ANNUAL ENVIRONMENTAL REPORT

BALLYNACARRICK LANDFILL SITE
CO DONEGAL

Waste Licence Reference W0024-04

Reporting Period: January 2014 to December 2014

By

Donegal County Council

To

Environmental Protection Agency

April 2015

Donegal County Council

Ballynacarrick Landfill Site
Annual Environmental Report 2014

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1. INTRODUCTION AND REPORTING PERIOD

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.

Ballynacarrick Landfill Site operated from c.1980 until closure in July 2012. 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.

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.

The site is located at Ballynacarrick, Ballintra, Co Donegal and occupies an area of approximately 9 hectares. The facility, as shown on Drawing IBR0697/001, 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. This report covers the period from January to December 2014.

A summary of Facility Information is provided in Table 1.1 below.

Table 1.1 Facility Information Summary

AER Reporting Year	2014
Licence Register Number	W0024-04
Name of site	Ballynacarrick Landfill Site
Site Location	Ballintra, County Donegal
NACE Code	3821
Class/Classes of Activity	Landfill

2. WASTE ACTIVITIES CARRIED OUT AT THE FACILITY

The licensed waste disposal activities, in accordance with the Third Schedule of the Waste Management Act, 1996 to 2008 were 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.

Licensed waste recovery activities, in accordance with the Fourth Schedule of the Waste Management Act, 1996 to 2008 were 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.

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.

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

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

4. METHODS OF DEPOSITION OF WASTE

The landfill is now closed.

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

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.

5. REPORT ON RESTORATION OF COMPLETED CELLS / PHASES

Final restoration works were completed in October 2013.

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

Monitoring is carried out at locations and at frequencies as specified in Schedule C of the waste licence. Permanent access to all monitoring points is maintained. The results contained in this report were screened using the following criteria;

- EPA Interim guideline values[1] (IGV),
- SI No 278 of 2007 EC (Drinking water) Regulations (DWR),
- SI No 9 of 2010 European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GWR 2010).
- SI No 294 of 1989 European Communities (Quality of Surface Water Intended for the Abstraction of Drinking Water) Regulations (SWQS),and
- SI No 272 of 2009 European Communities Environmental Objectives (Surface Water) Regulations 2009 (EQS).

Monitoring locations referred to are shown on Drawing IBR0697/002.

6.1 AIR EMISSIONS

There is no continuous air emission monitoring at Ballynacarrick landfill site.

In accordance with The PRTR Regulations releases of pollutants and off site transfers of waste by facilities operating in relevant industrial sectors are to be reported by the EPA to the European E-PRTR website where the facility exceeds specified thresholds. The PRTR reporting and landfill gas survey has been completed for Ballynacarrick Landfill Site and submitted to the EPA. The PRTR is including in Appendix B.

6.2 EMISSIONS TO GROUNDWATER AND SURFACE WATER

Cells 1 to 3 of the site are unlined. These cells were excavated through the peat to surface of the underlying glacial till. Waste was discharged directly onto the upper surface of the glacial till. There are no direct emissions to groundwater.

A water balance calculation has been completed for Ballynacarrick landfill site and is presented in Appendix C. This indicates that 20,646 m^3 of leachate should have been generated on this site given the recorded rainfall. This is further discussed in Section 9.0.

Prior to April 2010 the outfall from the groundwater drainage layer beneath in Phases 1 and 2 discharged directly to the surface water course at the north western corner of the site. This is now collected in storage tank and is diverted to leachate treatment system. This is further discussed in Section 9.0.

[1] EPA (2003) Towards setting guideline values for the protection of groundwater in Ireland. Interim Report

6.3 Emissions to Waste Water Treatment Works

There is no continuous wastewater (sewer) emissions monitoring at Ballynacarrick landfill site. Periodic/non-continuous monitoring is carried out on treated leachate. Treated leachate from the landfill site is currently transported off site to Letterkenny Sludge Treatment Centre. This is further discussed in Section 9.0.

6.4 Groundwater

Groundwater is monitored at nine locations on a quarterly basis. The direction of groundwater flow is to the south west in the east of the site, turning towards the west and north west beneath Phases 1 and 2[2]. GW1 is located up-gradient of the landfill, the other wells (GW2, GW4, GW5, GW6, GW7, GW8, GW9 & GW10) are located around the perimeter of the landfill. Wells GW4 and GW5 are on the western boundary which is the down-gradient end of the facility. Those wells which surround the historic unlined waste body on the eastern side of the facility are proximate to unlined waste. Five of these perimeter wells were installed at the request of the Agency in September 2009 (GW6, GW7, GW8, GW9 and GW10 respectively).

Monitoring data for the period is contained in Appendix D.

6.4.1 Up gradient

The GWR 2010 guideline value for ammonia is 0.175 mg/l. Elevated concentrations of ammonia were recorded in GW1 in 3 of the 4 sampling dates ranging between 1.24 mg/l and 9.55 mg/l N.

The GWR 2010 guideline value for chloride is 187.5 mg/l. GW1 chloride concentrations ranged between 19.85 mg/l and 21.0 mg/l during the monitoring period.

The GWR 2010 guideline value for electrical conductivity is 1,875 µS/cm. No elevated detections of electrical conductivity were recorded in GW1 with levels ranging between 473 µS/cm to 486 µS/cm during the monitoring period.

Analysis for metals were undertaken during this monitoring period at GW1. Metals results recorded during this monitoring show that all substances are below the appropriate GWR 2010 and IGV values except for potassium.

6.4.2 Down gradient

A number of parameters monitored quarterly in the down gradient boreholes exceed the GWR 2010 and/or IGV guideline values. These are summarised in Table 6.1 below and results are provided in table and graph format in Appendix D.

[2] RPS (2010) Hydrogeological Assessment Report

Table 6.1 Groundwater Quality Down gradient

Parameter	GWR 2010	IGV	Borehole which exceed guidelines
Ammonia (mg/ l N)	0.175		GW2, GW4, GW5, GW6, GW7, GW8, GW9 & GW10
Chloride (mg/l)		30	GW2, GW5, GW7, GW8
Conductivity (µS/cm)		1000	GW2
Iron (µg /l)		200	GW10

Generally down gradient boreholes wells have low levels of contamination albeit exceeding the trigger values referred to in the table, whereas results indicate consistently a localised hotspot of contamination at GW2.

Analysis for metals and List I / II substances were undertaken during this monitoring period at GW2, GW4, GW5, GW6, GW7 and GW10. Metals results recorded during this monitoring show that all substances are below the appropriate GWR 2010 and IGV values except for manganese and potassium.

Exceedances above the IGV of 50 µg/l for Manganese were recorded in boreholes GW2 GW4, GW6, GW7 and GW10.

Exceedances above the IGV of 5 mg/l for Potassium were recorded in boreholes GW2 GW5 and GW10.

All other metal parameters measured annually are below the GWR 2010 and IGV were comparable.

Analysis of groundwater List I / II results recorded during this period show that all results were less than the limit of detection for the methodology used except for the following:

- Ethyl Ether/Diethyl Ether,
- Iodomethane/Methyl Iodide,
- Hexachlorobutadiene,
- Tetrahydrofuran,
- Xylene P&M,
- Xylene –o,
- 1,2,3-trichlorobenzene,
- Chloromethane,
- Epichlorohydrin,

- 4-Chlorophenyl phenyl ether.

The World Health Organisation (WHO) provisional guideline value for Hexachlorobutadiene is 0.6 µg/l, Xylenes is 500 µg/l and Epichlorohydrin is 0.4 µg/l[3]. Concentrations are below this guideline for those boreholes above the limit of detection.

The identified impacts to groundwater at the site appear to be derived from leachate generated in the unlined parts of Ballynacarrick landfill. A low permeability cap has been placed over the unlined area which will limit the continued generation of leachate. It should be noted that a number of the groundwater perimeter monitoring wells are located adjacent to the unlined waste body.

A hydrogeological risk assessment is currently being undertaken for Ballynacarrick Landfill Site. This is further discussed in Section 7.0

6.5 Surface Water

Surface water is monitored at four locations, one upstream and three downstream (SW2 & SW1, SW3, SW4 respectively). All monitoring data is contained in Appendix D.

The surface water results contained in this report were assessed against the following:

- SI No 294 of 1989 European Communities (Quality of Surface Water Intended for the Abstraction of Drinking Water) Regulations (SWQS); and

- SI No 272 of 2009 European Communities Environmental Objectives (Surface Water) Regulations 2009 (EQS).

6.5.1 Upstream

The results indicate the following for the upstream quality (SW2);

- Ammoniacal nitrogen concentrations were above water quality guideline values at times with a range of 0.908 to 4.96 mg/;

- Chloride in the range 12 to 36 mg/l;

- Electrical conductivity in the range 126 to 215 µS/cm;

- pH in the range 6.15 to 6.62;

- BOD ranged 0.69 to <1.0 mg/l;

- COD ranged 48 to 68 mg/l.

Analysis of metals during this period show that all results were below the water quality guideline and/or less than the limit of detection for the methodology used.

