l						<0.01						
Nickel	ug/l						44						
Potassium	mg/l						158.0						
Sodium	mg/l												
Sulphate	mg/l						79						
Zinc	ug/l						18						
Total Alkalinity as CaCO3	mg/l												
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l	<0.01	0.3	37.2	268	32	19	0.8	0.2			2.4	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Total Phenols	mg/l												
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Mircrotox	Toxic Units												
Microtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l						0.42						
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m												

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

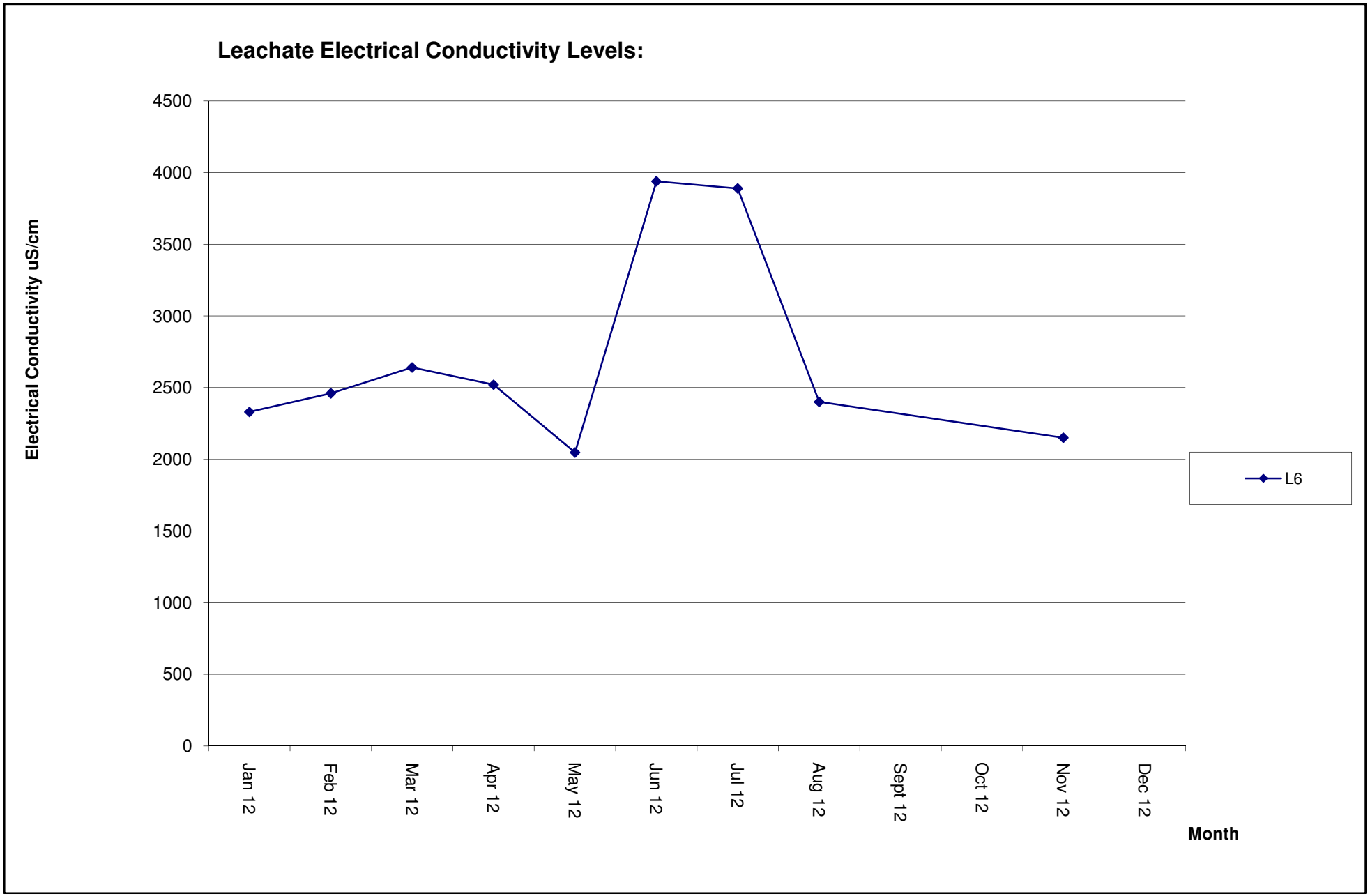
Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Leachate											
Site No		L8											
Date of Sample		Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sept 12	Oct 12	Nov 12	Dec 12
Lab No		1220	1416	1608	2011.00	2442	3025	3798	***			5447	
pH		7.67	7.2	7.1	7.60	7.04	7.55	7.70	***			7.86	
Temp	C	11.80	12.1	12.4	11.4	13.3	15.8	17.0	***			13.5	
Electrical Conductivity	uS/cm	924	1219	1289	1288	873	1112	1273	***			874	
Ammonical Nitrogen	mg/l	8	17	27	30	10	0.12	24	***			19	
COD	mg/l	58	52	25	53	29	100	44	***			47	
BOD	mg/l	14.0	0.2	2.8	1.1	0.9	0.5	0.8	***			2	
Dissolved Oxygen	mg/l												
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	ug/l												
Cadmium	ug/l						0.245						
Chromium	ug/l						<3						
Chloride	mg/l	105	115	125	125	60	150	130	***			21	
Chlorine	mg/l												
Copper	ug/l						115						
Cyanide	mg/l												
Dissolved Iron	ug/l						0.03						
Lead	ug/l						0.18						
Magnesium	ug/l						19						
Manganese	ug/l						0.52						
Mercury	ug/l						<0.01						
Nickel	ug/l						21						
Potassium	mg/l						19.2						
Sodium	mg/l												
Sulphate	mg/l						111						
Zinc	ug/l						1210						
Total Alkalinity as CaCO3	mg/l												
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l	0.70	<0.01	1.09	0.67	0.78	<0.01	1.24	***			0.06	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Total Phenols	mg/l												
Phosphorous	mg/l												
Selenium	mg/l												
Silver	mg/l												
Mircrotox	Toxic Units												
Microtox	Toxic Units												
Nitrite	mg/l												
Nitrate	mg/l												
Phosphate - ORTHO	mg/l						0.01						
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m												

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

Leachate Ammonical Nitrogen Levels:



Leachate Electrical Conductivity Levels:

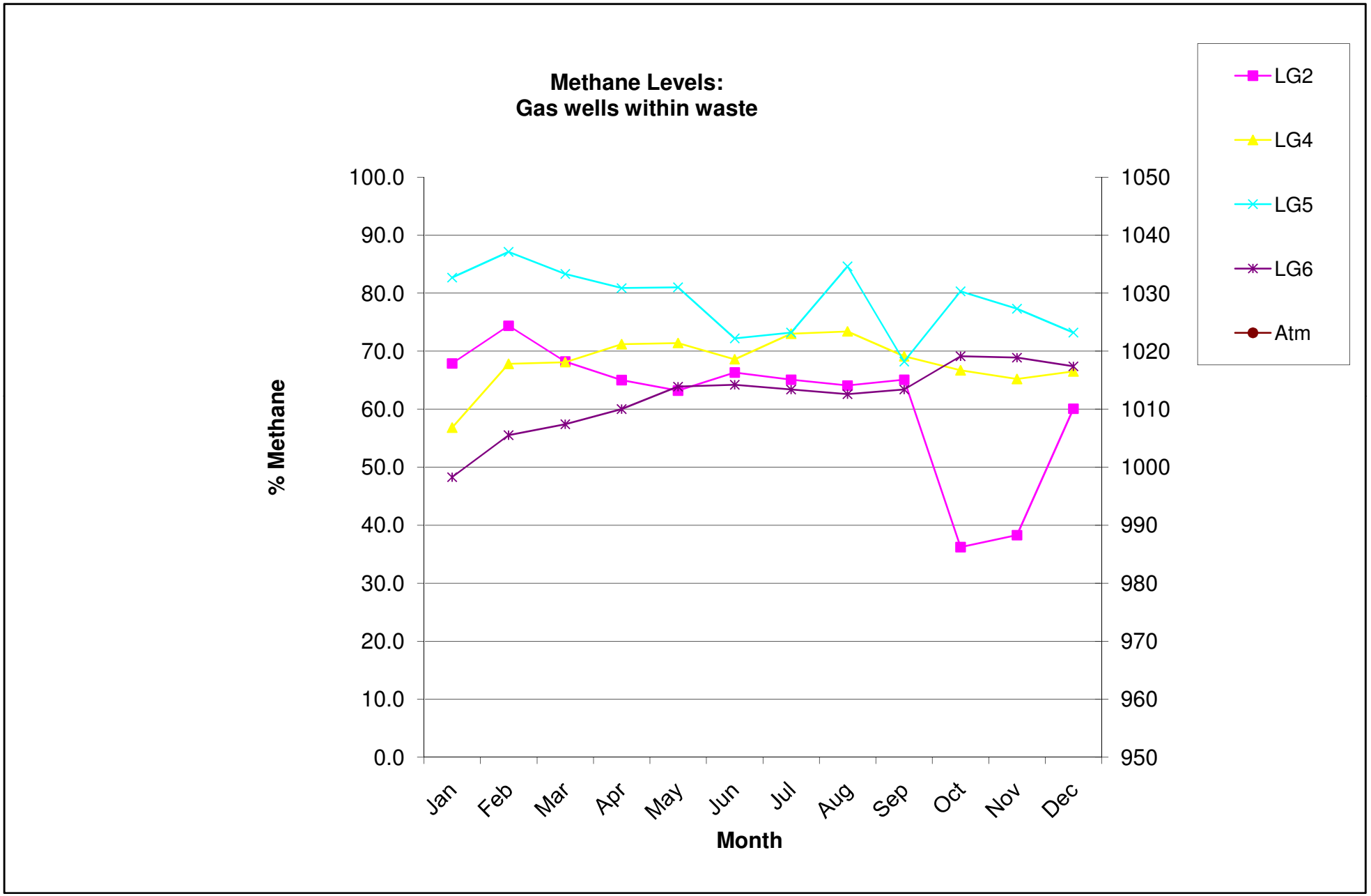


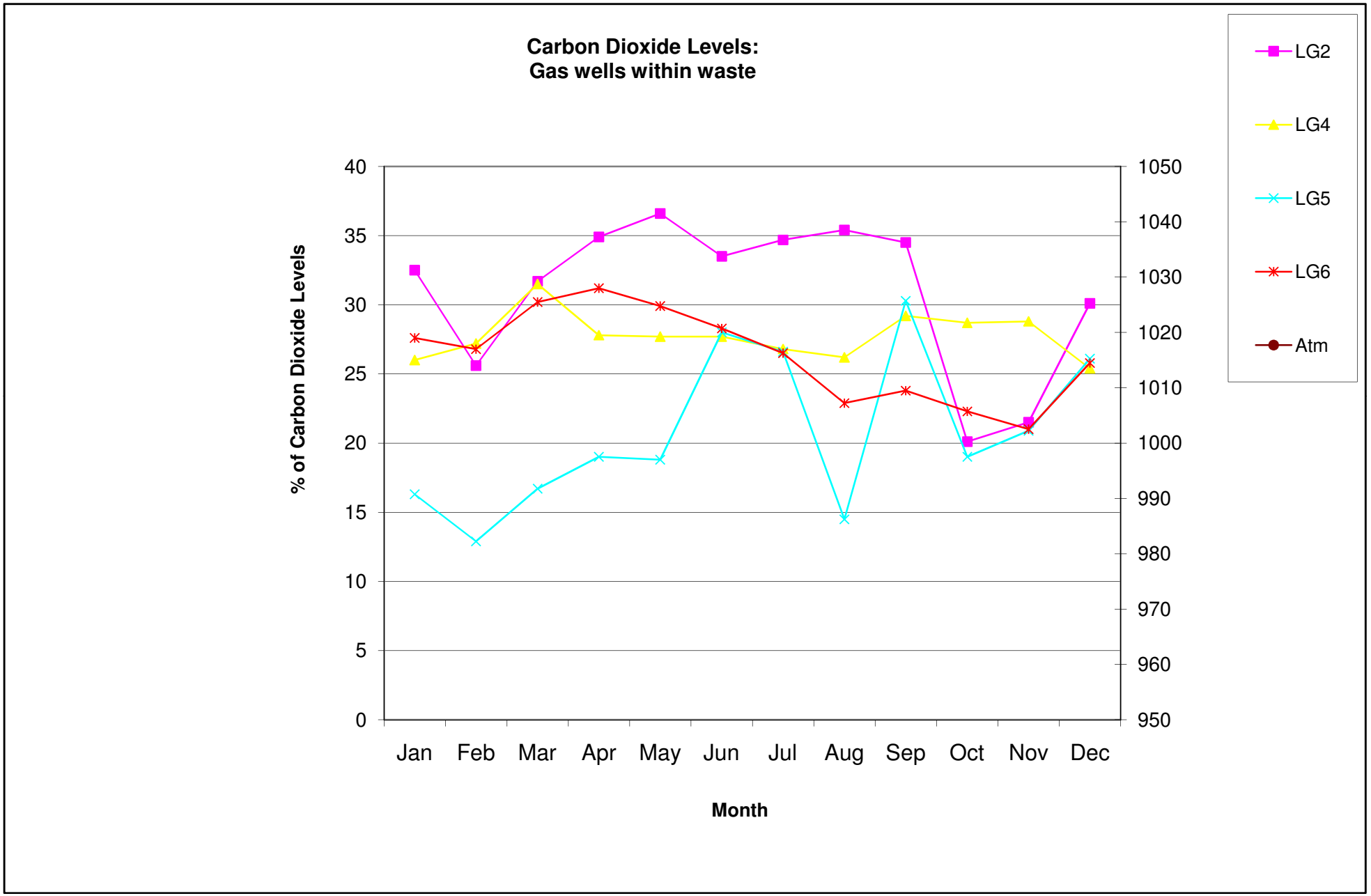
		Ballynacarrick, Ballintra, Co. Donegal											
		Gas Levels											
		LG2											
PARAMETERS	**UNITS**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Methane	**%**	67.9	74.4	68.2	65.0	63.2	66.3	65.1	64.1	65.1	36.2		
Carbon Dioxide	**%**	32.5	25.6	31.7	34.9	36.6	33.5	34.7	35.4	34.5	20.1		
Oxygen	**%**	0.2	0.0	0.1	0.1	0.2	0.2	0.1	0.2	0.2	8.6		
Atm. Pressure	**mBar**	1001	1000	1007	972	995	996	993	984	1012	1009		