[3] World Health Organisation (2011) Guidelines for Drinking-water Quality, Fourth Edition. Table A3.3 Guideline values for chemicals that are of health significance in drinking-water.

Results continue to indicate that baseline surface water upstream of the facility is contaminated in terms of parameters measured.

6.5.2 Downstream

The results indicate the following for the downstream quality;

- Ammoniacal nitrogen concentrations in the range 0.17 to 9.77 mg/l;
- Chloride in the range 12 to 53 mg/l;
- Electrical conductivity in the range 245 to 527 µS/cm;
- pH in the range 6.68 to 8.66;
- BOD ranged 0.66 to 63 mg/l;
- COD ranged 23 to 51 mg/l.

Ammoniacal nitrogen concentrations were above water quality guideline values (0.140 mg/l) for all of the sampling dates. The maximum concentration was 9.77 mg/ at SW3 in March. This has reduced to 2.40 mg/l in November.

Analysis of metals during this period show that all results were below the water quality guideline and/or less than the limit of detection for the methodology used.

Results from this period show contamination of surface water both up and downstream, however at end of reporting period quality has improved for both.

6.6 Leachate Quality

Leachate results for 2014 are presented in Appendix D and some of the characteristic parameters of the raw leachate are listed in Table 6.2.

Leachate samples are taken at Pump 5 near to the southern boundary (L1), from the leachate storage tank (L6) and from the groundwater chamber on the western boundary (L8).

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 with lowest raw leachate concentrations at L8.

Table 6.2 Raw Leachate Concentrations 2014

	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)	2.75	160	<0.2	1700	491
BOD	0.9	4.52	4.5	>4800	>834
COD	23	61	<10	33,700	3078
Chloride (mg/l)	35	63.53	27	3410	1256
TON (mg/l N)	<0.1	2.3	/	/	/
Conductivity (µS/cm)	753	3,590	503	19,200	7789
pH (pH units)	6.72	7.67	6.4	8.0	7.2

6.7 Gas Emissions

6.7.1 Gas Management Infrastructure

Gas emissions are managed by means of a gas collection network and a permanent flare that runs continuously. Gas is extracted across the site from an extensive network extensive network of wells and delivered to the flare. In addition there are four locations 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.

A 500 m^3/hr flare has been installed at the facility. Field balancing is undertaken at the facility as required. The average flow rate from the flare in 2014 was approximately 300 m^3/hr with an average methane concentration of 38%. The total hours run was 8,748.

6.7.2 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 IBR0697/002. The ranges of levels % v/v detected during the period are summarised in Table 6.3.

Table 6.3 Summary of Gas Levels in Waste (% v/v)

Parameter	2012		2013		2014	
	Max	Min	Max	Min	Max	Min
Methane	87.1	36.2	77.9	60.1	61.2	39.9
Carbon Dioxide	36.6	12.9	36.6	20.2	36.9	21.3

6.7.3 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. IBR0697/002 Monitoring Locations.

Results from these wells detected over the period are summarised in Table 6.3. The licence trigger levels for the following landfill gases are greater than or equal to 1.0% v/v Methane and greater than or equal to 1.5% v/v Carbon Dioxide. Methane 4.1 % v/v and Carbon Dioxide 8.6 % v/v was detected above the trigger level at LG14 in September. Methane and Carbon Dioxide % v/v at LG14 reduced to below the licence trigger levels in November.

Carbon Dioxide also exceeded the 1.5% v/v trigger level at number of boreholes during the monitoring period (Ranging 1.8 to 6.8 % v/v). Methane is consistent at zero throughout the monitoring period in the perimeter wells apart from LG14.

The flare at the site runs continuously to control landfill gas produced at the site. Field balancing is undertaken at the facility as required and monitoring shows that landfill gas being produced on the site is being controlled.

Table 6.3 Summary of Gas Levels in Perimeter Wells (% v/v)

Parameter	2013		2014	
	Max	Min	Max	Min
Methane	0.1	0	4.1	0.0
Carbon Dioxide	7.4	0	8.6	0.0

6.7 Dust Monitoring

As the facility is now non-operational the dust monitoring programme is in abeyance until such time as site activity warrants it re-establishment.

7 HYDROGEOLOGICAL RISK ASSESSMENT

A hydrogeological risk assessment is currently being undertaken for Ballynacarrick Landfill Site. This report is being completed on foot of a technical amendment to the waste license by EPA: "Within eighteen months of the date of this technical amendment, the licensee shall carry out a risk screening and where necessary a technical assessment in accordance with the Guidance on the Authorisation of Discharges to Groundwater, published by the Environmental Protection Agency. A report on the outcome of the screening, and where relevant the recommendations of the technical assessment in relation to the setting of groundwater compliance points and values, shall be included in the next AER. Any actions required to demonstrate compliance with the European Communities Environmental Objectives (Groundwater) Regulations 2010, as amended, shall be agreed by the Agency and implemented before 22nd December 2015. Groundwater monitoring results shall be submitted annually or as required in the Schedules to this license."

The objectives of this assessment will include the following:

- To consolidate all available geological, hydrogeological and hydrological data relating to the site and its immediate environs;
- To assess and interpret all available water quality data recorded to-date
- To develop an appropriate Conceptual Site Model (CSM) for the site;
- To assess the level of risk posed to sensitive receptors; and
- To develop an appropriate compliance monitoring programme for the site.

This assessment will be submitted to EPA under a separate cover.

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

The gas yield figures provided in Appendix E were calculated using GasSim Model 2.0. As can be seen from the data landfill gas production is calculated to be approximately 340 m^3/hr in 2014. This correlates with the flare's current operational flow rate.

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

The water balance calculation (Appendix C) indicates that 22,263 m3 of leachate should have been generated on this site given the recorded rainfall. As shown in Table 9.1 24,919m3 of leachate was actually pumped, stored and tankered off-site to Letterkenny Sludge Treatment Centre. The completion of the cap has significantly reduced both the amount of leachate generated and tankered.

Table 9.1 Leachate Quantities Removed from Site during 2014

Month	Quantity of Leachate (m^3)
January	3,114
February	2,598
March	2,521
April	2,023
May	1,512
June	1,397
July	1,304
August	1,766
September	1,918
October	1,761
November	3,172
December	1,833
Total (m^3)	**24,919**

10 ANNUAL WATER BALANCE CALCULATION AND INTERPRETATION

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

11 WASTE MANAGEMENT RECORD

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 quantities of waste received at the facility between 1997 and 2012 are presented in Table 11.1. The site closed at the end of July 2012 as it had been filled to capacity. No waste has been received at the site since this time.

Table 11.1 Waste Quantities Accepted (tonnes)

Year	1997	1998	1999	2000	2001	2002
Total	23,000	24,000	25,000	9,100	8,300	17,189
Year	2003	2004	2005	2006	2007	2008
Total	16,872	37,746	36,141	32,908	35,143	30,332
Year	2009	2010	2011	2012	2013	2014
Total	24,535	23,761#	16,170	20,190	0	0

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

12 WASTE RECOVERY REPORT

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

13 TOPOGRAPHICAL SURVEY

A site survey was completed in October 2013 following restoration and submitted to the Agency.

14 SLOPE STABILITY SURVEY

A slope stability survey was submitted to the Agency in May 2013.

15 RESOURCE CONSUMPTION SUMMARY

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

Table 15.1 Consumption of Resources

	Unit	Landfill 2014
Diesel	Litres	760
Electricity	kwhrs	238,200

16 COMPLAINTS SUMMARY

There were no complaints received during the reporting period.

17 SCHEDULE OF ENVIRONMENTAL OBJECTIVES AND TARGETS

Programme for 2015 is outlined in Table 17.1 below.

Table 17.1 Environmental Objectives and Targets

Environmental Objectives and Targets
Objective 1: Maintenance of infrastructure to contain leachate and gas emissions whilst optimising the sustainability of the emissions management systems.
Reason: To comply with the conditions of the waste licence. To continue the containment of leachate and gas emissions by means of collection and treatment whilst minimising leachate generation and the need for haulage to a remote treatment facility with its associated secondary environmental impacts and costs.
Individual Targets: (a) Continue monitoring and maintenance programmes; (b) Optimise LFG management through the introduction of engine to produce electricity. (c) Investigate scope for bio-remediation solutions locally.
Timescales for individual targets: 1. Year end 2015. 2. Year end 2015. 3. Year end 2015.
Personnel Responsible for implementation of targets Executive Environmental Officer
Estimated cost and funding available to implements objectives No capital costs associated with the objectives. Ongoing costs associated with operations circa €500k. Budget reduction cost efficiency sought.
Payback from Project Maintain containment of leachate and gas emissions whilst minimising secondary environmental impacts and financial cost associated with leachate haulage and remote treatment

18 ENVIRONMENTAL MANAGEMENT PROGRAMME - REPORT FOR CURRENT YEAR

Programme for 2015 outlined in Table 17.1.

19 POLLUTANT RELEASE TRANSFER REGISTER - REPORT FOR PREVIOUS YEAR

Not applicable.

20 POLLUTANT RELEASE TRANSFER REGISTER - PROPOSAL FOR CURRENT YEAR

Not applicable.

21 NOISE MONITORING SUMMARY REPORT

As the site is now non-operational the noise levels on the site are no longer being monitored. Should any activity be initiated that would have noise associated with it then the programme will be re-instated as appropriate.

22 METEOROLOGICAL DATA SUMMARY

Meteorological data is contained in Appendix C.

23 AMBIENT MONITORING SUMMARY, INCLUDING BIOLOGICAL ASSESSMENT

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

A biological assessment of surface water was carried out in December 2014. This report is provided in Appendix F. The upstream surface water location could not be biologically assessed due to the nature of the water body bed. The downstream surface water location shows that the biological water quality based on BMWP scores is Moderate.

24 CURRENT MONITORING LOCATION REFERENCE DRAWING

Drawing IBR0697/002 shows the layout of all monitoring locations for the site.

25 TANK, PIPELINE AND BUND INSPECTION

Integrity testing of the leachate storage tanks was undertaken in Quarter 4, 2014. Results indicate that the condition of tanks on site is satisfactory. Results are provided in Appendix G

26 REPORTED INCIDENTS SUMMARY

There were no environmental incidents reported during the period.

27 ENERGY EFFICIENCY IMPLEMENTATION PROGRAMME

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:

- Harnessing energy from the flare in terms of energy generation and connection to the national grid;
- Improving metering and control systems;
- Changing electricity supplier.

28 ENERGY REVIEW AUDIT REPORT SUMMARY

The tender process for the installation of a landfill gas engine at the site has been completed. The council are currently waiting the signing of the landfill gas agreement at which time the tender can be awarded and power purchase agreement sought from the ESB.

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.

A new supervisory control and data acquisition (SCADA) for the leachate treatment and landfill gas extraction system is being installed at the site. This will be completed in 2015.

The Council has changed its electricity supply on a number of occasions.

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

The landfill site is closed and has been restored. No significant works planned as facility non-operational, on-going maintenance requirements will be met.

30 REPORT ON MANAGEMENT AND STAFFING STRUCTURE OF THE INSTALLATION / FACILITY

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

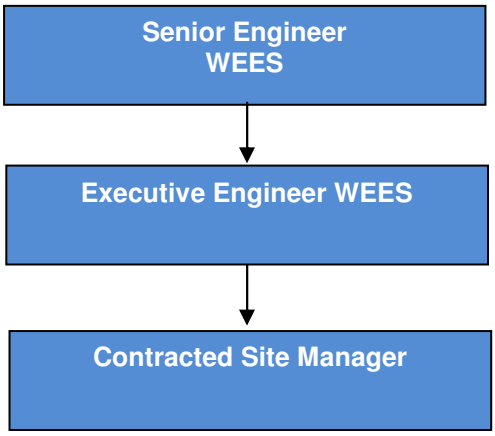


Figure 30.1 Management Structure

Responsibility is as follows:

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

31 REPORT ON PROGRAMME FOR PUBLIC INFORMATION

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.

32 REPORT ON FINANCIAL PROVISION MADE UNDER THIS LICENCE

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

33 STATEMENT ON COSTS OF LANDFILL

Ballynacarrick Landfill AER 2014	
Statement of Account	
Expenditure	
Operational Expenses	**€553,717**
Loan Repayments	**N/A**
Landfill Levy Paid	**€0**
Income	
Landfill Charges Accrued (incl VAT)	**-€000,000**
Balance	**N/A**

34 REVIEW OF ENVIRONMENTAL LIABILITIES

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 collected and flared.

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.

35 ANY AMENDMENTS TO CRAMP

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.

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

No such wastes are used in construction at this site.

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

None applicable.

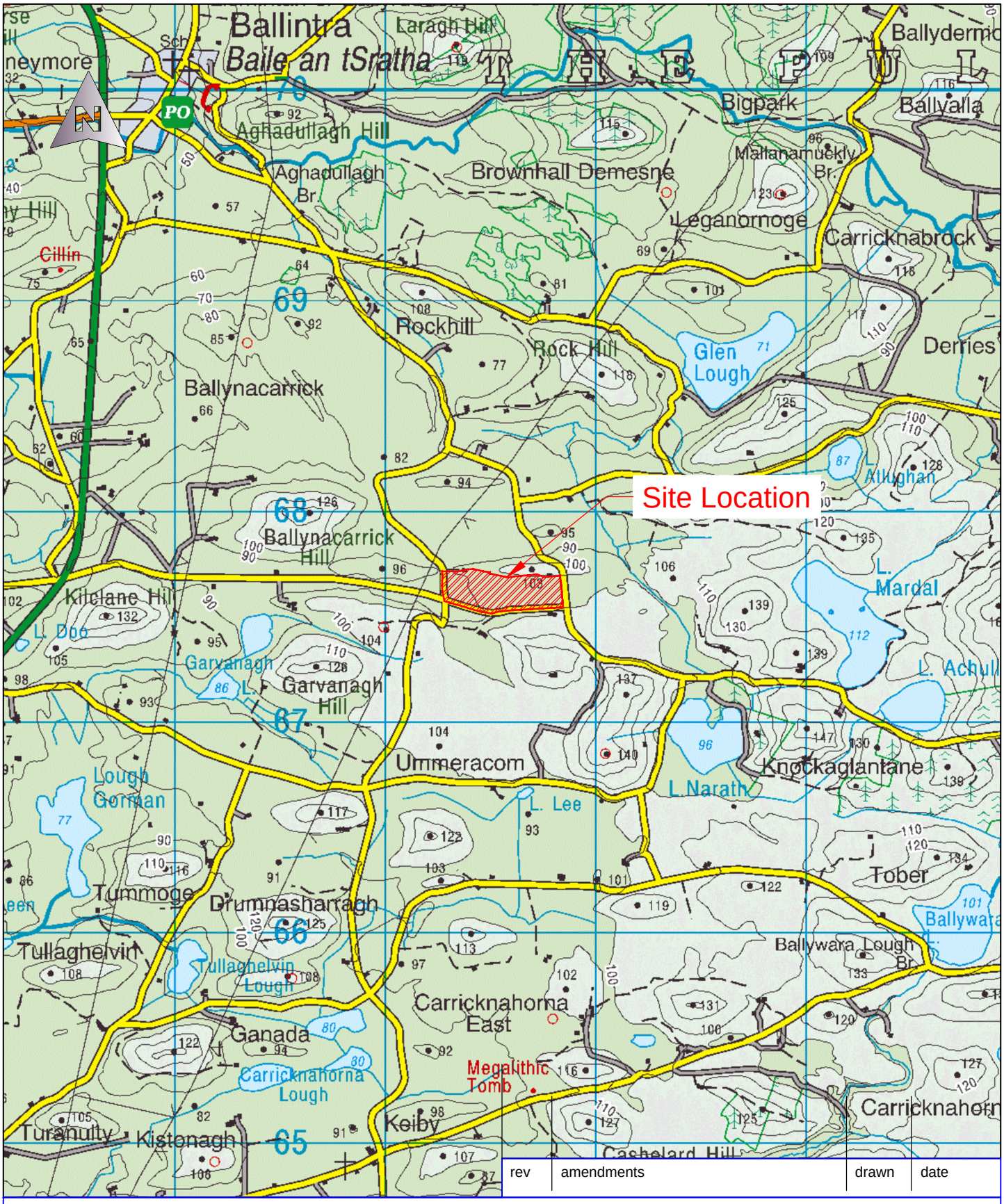
38 STATEMENT ON THE ACHIEVEMENT OF THE WASTE ACCEPTANCE AND TREATMENT OBLIGATIONS

None applicable.