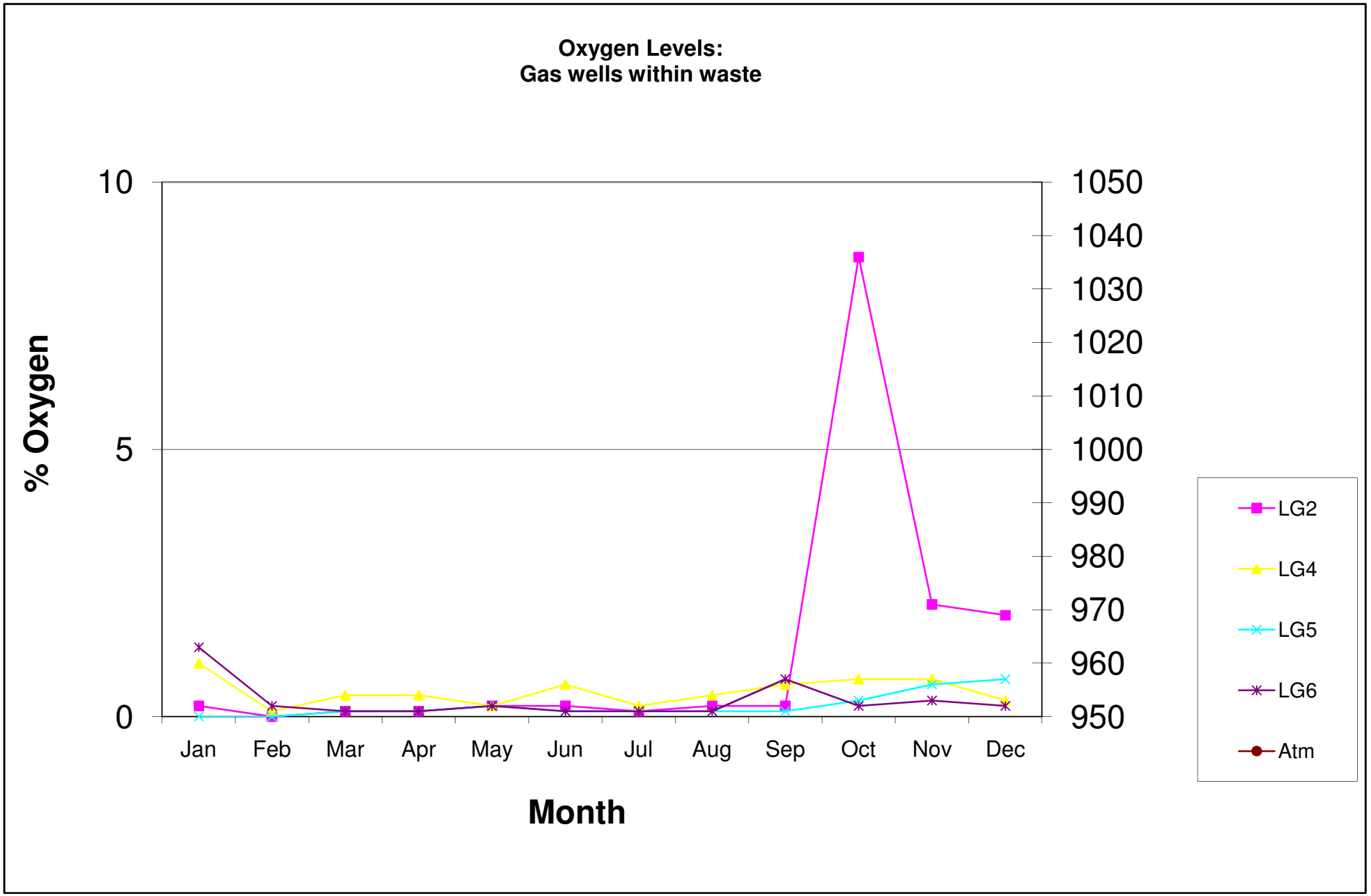
		Ballynacarrick, Ballintra, Co. Donegal											
		Gas Levels											
		LG4											
PARAMETERS	**UNITS**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Methane	**%**	56.8	67.8	68.1	71.2	71.4	68.6	73.0	73.4	69.1	66.7		
Carbon Dioxide	**%**	26.0	27.2	31.5	27.8	27.7	27.7	26.8	26.2	29.2	28.7		
Oxygen	**%**	1.0	0.1	0.4	0.4	0.2	0.6	0.2	0.4	0.6	0.7		
Atm. Pressure	**mBar**	1001.0	1000	1007	972	995	996	993	984	1012	1009		

		Ballynacarrick, Ballintra, Co. Donegal											
		Gas Levels											
		LG5											
PARAMETERS	**UNITS**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Methane	**%**	82.7	87.1	83.3	80.9	81.0	72.2	73.2	84.6	68.2	80.3		
Carbon Dioxide	**%**	16	12.9	16.7	19.0	18.8	28.0	26.6	14.5	30.3	19.0		
Oxygen	**%**	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.3		
Atm. Pressure	**mBar**	1001.0	1000	1007	972	1011	996	993	984	1012	1009		

		Ballynacarrick, Ballintra, Co. Donegal											
		Gas Levels											
		LG6											
PARAMETERS	**UNITS**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Methane	**%**	48.3	55.5	57.4	60.0	63.9	64.2	63.4	62.6	63.4	69.1		
Carbon Dioxide	**%**	27.6	26.8	30.2	31.2	29.9	28.3	26.5	22.9	23.8	22.3		
Oxygen	**%**	1.3	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.7	0.2		
Atm. Pressure	**mBar**	1001	1000	1007	972	995	996	993	984	1012	1009		


Methane Levels:
Gas wells within waste
% Methane
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1050
1040
1030
1020
1010
1000
990
980
970
960
950
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month
LG2
LG4
LG5
LG6
Atm


Carbon Dioxide Levels:
Gas wells within waste
% of Carbon Dioxide Levels
40
35
30
25
20
15
10
5
0
1050
1040
1030
1020
1010
1000
990
980
970
960
950
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month
LG2
LG4
LG5
LG6
Atm


Oxygen Levels:
Gas wells within waste
% Oxygen
10
5
0
1050
1040
1030
1020
1010
1000
990
980
970
960
950
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month
LG2
LG4
LG5
LG6
Atm

		Ballynacarrick, Ballintra, Co. Donegal											
		Gas Levels											
		LG7											
PARAMETERS	**UNITS**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**
Methane	**%**			Gas	well	damaged	due	to	trench	Excavation			
Carbon Dioxide	**%**			Gas	well	damaged	due	to	trench	Excavation			
Oxygen	**%**			Gas	well	damaged	due	to	trench	Excavation			
Atm. Pressure	**mBar**			Gas	well	damaged	due	to	trench	Excavation			

		Ballynacarrick, Ballintra, Co. Donegal											
		Gas Levels											
		LG8											
PARAMETERS	**UNITS**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Methane	**%**	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0		0.0
Carbon Dioxide	**%**	4.1	3.2	4.0	6.2	6.2	9.6	8.8	2.9	4.6	3.9		4.3
Oxygen	**%**	16.2	16.0	17.1	10.1	9.7	6.4	7.1	17.0	15.3	15.7		7.6
Atm. Pressure	**mBar**	1001	1000	1007	972	995	996	993	984	1012	1009		965

		Ballynacarrick, Ballintra, Co. Donegal											
		Gas Levels											
		LG9											
PARAMETERS	**UNITS**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**
		Jan	Feb	Mar	Mar	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Methane	**%**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Carbon Dioxide	**%**	0.0	0.2	0.2	0.1	0.5	0.3	0.4	0.2	0.2	0.2		0.1
Oxygen	**%**	21.0	20.8	20.8	20.8	20.3	20.7	20.6	20.5	20.8	20.6		22.8
Atm. Pressure	**mBar**	1001	1000	1007	972	995	996	993	984	1012	1009		965

		Ballynacarrick, Ballintra, Co. Donegal											
		Gas Levels											
		LG10											
PARAMETERS	**UNITS**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Methane	**%**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Carbon Dioxide	**%**	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1		0.2
Oxygen	**%**	21.0	20.9	20.9	20.9	20.8	20.9	20.8	20.5	20.8	20.8		21.9
Atm. Pressure	**mBar**	1001	1000	1007	972	995	996	993	984	1012	1009		965

		Ballynacarrick, Ballintra, Co. Donegal											
		Gas Levels											
		LG11											
PARAMETERS	**UNITS**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Methane	**%**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Carbon Dioxide	**%**	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.0	0.1		0.2
Oxygen	**%**	21.0	20.9	20.9	20.9	20.6	20.9	20.8	20.7	20.9	20.8		21.7
Atm. Pressure	**mBar**	1001	1000	1007	972	995	996	993	984	1012	1009		965

		Ballynacarrick, Ballintra, Co. Donegal											
		Gas Levels											
		LG12											
PARAMETERS	**UNITS**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Methane	**%**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	ve damag	0.0	0.0		0.0
Carbon Dioxide	**%**	0.0	0.2	0.0	0.0	0.0	0.0	1.4	0.0	0.1	5.2		5.1
Oxygen	**%**	21.0	20.8	20.9	20.9	20.9	20.9	19.4	0.0	20.9	13.7		14.7
Atm. Pressure	**mBar**	1001	1000	1007	972	995	996	993	0	1012	1009		965

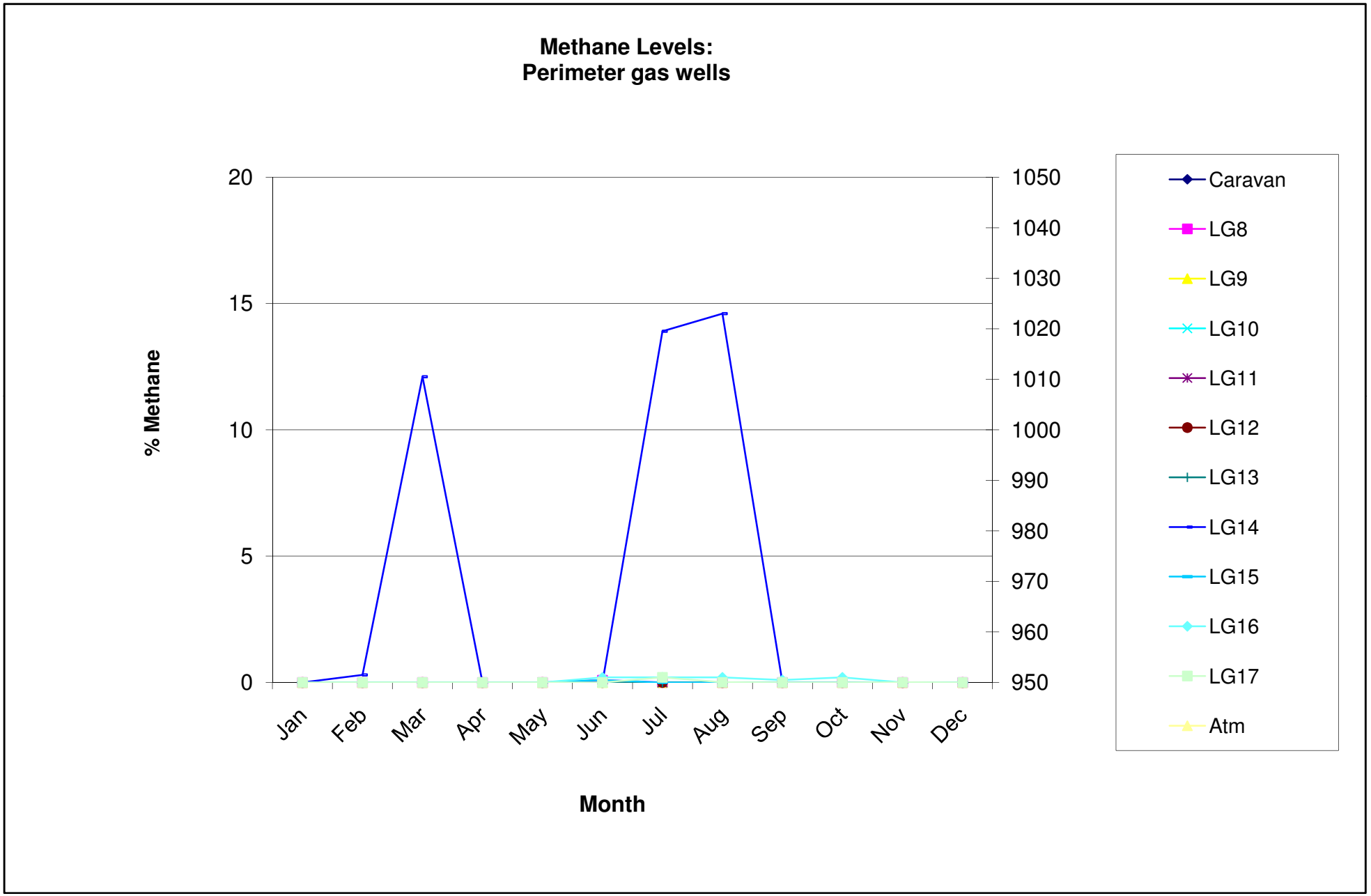
		Ballynacarrick, Ballintra, Co. Donegal											
		Gas Levels											
		LG13											
PARAMETERS	**UNITS**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Methane	**%**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Carbon Dioxide	**%**	0.0	2.5	1.1	0.2	0.2	0.1	2.3	3.3	0.1	0.2		3.4
Oxygen	**%**	21.0	17.8	20.0	20.7	20.7	20.8	18.2	16.6	20.9	20.5		20.2
Atm. Pressure	**mBar**	1001	1000	1007	972	995	996	993	984	1012	1009		965