Appendix A – Drawing

IBR0697/001 Site Location

IBR0697/002 Monitoring Locations



rev	amendments	drawn	date

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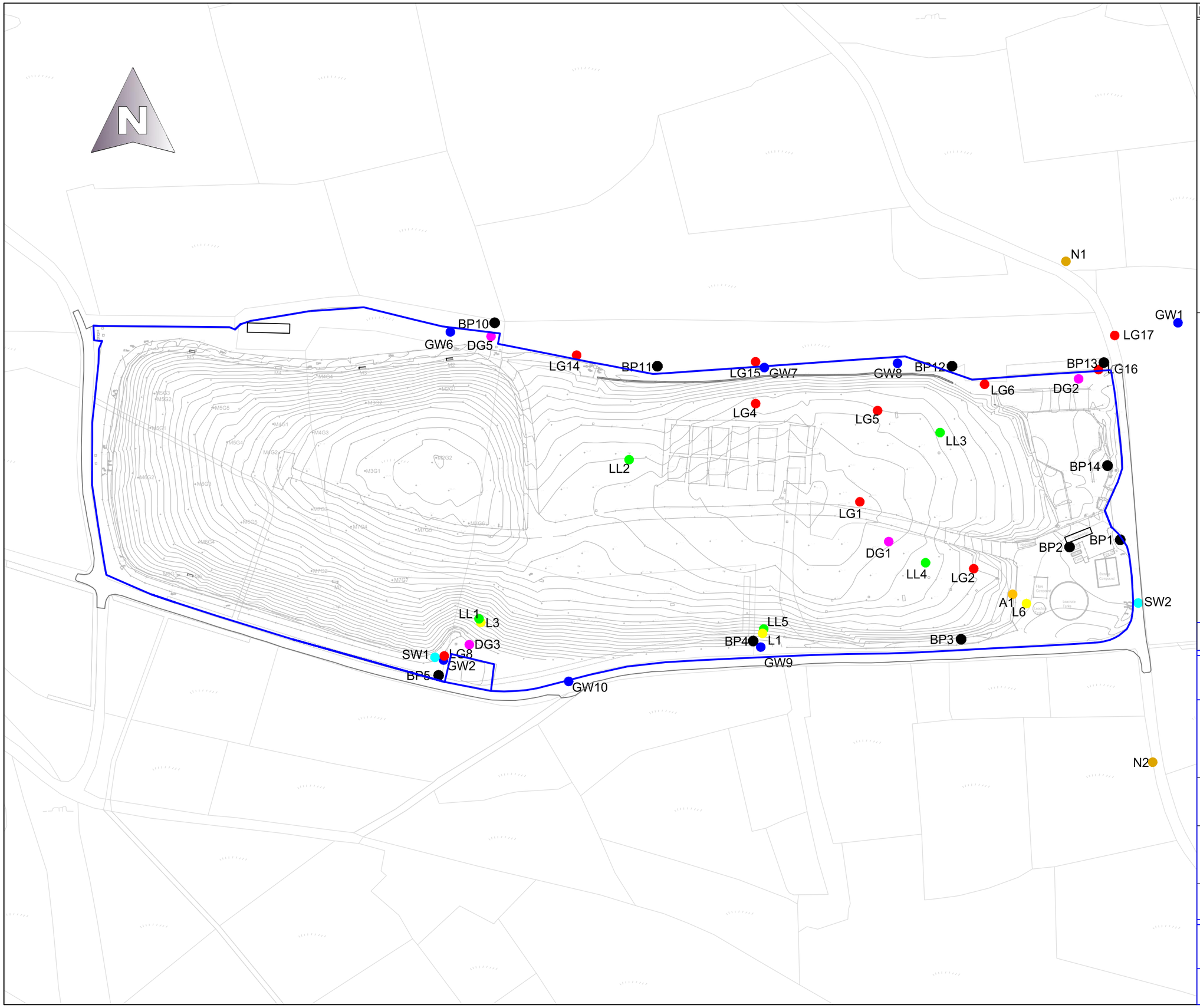
Drawing Number	Rev
IBR0697/001	0

Project	Title
Donegal Landfill Reporting 2015	Ballynacarrick Landfill Site Location
Client	**Architect**
Donegal County Council	

Drawing Status	Sheet Size	Drawing Scale	Project Leader	Drawn By	Date	Initial Review
Preliminary	A4	1:25,000	DD	AMB	Apr '15	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. Keys:

	Site Fence
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

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Client
Donegal County Council

Project
Donegal Landfill Site Reporting 2015

Title
Ballynacarrick LFS - Monitoring Points

Drawing Status	Sheet Size	Drawing Scale
Preliminary	A3	1:2000

Drawing Number	Rev
IBR0697 /002	0

Project Leader	Drawn By	Date	Initial Review
DD	AMB	Apr '15	AMcG

Appendix B - E-PRTR Return

Environmental Protection Agency

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.18

REFERENCE YEAR	2014

1. FACILITY IDENTIFICATION

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

Classes of Activity

No.	class_name
-	Refer to PRTR class activities below

Address 1	Ballynacarrick
Address 2	Ballintra
Address 3	
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	Julie McMahon
AER Returns Contact Email Address	julie.mcmahon@donegalcoco.ie
AER Returns Contact Position	Executive Engineer
AER Returns Contact Telephone Number	0749122787
AER Returns Contact Mobile Phone Number	0872861096
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	1
User Feedback/Comments	Site now closed. GasSIM model rerun in 2013 to take into consideration final capping of the site. Moisture content waste changed to average. Trichloroethylene variance from previous years data but no changes made to model parameters.
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		Flare			
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
01	Methane (CH4)	C	OTH	GasSIM	12016.0	303592.0	0.0	291576.0
02	Carbon monoxide (CO)	C	OTH	GasSIM	2080.0	2080.0	0.0	0.0
03	Carbon dioxide (CO2)	C	OTH	GasSIM	5297000.0	5297000.0	0.0	0.0
08	Nitrogen oxides (NOx/NO2)	C	OTH	GasSIM	1360.0	1360.0	0.0	0.0
07	Non-methane volatile organic compounds (NMVOC)	C	OTH	GasSIM	0.0916	0.0916	0.0	0.0
86	Particulate matter (PM10)	C	OTH	GasSIM	80.7	80.7	0.0	0.0
11	Sulphur oxides (SOx/SO2)	C	OTH	GasSIM	1240.0	1240.0	0.0	0.0
55	1,1,1-trichloroethane	C	OTH	GasSIM	2.1	2.1	0.0	0.0
53	Tetrachloromethane (TCM)	C	OTH	GasSIM	0.0397	0.0397	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		Flare			
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
15	Chlorofluorocarbons (CFCs)	C	OTH	GasSIM	5.22	5.22	0.0	0.0
14	Hydrochlorofluorocarbons (HCFCs)	C	OTH	GasSIM	2.96	2.96	0.0	0.0
62	Benzene	C	OTH	GasSIM	0.0338	0.0338	0.0	0.0
58	Trichloromethane	C	OTH	GasSIM	0.0431	0.0431	0.0	0.0
35	Dichloromethane (DCM)	C	OTH	GasSIM	0.0526	0.0526	0.0	0.0
34	1,2-dichloroethane (EDC)	C	OTH	GasSIM	0.0521	0.0521	0.0	0.0
56	1,1,2,2-tetrachloroethane	C	OTH	GasSIM	0.0392	0.0392	0.0	0.0
73	Toluene	C	OTH	GasSIM	0.212	0.212	0.0	0.0
54	Trichlorobenzenes (TCBs)(all isomers)	C	OTH	GasSIM	0.004	0.004	0.0	0.0
60	Vinyl chloride	C	OTH	GasSIM	0.0504	0.0504	0.0	0.0
78	Xylenes	C	OTH	GasSIM	0.0351	0.0351	0.0	0.0
52	Tetrachloroethylene (PER)	C	OTH	GasSIM	0.045	0.045	0.0	0.0
57	Trichloroethylene	C	OTH	GasSIM	0.507	0.507	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		Flare				
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	Emission Point 2	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
315	Formaldehyde	C	OTH	GasSIM	0.254	0.0	0.254	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

	T (Total) kg/Year	M/C/E	Method Used: Method Code	Method Used: Designation or Description	Facility Total Capacity m3 per hour	
Total estimated methane generation (as per site model)	916448.0	C	OTH	GasSIM total LFG * Average Methane % from LFG survey 2014. Methane was converted from m3 to kg using STP (0.717).	N/A	
Methane flared	685242.0	M	OTH	LFG Survey 2014	500.0	(Total Flaring Capacity)
Methane utilised in engine/s	0	C			0.0	(Total Utilising Capacity)
Net methane emission (as reported in Section A above)	231206.0	C	OTH	Total estimated methane ge	N/A	

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

Please enter all quantities on this sheet in Tonnes

3

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: 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	22324.0	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

Appendix C – Water Balance Calculation

WATER BALANCE CALCULATION - BALLYNACARRICK LANDFILL

Period	Active Phase	Active Area A(m^2)	Waste Input t/year	Rainfall mm	Active Area Infilitration R(A)(m^3)	Restored area	Restored area RCA m^2	Restored area infiltration IRCA(m^3)	Total Water	Leachate produced Lo(m^3)	Leachate tankered m^3
						Fully Capped area					
2014	Infrastructural Area	2,500		2,207	5,517	Whole Site	75,890	16,747	22,263	22,263	24,919
Total				**2,207**				**16,747**	**22,263**	**22,263**	

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
Infrastructural Area	2,500	m^2
5. Rainfall	2,207	mm
6. Liquid Waste input (assumed 25% dry solids)	-	tonnes

Appendix D – Monitoring Data

Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Groundwater											
Site No		GW1											
Date of Sample		Jan 14	Feb 14	Mar 14	Apr 14	May 14	Jun 14	Jul 14	Aug 14	Sep 14	Oct 14	Nov 14	Dec 14
Lab No										142504601			
pH				7.05			6.80			6.61		6.71	
Temp	C			12			16.70			15.8		10.8	
Electrical Conductivity	uS/cm			473.00			486.00			483.00		480.00	
Ammonical Nitrogen	mg/l			<0.040			1.29			9.55		1.24	
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l						10.85						
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	mg/l												
Cadmium	ug/l						<0.1						
Chromium	ug/l						11.30						
Chloride	mg/l			21.00			20.00			19.85		21	
Chlorine	mg/l												
Copper	ug/l						12.90						
Cyanide	ug/l												
Total Iron	ug/l						1.00			0.99		0.37	
Lead	mg/l						<0.3						
Magnesium	mg/l						8.01						
Manganese	ug/l						1.65						
Mercury	ug/l												
Nickel	mg/l						1.17						
Potassium	mg/l						8.20						
Sodium	mg/l												
Sulphate (as S)	mg/l												
Zinc	mg/l						8.51						
Total Alkalinity as CaCO3	mg/l						206.00						
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l			1.43			<0.110			<0.1		0.158	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Phenol	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						0.05						
Total Coliforms													
Facel Coliforms													
Depth	m						5.38					3.91	

Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Groundwater											
Site No		GW2											
Date of Sample		Jan 14	Feb 14	Mar 14	Apr 14	May 14	Jun 14	Jul 14	Aug 14	Sep 14	Sep 14	Oct 14	Nov 14
Lab No										142504345	142504602		
pH				6.910			6.70			6.88	6.7		6.82
Temp	C			11.300			17.10			15.7	16		9.9
Electrical Conductivity	uS/cm			1328.000			1202.00			835	767		740
Ammonical Nitrogen	mg/l			25.500			25.80			23.1	2.58		18.7
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l						10.38						
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	mg/l												
Cadmium	ug/l						<0.1						
Chromium	ug/l						2.60						
Chloride	mg/l			85.000			70.00			39	41.69		41
Chlorine	mg/l												
Copper	ug/l						0.02						
Cyanide	ug/l						<10						
Total Iron	ug/l						20.00			4.95	10.94		3.3
Lead	mg/l						<0.3						
Magnesium	mg/l						17.00						
Manganese	ug/l						417.80						
Mercury	ug/l						0.08						
Nickel	mg/l						2.40						
Potassium	mg/l						24.70						
Sodium	mg/l												
Sulphate (as S)	mg/l						23.00						
Zinc	mg/l						10.60						
Total Alkalinity as CaCO3	mg/l						432.00						
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l			0.746			0.36			<0.1	0.3		<0.1
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Phenol	mg/l						<.15						
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						<0.01						
Total Coliforms													
Facel Coliforms													
Depth	m						1.41						2.98

Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Groundwater											
Site No		GW4											
Date of Sample		Jan 14	Feb 14	Mar 14	Apr 14	May 14	Jun 14	Jul 14	Aug 14	Sep 14	Oct 14	Nov 14	Dec 14
Lab No										142504603			
pH				7.66			7.3			7.06		7.59	
Temp	C			10.80			16.5			15.9		11.8	
Electrical Conductivity	uS/cm			845			749.0			869		556	
Ammonical Nitrogen	mg/l			<0.040			0.1			<0.04		4.77	
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l						10.4						
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	mg/l												
Cadmium	ug/l						<0.1						
Chromium	ug/l						4.1						
Chloride	mg/l			21.0000			25.0			19.85		22	
Chlorine	mg/l												
Copper	ug/l						0.0						
Cyanide	ug/l						<10						
Total Iron	ug/l						21.0			0.63		0.11	
Lead	mg/l						<0.3						
Magnesium	mg/l						14.1						
Manganese	ug/l						61.4						
Mercury	ug/l						0.1						
Nickel	mg/l						1.9						
Potassium	mg/l						3.8						
Sodium	mg/l												
Sulphate (as S)	mg/l						144.2						
Zinc	mg/l						9.3						
Total Alkalinity as CaCO3	mg/l						142.0						
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l			<0.110			<0.110			0.54		0.04	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Phenol	mg/l						<.15						
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						<0.01						
Total Coliforms													
Facel Coliforms													
Depth	m						4.3100					3.01	

Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Groundwater											
Site No		GW5											
Date of Sample		Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
Lab No										142504604			
pH				7.26			7.2			7.05		7.17	
Temp	C			10.70			16.5			15.4		11.4	
Electrical Conductivity	uS/cm			843			840.0			830		885	
Ammonical Nitrogen	mg/l			7.76			9.7			0.73		0.075	
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l						9.9						
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	mg/l												
Cadmium	ug/l						<0.1						
Chromium	ug/l						1.6						
Chloride	mg/l			88			85.0			59.56		46	
Chlorine	mg/l												
Copper	ug/l						0.0						
Cyanide	ug/l						<10						
Total Iron	ug/l						1.0			0.47		0.12	
Lead	mg/l						<0.3						
Magnesium	mg/l						43.7						
Manganese	ug/l						15.3						
Mercury	ug/l						0.1						
Nickel	mg/l						0.6						
Potassium	mg/l						5.4						
Sodium	mg/l												
Sulphate (as S)	mg/l						1.0						
Zinc	mg/l						8.8						
Total Alkalinity as CaCO3	mg/l						344.0						
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l			0.62			0.1			<0.1		<0.1	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Phenol	mg/l						<0.15						
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						0.0						
Total Coliforms													
Facel Coliforms													
Depth	m						1.800					1.52	

Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		**Groundwater**											
Site No		**GW6**											
Date of Sample		Jan 14	Feb 14	Mar 14	Apr 14	May 14	Jun 14	Jul 14	Aug 14	Sep 14	Oct 14	Nov 14	Dec 14
Lab No										142504605			
pH				7.70			6.98			6.9		7.12	
Temp	**C**			11.80			15.80			14.6		11.9	
Electrical Conductivity	**uS/cm**			310			506.00			618		332	
Ammonical Nitrogen	**mg/l**			1.00			<0.040			0.84		1.03	
COD	**mg/l**												
BOD	**mg/l**												
Dissolved Oxygen	**mg/l**						10.15						
SS	**mg/l**												
Residue on Evaporator	**mg/l**												
Calcium	**mg/l**												
Cadmium	**ug/l**						<0.1						
Chromium	**ug/l**						26.50						
Chloride	**mg/l**			21			20.00			27.79		13	
Chlorine	**mg/l**												
Copper	**ug/l**						0.01						
Cyanide	**ug/l**						<10						
Total Iron	**ug/l**						16.00			3.99		0.05	
Lead	**mg/l**						<0.3						
Magnesium	**mg/l**						4.10						
Manganese	**ug/l**						79.30						
Mercury	**ug/l**						0.05						
Nickel	**mg/l**						2.30						
Potassium	**mg/l**						3.50						
Sodium	**mg/l**												
Sulphate (as S)	**mg/l**						41.90						
Zinc	**mg/l**						166.80						
Total Alkalinity as CaCO3	**mg/l**						244.00						
Total Organic Carbon	**mg/l**												
Total Oxidised Nitrogen	**mg/l**			<0.110			<0.110			<0.1		<0.1	
Arsenic	**mg/l**												
Barium	**mg/l**												
Boron	**ug/l**												
Flouride	**mg/l**												
Phenol	**mg/l**						<0.15						
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**						NT						
Total Coliforms													
Facel Coliforms													
Depth	**m**						6.210					4.21	

Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Groundwater											
Site No		GW7											
Date of Sample		Jan 14	Feb 14	Mar 14	Apr 14	May 14	Jun 14	Jul 14	Aug 14	Sep 14	Oct 14	Nov 14	Dec 14
Lab No										142504606			
pH				7.03			6.49			6.48		6.67	
Temp	C			10.7			15.90			15.3		12.4	
Electrical Conductivity	uS/cm			582			777.00			725		590	
Ammonical Nitrogen	mg/l			<0.040			9.38			0.73		2.76	
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l						9.80						
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	mg/l												
Cadmium	ug/l						<0.1						
Chromium	ug/l						11.50						
Chloride	mg/l			33			56.00			29.78		31	
Chlorine	mg/l												
Copper	ug/l						<0.003						
Cyanide	ug/l						<10						
Total Iron	ug/l						5.00			2.71		0.04	
Lead	mg/l						<0.3						
Magnesium	mg/l						9.90						
Manganese	ug/l						411.60						
Mercury	ug/l						0.04						
Nickel	mg/l						2.90						
Potassium	mg/l						3.10						
Sodium	mg/l												
Sulphate (as S)	mg/l						4.70						
Zinc	mg/l						<1						
Total Alkalinity as CaCO3	mg/l						324.00						
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l			0.15			<0.110			<0.1		0.145	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Phenol	mg/l						<0.15						
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						0.04						
Total Coliforms													
Facel Coliforms													
Depth	m						3.01					2.11	

Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Groundwater											
Site No		GW8											
Date of Sample		Jan 14	Feb 14	Mar 14	Apr 14	May 14	Jun 14	Jul 14	Aug 14	Sep 14	Oct 14	Nov 14	Dec 14
Lab No													
Lab No													
pH													
Temp	C			11.3									
Electrical Conductivity	uS/cm			509									
Ammonical Nitrogen	mg/l			10									
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l												
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	mg/l												
Cadmium	ug/l												
Chromium	ug/l												
Chloride	mg/l			85									
Chlorine	mg/l												
Copper	ug/l												
Cyanide	ug/l												
Total Iron	ug/l												
Lead	mg/l												
Magnesium	mg/l												
Manganese	ug/l												
Mercury	ug/l												
Nickel	mg/l												
Potassium	mg/l												
Sodium	mg/l												
Sulphate (as S)	mg/l												
Zinc	mg/l												
Total Alkalinity as CaCO3	mg/l												
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l			2.54									
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Phenol	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												
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m												