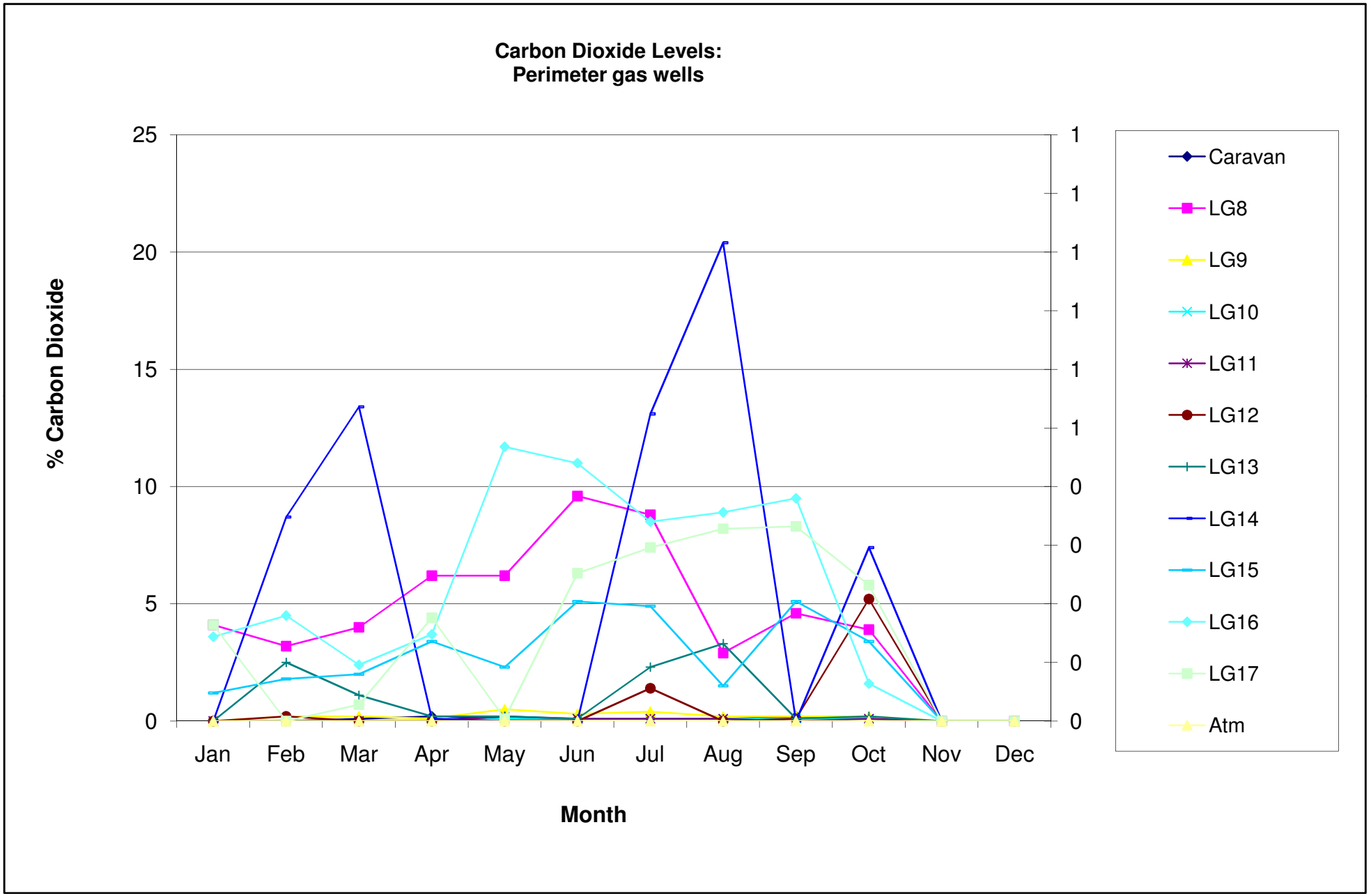
		Ballynacarrick, Ballintra, Co. Donegal											
		Gas Levels											
		LG14											
PARAMETERS	**UNITS**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Methane	**%**	0.0	0.3	12.1	0.0	0.0	0.0	13.9	14.6	0.0	0.0		0.1
Carbon Dioxide	**%**	0.0	8.7	13.4	0.1	0.0	0.0	13.1	20.4	0.0	7.4		1.2
Oxygen	**%**	21.0	5.9	0.8	20.8	20.9	20.8	0.7	0.2	20.9	11.4		22.4
Atm. Pressure	**mBar**	1001	1000	1007	972	995	996	993	984	1012	1009		965

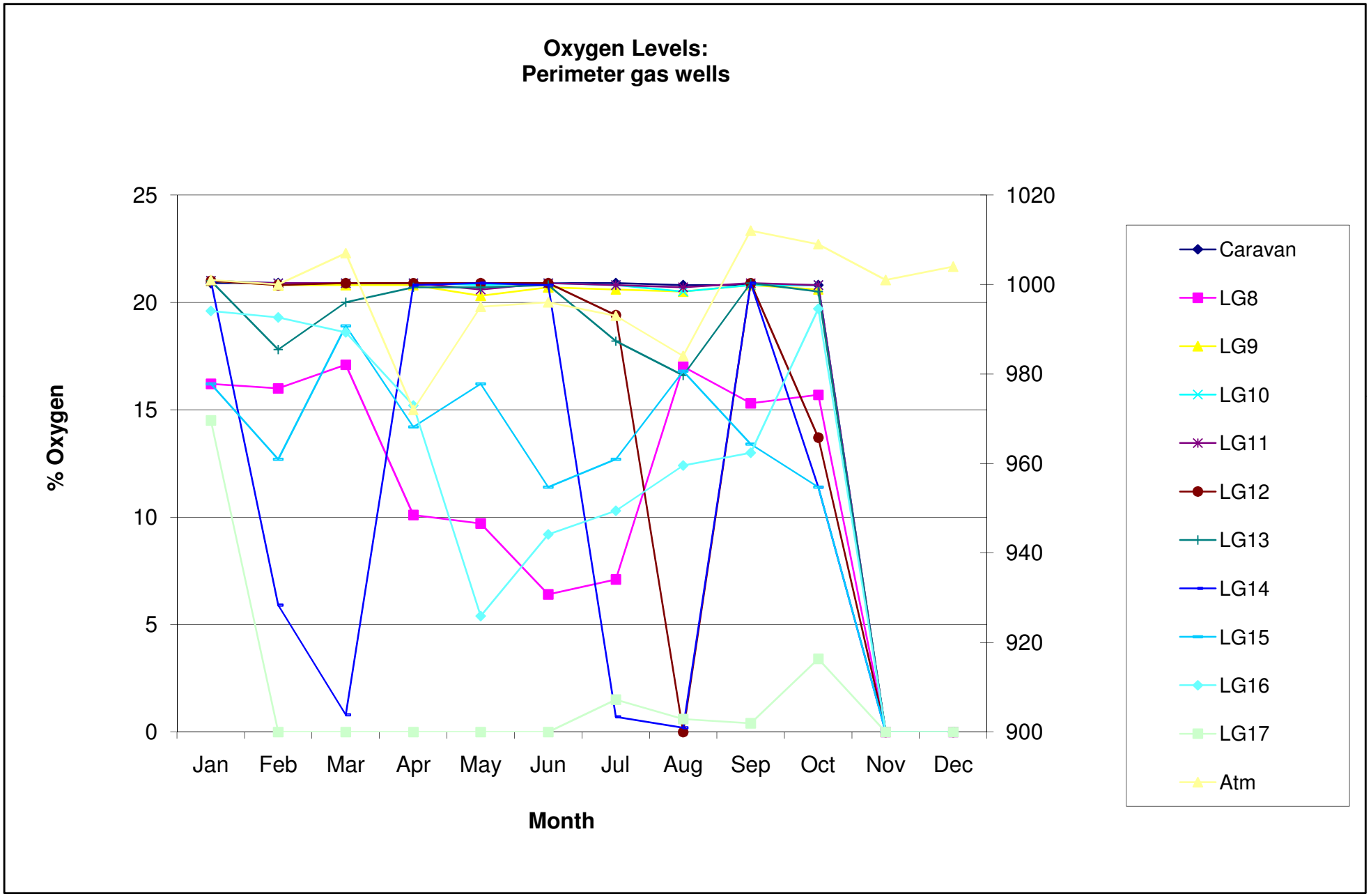
		Ballynacarrick, Ballintra, Co. Donegal											
		Gas Levels											
		LG15											
PARAMETERS	**UNITS**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Methane	**%**	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0		0.1
Carbon Dioxide	**%**	1.2	1.8	2.0	3.4	2.3	5.1	4.9	1.5	5.1	3.4		3.6
Oxygen	**%**	16.2	12.7	18.9	14.2	16.2	11.4	12.7	16.8	13.4	11.4		0.5
Atm. Pressure	**mBar**	1001.0	1000	1007	972	995	996	993	984	1012	1009		965

		Ballynacarrick, Ballintra, Co. Donegal											
		Gas Levels											
		LG16											
PARAMETERS	**UNITS**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Methane	**%**	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.2		0.0
Carbon Dioxide	**%**	3.6	4.5	2.4	3.7	11.7	11.0	8.5	8.9	9.5	1.6		5.4
Oxygen	**%**	19.6	19.3	18.6	15.2	5.4	9.2	10.3	12.4	13.0	19.7		17.1
Atm. Pressure	**mBar**	1001	1000	1007	972	995	996	993	984	1012	1009		965

		Ballynacarrick, Ballintra, Co. Donegal											
		Gas Levels											
		LG17											
PARAMETERS	**UNITS**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**	**Date**
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Methane	**%**	0.0	flooded	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.0		0.0
Carbon Dioxide	**%**	4.1	0.0	0.7	4.4	0.1	6.3	7.4	8.2	8.3	5.8		5.4
Oxygen	**%**	14.5	0.0	19.1	7.4	20.8	3.5	1.5	0.6	0.4	3.4		3.1
Atm. Pressure	**mBar**	1001	0	1007	972	995	996	993	984	1012	1009		965


Methane Levels:
Perimeter gas wells
% Methane
20
15
10
5
0
1050
1040
1030
1020
1010
1000
990
980
970
960
950
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month
Caravan
LG8
LG9
LG10
LG11
LG12
LG13
LG14
LG15
LG16
LG17
Atm


Carbon Dioxide Levels:
Perimeter gas wells
% Carbon Dioxide
25
20
15
10
5
0
1
1
1
1
1
0
0
0
0
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month
Caravan
LG8
LG9
LG10
LG11
LG12
LG13
LG14
LG15
LG16
LG17
Atm


Oxygen Levels:
Perimeter gas wells
% Oxygen
25
20
15
10
5
0
1020
1000
980
960
940
920
900
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month
Caravan
LG8
LG9
LG10
LG11
LG12
LG13
LG14
LG15
LG16
LG17
Atm

APPENDIX B

MONITORING LOCATIONS, PARAMETERS AND FREQUENCIES

Table B1 Groundwater Monitoring Parameters & Frequencies

Monthly	Quarterly	Annually	
Groundwater Level	Visual Inspection/Odour	Dissolved Oxygen	Manganese
	Chloride	Cadmium	Mercury
	Ammonical Nitrogen	Nickel	Potassium
	TON	Chromium(Total)	Sulphate
	Electrical Conductivity	Copper	Total Alkalinity
	pH	Cyanide(Total)	Orthophosphate
	Temperature	Lead	Zinc
	Iron	List I & II Substances	Phenols
		Magnesium	

Table B2 Surface Water Monitoring Parameters & Frequencies

Weekly	Quarterly	Annually		Bi-Annually
Visual Inspection/ Odour	Chloride	Cadmium	Magnesium	Biological Assessment
	Dissolved Oxygen	Chromium(Total)	Manganese	
	pH	Copper	Mercury	
	Ammoniacal Nitrogen	Potassium	Sulphate	
	Electrical Conductivity	TON	Total Alkalinity	
	Temperature	Iron		
	COD	Orthophosphate		
	BOD	Zinc		
	TSS	Lead		

Table B3 Gas Monitoring Parameters & Frequencies

Parameter	Monitoring Frequency	
	Gas Wells	Site Office
Methane (CH4) %v/v	Monthly	Weekly
Carbon Dioxide (CO2) %v/v	Monthly	Weekly
Oxygen (O2) %v/v	Monthly	Weekly
Atmospheric Pressure	Monthly	Weekly
Temperature	Monthly	Weekly

Table B4 Leachate Monitoring Parameters & Frequencies

Quarterly	Annually	
Visual Inspection/Odour	Cadmium	Sulphate
Leachate Levels	Chromium(Total)	Orthophosphate
Chloride	Iron	Zinc
TON	Copper	
pH	Nickel	
Ammoniacal Nitrogen	Lead	
Electrical Conductivity	Potassium	
Temperature	Magnesium	
COD	Manganese	
BOD	Mercury	

Table B5 Grid Co-ordinates for Monitoring Locations

MONITORING POINTS	EASTING	NORTHING
Gas Piezometers		
LG1	193711	367620
LG2	193774	367583
LG4	193649	367673
LG5	193720	367670
LG6	193780	367685
LG8	193480	367535
LG9	193426	367543
LG10	193336	367570
LG11	193285	367635
LG12	193354	367712
LG13	193417	367728
LG14	193553	367701
LG15	193652	367697
LG16	193842	367693
LG17	193852	367712
Dust		
DG1	193727	367598
DG2	193832	367688
DG3	193495	367541
DG4	193291	367591
DG5	193506	367712
Surface Water Monitoring		
SW1	193476	367534
SW2	193865	367564
SW3	193276	367728
SW4	193213	367797
Boreholes		
GW1	193887	367719
GW2	193480	367532
GW4	193301	367581
GW5	193283	367720
GW6	193480	357717
GW7	193648	347697
GW8	193730	367702
GW9	193649	367538
GW10	193545	367523
Leachate		
L1	193656	367547
L3	193500	367553
L6	193802	367564
Noise		
N1	193825	367753
N2	193873	367476
N3	193424	367536
Bait Points		
BP1	193855	367599
BP2	193827	367595
BP3	193767	367544
BP4	193652	367543
BP5	193478	367524
BP6	193408	367550
BP7	193300	367586
BP8	193286	367650
BP9	193368	367726
BP10	193509	367719
BP11	193599	367695
BP12	193762	367695
BP13	193846	367697
BP14	193848	367640