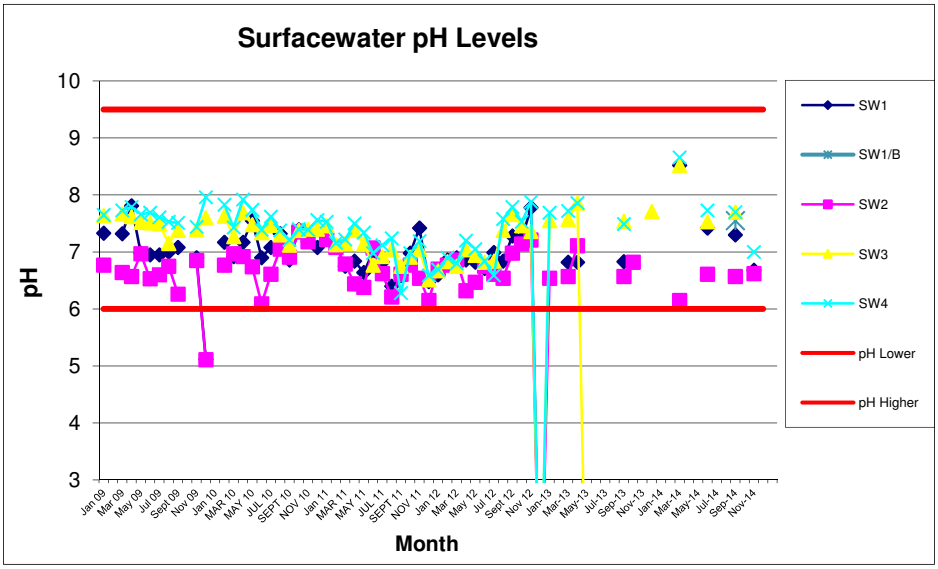
Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Groundwater											
Site No		GW10											
Date of Sample		Jan 14	Feb 14	Mar 14	Apr 14	May 14	Jun 14	Jul 14	Aug 14	Sep 14	Oct 14	Nov 14	Dec 14
Lab No										142504607			
pH				6.77			6.59			6.47		6.73	
Temp	C			12.1			16.30			16.2		11.2	
Electrical Conductivity	uS/cm			475			514.00			518		440	
Ammonical Nitrogen	mg/l			2.35			3.07			2.52		1.43	
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l						5.51						
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	mg/l												
Cadmium	ug/l						<0.1						
Chromium	ug/l						2.20						
Chloride	mg/l			30			30.00			24.82		19	
Chlorine	mg/l												
Copper	ug/l						0.01						
Cyanide	ug/l						<10						
Total Iron	ug/l						3030.00			4.04		2.05	
Lead	mg/l						0.60						
Magnesium	mg/l						8.80						
Manganese	ug/l						820.50						
Mercury	ug/l						0.04						
Nickel	mg/l						1.20						
Potassium	mg/l						5.10						
Sodium	mg/l												
Sulphate (as S)	mg/l						3.70						
Zinc	mg/l						23.10						
Total Alkalinity as CaCO3	mg/l						244.00						
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l			0.38			<0.110			<0.1		0.022	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Phenol	mg/l						<0.15						
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						0.32						
Total Coliforms													
Facel Coliforms													
Depth	m											1.12	

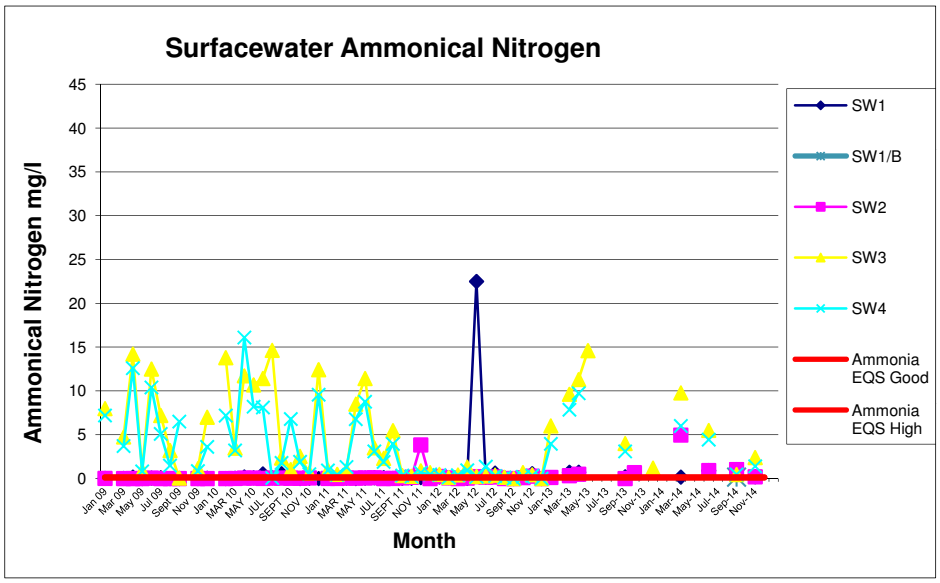
Location		*Ballynacarrick, Ballintra,Co. Donegal*											
Sample Type		Surface water											
Site No		SW1											
Date of Sample		Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
Lab No										142504340			
pH				8.52			7.42			7.3		6.68	
Temp	C			12.9			17.7			16.6		11.4	
Electrical Conductivity	uS/cm			249			224			143		245	
Ammonical Nitrogen	mg/l			0.17			0.91			1.02		0.2	
COD	mg/l			29						68		51	
BOD	mg/l			31.8						8.22		1.2	
Dissolved Oxygen	mg/l			8.5						8.27		8.37	
SS	mg/l			3.2						6.5		0	
Residue on Evaporator	mg/l												
Calcium	mg/l												
Cadmium	ug/l						<0.0001						
Chromium	ug/l						<0.001						
Chloride	mg/l			24			14			15		22	
Chlorine	mg/l												
Copper	ug/l						0.017						
Cyanide	ug/l												
Total Iron	ug/l						1.5048						
Lead	mg/l						0.0013						
Magnesium	mg/l						3.1						
Manganese	ug/l						0.19210						
Mercury	ug/l						0.00007						
Nickel	mg/l												
Potassium	mg/l						4						
Sodium	mg/l												
Sulphate (as S)	mg/l						7.40						
Zinc	mg/l						0.0103						
Total Alkalinity as CaCO3	mg/l						42						
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l						0.944						
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Phenol	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						0.011						
Phosphate - TOTAL	mg/l						0.050						
Total Coliforms													
Facel Coliforms													
Depth	m												

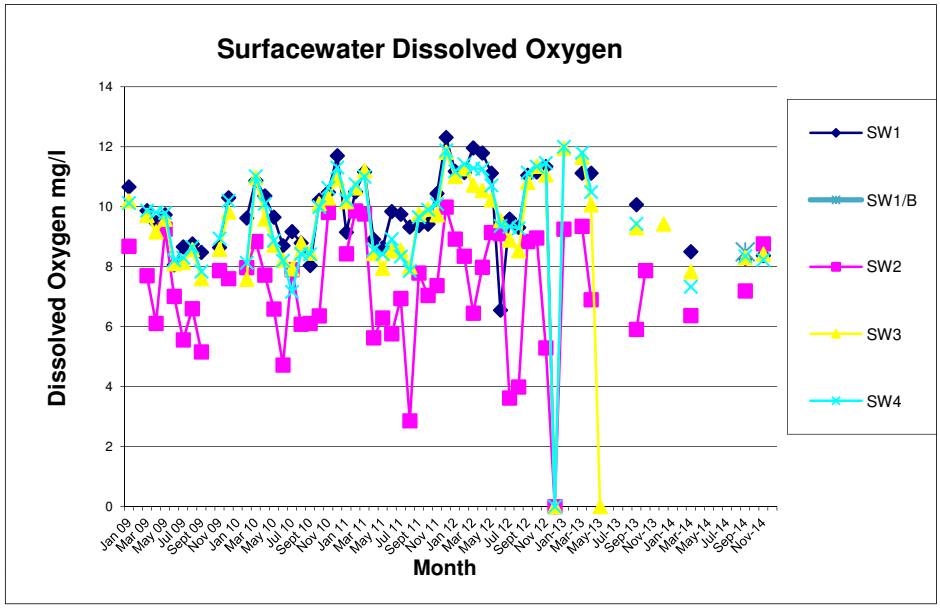
Location		*Ballynacarrick, Ballintra,Co. Donegal*											
Sample Type		Surface water											
Site No		SW2											
Date of Sample		Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
Lab No										142504342			
pH				6.15			6.610			6.57		6.62	
Temp	C			11.90			18.500			16.9		10.5	
Electrical Conductivity	uS/cm			128			215.800			126.6		136.7	
Ammonical Nitrogen	mg/l			4.96			0.908			1.03		0.2	
COD	mg/l			48						68		54	
BOD	mg/l			<1.0						0.78		0.69	
Dissolved Oxygen	mg/l			6.37						7.19		8.76	
SS	mg/l			13						<6.0		0	
Residue on Evaporator	mg/l												
Calcium	mg/l												
Cadmium	ug/l						<0.0001						
Chromium	ug/l						<0.001						
Chloride	mg/l			36			12.000			16		16	
Chlorine	mg/l												
Copper	ug/l						0.016						
Cyanide	ug/l												
Total Iron	ug/l						2.530						
Lead	mg/l						0.001						
Magnesium	mg/l						2.600						
Manganese	ug/l						0.204						
Mercury	ug/l						0.000						
Nickel	mg/l												
Potassium	mg/l						2.700						
Sodium	mg/l												
Sulphate (as S)	mg/l						8.400						
Zinc	mg/l						0.012						
Total Alkalinity as CaCO3	mg/l						58.000						
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l						<0.110						
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Phenol	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						0.059						
Total Coliforms													
Facel Coliforms													
Depth	m												