APPENDIX C

WATER BALANCE CALCULATION

WATER BALANCE CALCULATION 2012 - BALLYNACARRICK LANDFILL

Period	Active Phase	Active Area A(m^2)	Waste Input t/year	Rainfall mm	Active Area Infilitration R(A)(m^3)	Liquid Waste LW(m^3)	Temporary Capped area	Temporary Capped area RCA m^2	Temporary Capped area infiltration IRCA(m^3)	Restored area	Restored area RCA m^2	Restored area infiltration IRCA(m^3)	Total Water	Cumulative Water	Absorptive Capacity aW(m^3)	Cumulative Absorptive Capacity	Cumulative leachate	Leachate produced Lo(m^3)
										Fully Capped area								
Jan	Phase 2C[3] Infrastructural Area	10,800	811.43	114	1,231	206.62	Phase 1 Extension Phase 2A, Phase 2B	26,590	909	Original Site	41,000	467	2,815	2,815	49	49	2,766	2,766
Feb	Phase 2C[3] Infrastructural Area	10,800	2230.22	77	831	95.24	Phase 1 Extension Phase 2A, Phase 2B	26,590	613	Original Site	41,000	315	1,854	4,669	134	182	4,487	1,721
Mar	Phase 2C[3] Infrastructural Area	10,800	3412.58	29	308	112.10	Phase 1 Extension Phase 2A, Phase 2B	26,590	227	Original Site	41,000	117	764	5,433	205	387	5,046	559
Apr	Phase 2C[3] Infrastructural Area	10,800	2671.92	82	880	141.36	Phase 1 Extension Phase 2A, Phase 2B	26,590	650	Original Site	41,000	334	2,006	7,439	160	548	6,891	1,846
May	Phase 2C[3] Infrastructural Area	10,800	2175.66	63	677	177.24	Phase 1 Extension Phase 2A, Phase 2B	26,590	500	Original Site	41,000	257	1,612	9,051	131	678	8,373	1,481
Jun	Phase 2C[3] Infrastructural Area	10,800	2320.50	184	1,986	245.28	Phase 1 Extension Phase 2A, Phase 2B	26,590	1,467	Original Site	41,000	754	4,452	13,503	139	817	12,686	4,313
Jul	Phase 2C[3] Infrastructural Area	10,800	5408.92	123	1,333	180.92	Phase 1 Extension Phase 2A, Phase 2B	26,590	984	Original Site	41,000	506	3,004	16,507	325	1,142	15,365	2,679
Aug	Phase 2C[3] Infrastructural Area	10,800	0.0	129	1,396	0.0	Phase 1 Extension Phase 2A, Phase 2B	26,590	1,031	Original Site	41,000	530	2,958	19,465	-	1,142	18,323	2,958
Sep	Phase 2C[3] Infrastructural Area	10,800	0.0	78	846	0.0	Phase 1 Extension Phase 2A, Phase 2B	26,590	625	Original Site	41,000	321	1,791	21,256	-	1,142	20,114	1,791
Oct	Infrastructural Area	2,500	0.0	108	270	0.0	Phase 2B and 2C	11,190	363	Whole Site excludig 2B & 2C	64,700	699	1,331	22,588	-	1,142	21,446	1,331
Nov	Infrastructural Area	2,500	0.0	115	289	0.0	Phase 2B and 2C	11,190	387	Whole Site excludig 2B & 2C	64,700	747	1,423	24,010	-	1,142	22,868	1,423
Dec	Infrastructural Area	2,500	0.0	129	322	0.0	Phase 2B and 2C	11,190	432	Whole Site excludig 2B & 2C	64,700	833	1,586	25,597	-	1,142	24,455	1,586
Total			**19,031**	**1,231**	**10,368**	**1,159**			**8,190**			**5,880**	**25,597**					**24,455**

Notes

1 - Phase 2A Operational from 31st March 2007

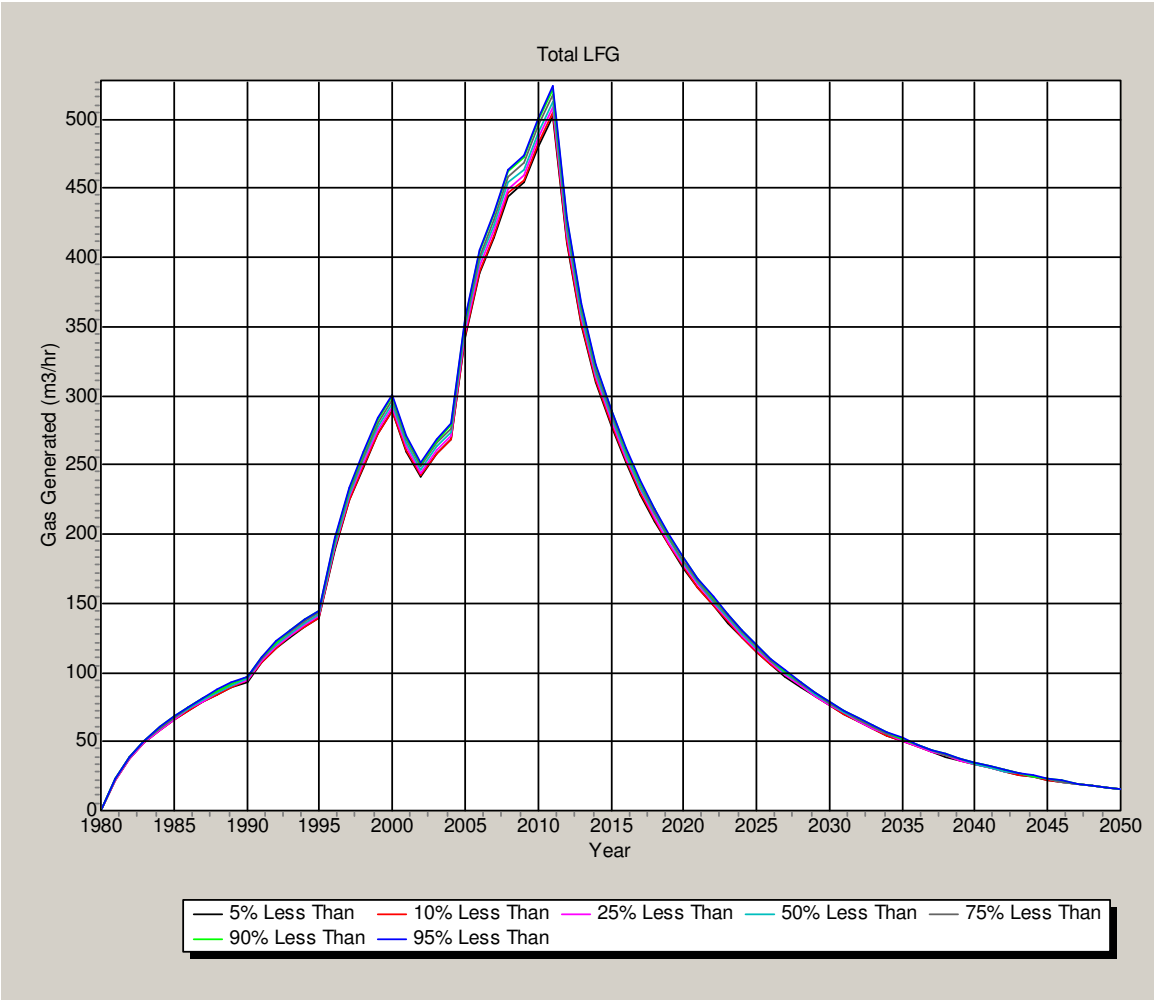
2 - Phase 2B Operational from 12th September 2007