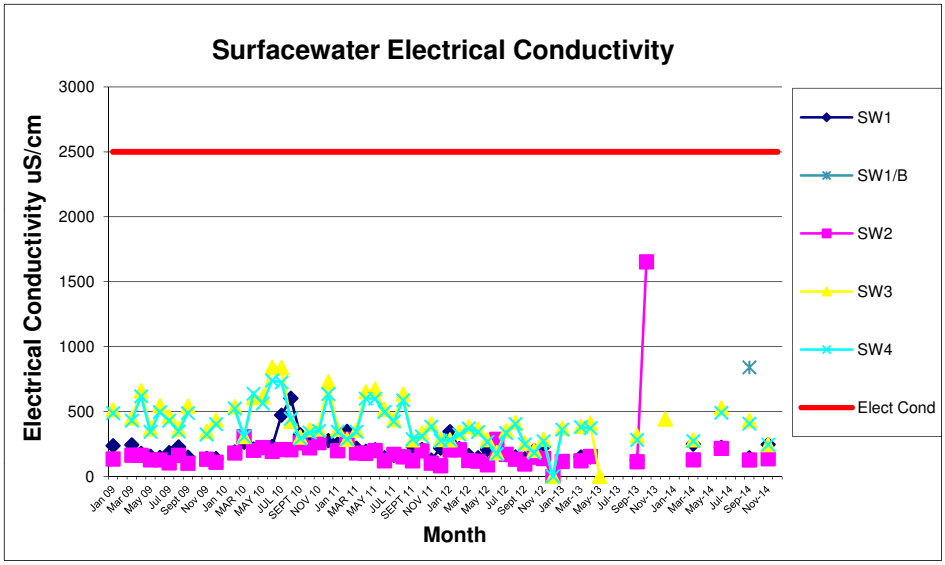
Location		*Ballynacarrick, Ballintra,Co. Donegal*											
Sample Type		Surface water											
Site No		SW3											
Date of Sample		Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
Lab No										142504343			
pH				8.52			7.530			7.7		6.8	
Temp	C			11.20			17.400			16.1		10.8	
Electrical Conductivity	uS/cm			282			527.000			430		245	
Ammonical Nitrogen	mg/l			9.77			5.490			0.46		2.4	
COD	mg/l			23						43		50	
BOD	mg/l			28.50						8.26		8.32	
Dissolved Oxygen	mg/l			7.83						8.3		8.42	
SS	mg/l			3						<6.0		0	
Residue on Evaporator	mg/l												
Calcium	mg/l												
Cadmium	ug/l						<0.0001						
Chromium	ug/l						0.001						
Chloride	mg/l			53			35.000			21		22	
Chlorine	mg/l												
Copper	ug/l						0.016						
Cyanide	ug/l												
Total Iron	ug/l						0.493						
Lead	mg/l						<0.0003						
Magnesium	mg/l						6.800						
Manganese	ug/l						0.095						
Mercury	ug/l						0.005						
Nickel	mg/l												
Potassium	mg/l						4.600						
Sodium	mg/l												
Sulphate (as S)	mg/l						13.800						
Zinc	mg/l						0.011						
Total Alkalinity as CaCO3	mg/l						168.000						
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l						0.702						
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Phenol	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						0.019						
Total Coliforms													
Facel Coliforms													
Depth	m												

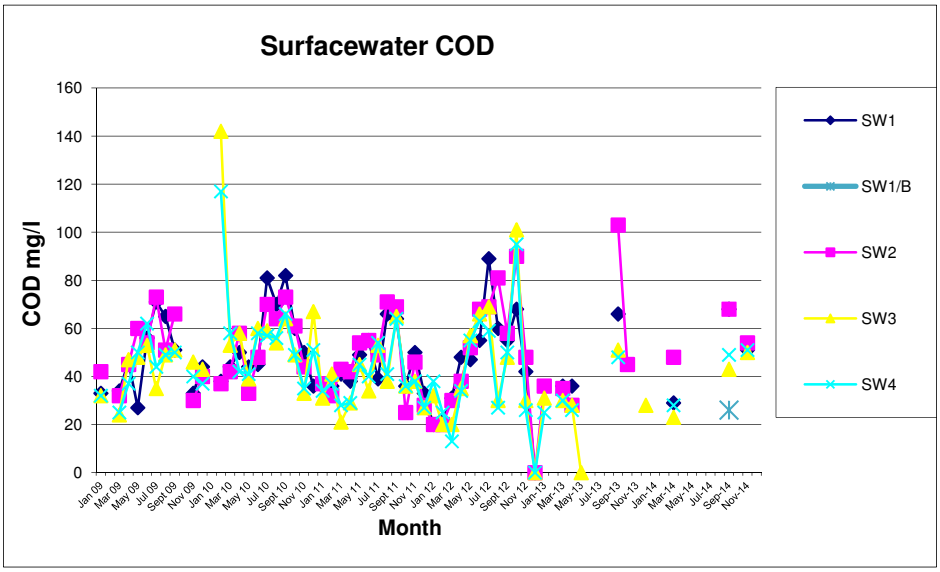
Location		*Ballynacarrick, Ballintra,Co. Donegal*											
Sample Type		**Surface water**											
Site No		**SW4**											
Date of Sample		Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
Lab No										142504344			
pH				8.66			7.730			7.7		7	
Temp	**C**			11.00			17.100			16.3		10.2	
Electrical Conductivity	**uS/cm**			272			490.00			406		245	
Ammonical Nitrogen	**mg/l**			6.00			4.440			0.47		1.4	
COD	**mg/l**			28						49		51	
BOD	**mg/l**			63.00						0.66		8.17	
Dissolved Oxygen	**mg/l**			7.33						8.35		8.23	
SS	**mg/l**			5						<6.0		1.33	
Residue on Evaporator	**mg/l**												
Calcium	**mg/l**												
Cadmium	**ug/l**						<0.0001						
Chromium	**ug/l**						<0.001						
Chloride	**mg/l**			44			36.000			22		21	
Chlorine	**mg/l**												
Copper	**ug/l**						0.004						
Cyanide	**ug/l**												
Total Iron	**ug/l**						0.495						
Lead	**mg/l**						<0.0003						
Magnesium	**mg/l**						6.300						
Manganese	**ug/l**						0.074						
Mercury	**ug/l**						0.000						
Nickel	**mg/l**												
Potassium	**mg/l**						4.800						
Sodium	**mg/l**												
Sulphate (as S)	**mg/l**						13.000						
Zinc	**mg/l**						0.005						
Total Alkalinity as CaCO3	**mg/l**						144.000						
Total Organic Carbon	**mg/l**												
Total Oxidised Nitrogen	**mg/l**						1.200						
Arsenic	**mg/l**												
Barium	**mg/l**												
Boron	**ug/l**												
Flouride	**mg/l**												
Phenol	**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**						0.013						
Total Coliforms													
Facel Coliforms													
Depth	**m**												