3 - Phase 2C Operational from 9th April 2008

1. IRCA = Fully Capped/Restored area infiltration of rainfall estimated (2-10%)	10%	% of annual rainfall
Temporarily Capped/Restored area infiltration of rainfall estimated (25-30%)	30%	% of annual rainfall
2. Used actual rainfall R (m) for active cells and restored areas instead of Effective Rainfall (ER)		
3. Absorptive Capacity = Waste density of 0.8 tonnes/m^3. Estimated absorptive capacity (water per tonnes waste before leachate is produced)	0.06	t/m^3
4. Landfill Areas		
Extension		
Phase 1	15,400	m^2
Phase 2A	4,300	m^2
Phase 2B	2,890	m^2
Phase 2C	8,300	m^2
Recycling Area - front of site	4,000	m^2
Exisitng site		
Original Site	41,000	m^2
Infrastuctural Area	2,500	m^2
5. Rainfall taken from Markree station	1,231	mm
6. Liquid Waste input (assumed 25% dry solids)	1,159	tonnes

APPENDIX D

GAS MODELLING


Total LFG
Gas Generated (m3/hr)
0
50
100
150
200
250
300
350
400
450
500
1980
1985
1990
1995
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
Year
5% Less Than
10% Less Than
25% Less Than
50% Less Than
75% Less Than
90% Less Than
95% Less Than

YEAR	ANNUAL m^3/hr	ANNUAL OUTPUT m^3	ACCUM OUTPUT m^3
1980	0	0	0
1981	19	166440	166440
1982	30	262800	429240
1983	40	350400	779640
1984	60	525600	1305240
1985	70	613200	1918440
1986	75	657000	2575440
1987	84	735840	3311280
1988	90	788400	4099680
1989	95	832200	4931880
1990	100	876000	5807880
1991	105	919800	6727680
1992	110	963600	7691280
1993	120	1051200	8742480
1994	138	1208880	9951360
1995	140	1226400	11177760
1996	160	1401600	12579360
1997	200	1752000	14331360
1998	280	2452800	16784160
1999	340	2978400	19762560
2000	350	3066000	22828560
2001	360	3153600	25982160
2002	330	2890800	28872960
2003	340	2978400	31851360
2004	360	3153600	35004960
2005	370	3241200	38246160
2006	380	3328800	41574960
2007	400	3504000	45078960
2008	460	4029600	49108560
2009	470	4117200	53225760
2010	460	4029600	57255360
2011	550	4818000	62160960
2012	490	4292400	66453360

APPENDIX E

E-PRTR Regulations
(AER Electronic Reporting System)

Environmental Protection Agency

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.15

REFERENCE YEAR	2012

1. FACILITY IDENTIFICATION

Parent Company Name	Donegal County Council
Facility Name	Ballynacarrick Landfill Site
PRTR Identification Number	W0024
Licence Number	W0024-04

Waste or IPPC Classes of Activity

No.	class_name
3.5	Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.
3.13	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.
3.6	Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1. to 10. of this Schedule.
4.13	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.
4.2	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
4.3	Recycling or reclamation of metals and metal compounds.
4.4	Recycling or reclamation of other inorganic materials.
Address 1	Ballynacarrick
Address 2	Ballintra
Address 3	County Donegal
Address 4	
	Donegal
Country	Ireland
Coordinates of Location	-8.44131 54.6298
River Basin District	GBNIIENW
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Don Smith
AER Returns Contact Email Address	don.smith@donegalcoco.ie
AER Returns Contact Position	Enviromental Technician
AER Returns Contact Telephone Number	0749122787
AER Returns Contact Mobile Phone Number	0876860295
AER Returns Contact Fax Number	0749161304
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	2
User Feedback/Comments	
Web Address	

2. PRTR CLASS ACTIVITIES

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

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

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

4. WASTE IMPORTED/ACCEPTED ONTO SITE

Guidance on waste imported/accepted onto site

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	

This question is only applicable if you are an IPPC or Quarry site

4.1 RELEASES TO AIR

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0
01	Methane (CH4)	C	OTH	GasSim 1.54	638000.0	638000.0	0.0	0.0
02	Carbon monoxide (CO)	C	OTH	GasSim 1.54	2080.0	2080.0	0.0	0.0
03	Carbon dioxide (CO2)	C	OTH	GasSim 1.54	6470000.0	6470000.0	0.0	0.0
07	Non-methane volatile organic compounds (NMVOC)	C	OTH	GasSim 1.54	2.45	2.45	0.0	0.0
08	Nitrogen oxides (NOx/NO2)	C	OTH	GasSim 1.54	1370.0	1370.0	0.0	0.0
11	Sulphur oxides (SOx/SO2)	C	OTH	GasSim 1.54	1850.0	1850.0	0.0	0.0
					0.0	0.0	0.0	0.0

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

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0
15	Chlorofluorocarbons (CFCs)	C	OTH	GasSim 1.54	15.1	15.1	0.0	0.0
52	Tetrachloroethylene (PER)	C	OTH	GasSim 1.54	0.138	0.138	0.0	0.0
54	Trichlorobenzenes (TCBs)(all isomers)	C	OTH	GasSim 1.54	0.0147	0.0147	0.0	0.0
56	1,1,2,2-tetrachloroethane	C	OTH	GasSim 1.54	0.127	0.127	0.0	0.0
57	Trichloroethylene	C	OTH	GasSim 1.54	1.05	1.05	0.0	0.0
60	Vinyl chloride	C	OTH	GasSim 1.54	0.174	0.174	0.0	0.0
62	Benzene	C	OTH	GasSim 1.54	0.093	0.093	0.0	0.0
73	Toluene	C	OTH	GasSim 1.54	0.393	0.393	0.0	0.0
78	**Xylenes**	C	OTH	GasSim 1.54	0.172	0.172	0.0	0.0
					0.0	0.0	0.0	0.0
					0.0	0.0	0.0	0.0

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

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

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

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

Additional Data Requested from Landfill operators

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

Landfill: Ballynacarrick Landfill Site

Please enter summary data on the quantities of methane flared and / or utilised			Method Used			
	T (Total) kg/Year	**M/C/E**	**Method Code**	**Designation or Description**	**Facility Total Capacity m3 per hour**	
Total estimated methane generation (as per site model)	1247123.0	C	OTH	GasSim 1.54	N/A	
Methane flared	609123.0	M	OTH	SCADA	500.0	(Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0	(Total Utilising Capacity)
Net methane emission (as reported in Section A above)	638000.0	C	OTH	GasSim 1.54	N/A	

4.2 RELEASES TO WATERS

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

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

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

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

SECTION B : REMAINING PRTR POLLUTANTS

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

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

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

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

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

4.3 RELEASES TO WASTEWATER OR SEWER

Link to previous years emissions data

SECTION A : PRTR POLLUTANTS

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

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

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

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

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

4.4 RELEASES TO LAND

Link to previous years emissions data

SECTION A : PRTR POLLUTANTS

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

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

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

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

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

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

Please enter all quantities on this sheet in Tonnes

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	19 07 03	No	59103.0	landfill leachate other than those mentioned in 19 07 02	D8	M	Weighed	Offsite in Ireland	Donegal County Council,D0009-01	Letterkenny WWTP,Magheranan,Letterkenny,County Donegal,Ireland		

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

Link to previous years waste data
Link to previous years waste summary data & percentage change