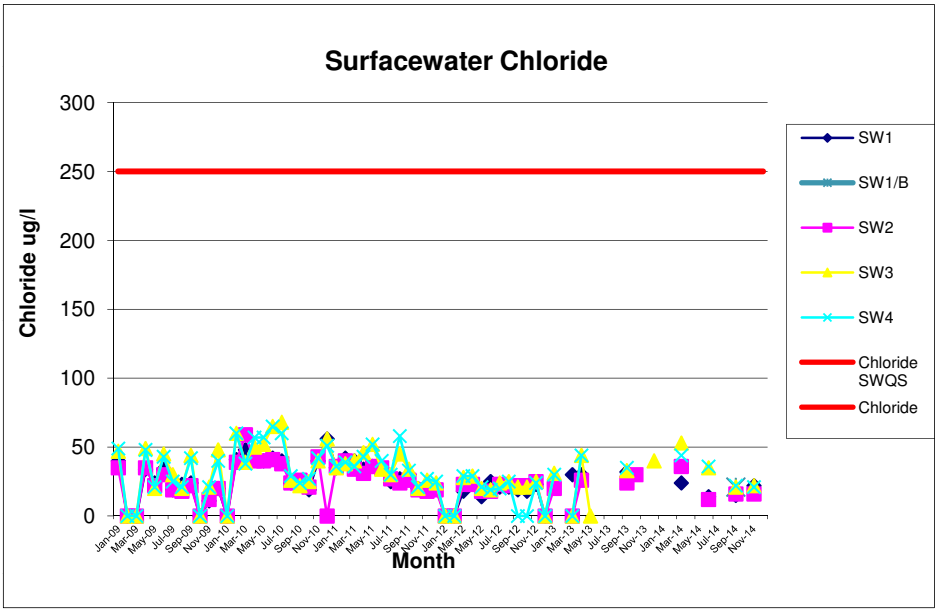

Surfacewater pH Levels
pH
Month
SW1
SW1/B
SW2
SW3
SW4
pH Lower
pH Higher

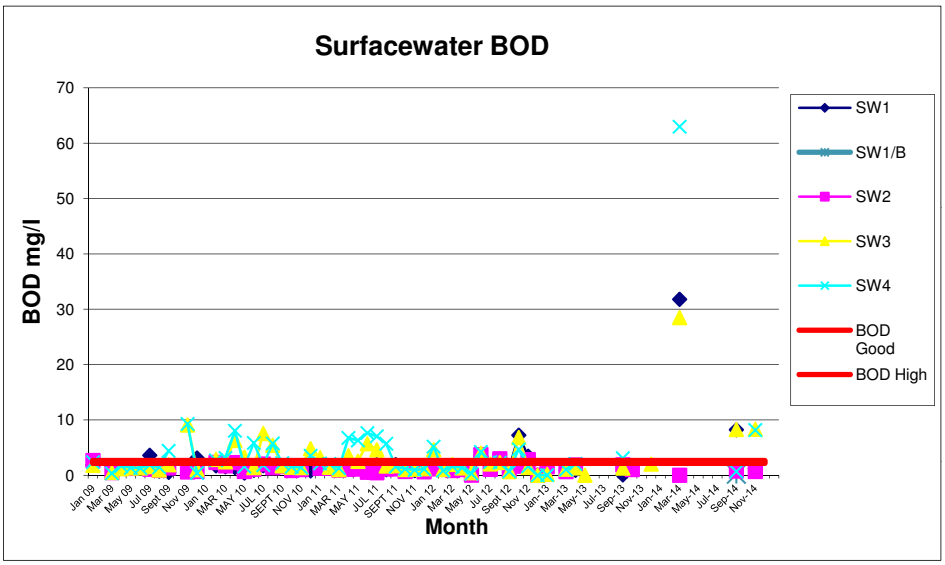

Surfacewater Ammonical Nitrogen
Ammonical Nitrogen mg/l
Month
SW1
SW1/B
SW2
SW3
SW4
Ammonia EQS Good
Ammonia EQS High

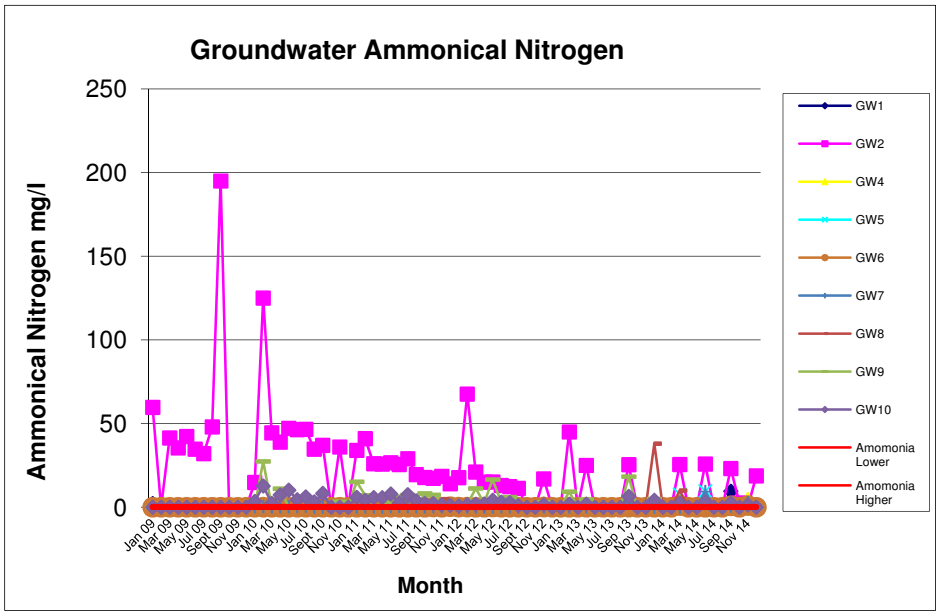

Surfacewater Dissolved Oxygen
Dissolved Oxygen mg/l
Month
SW1
SW1/B
SW2
SW3
SW4

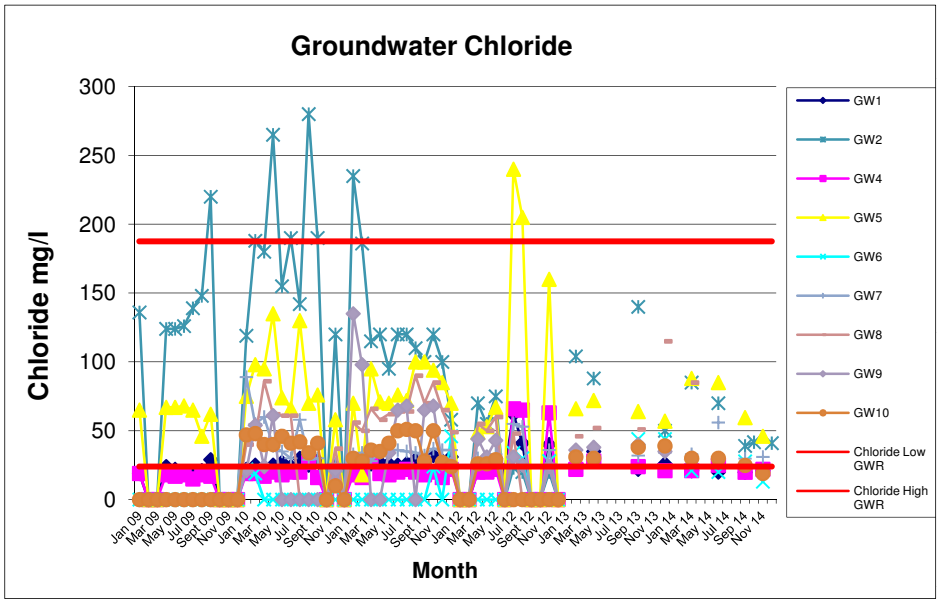

Surfacewater Electrical Conductivity
Electrical Conductivity uS/cm
3000
2500
2000
1500
1000
500
0
Month
SW1
SW1/B
SW2
SW3
SW4
Elect Cond

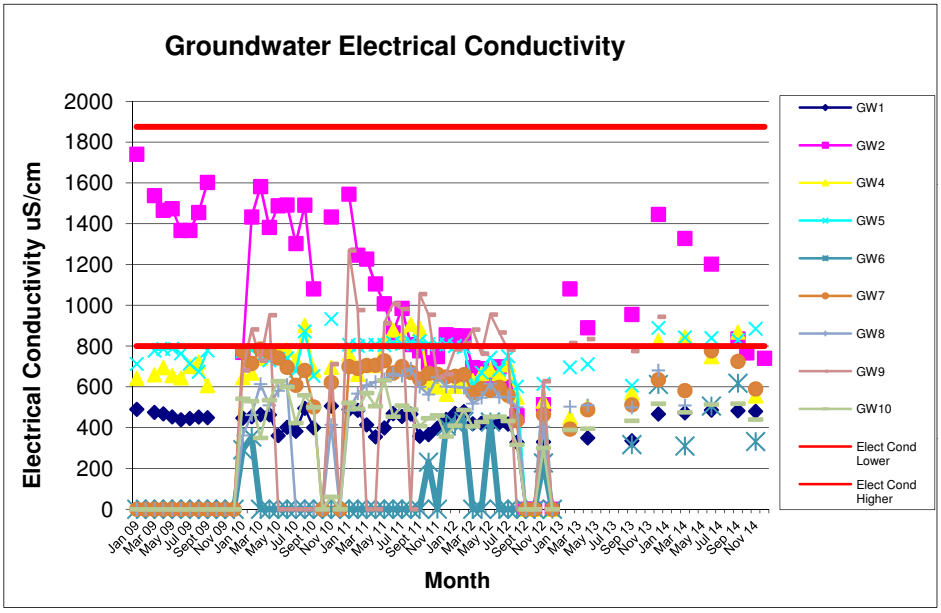

Surfacewater COD
COD mg/l
160
140
120
100
80
60
40
20
0
Month
SW1
SW1/B
SW2
SW3
SW4

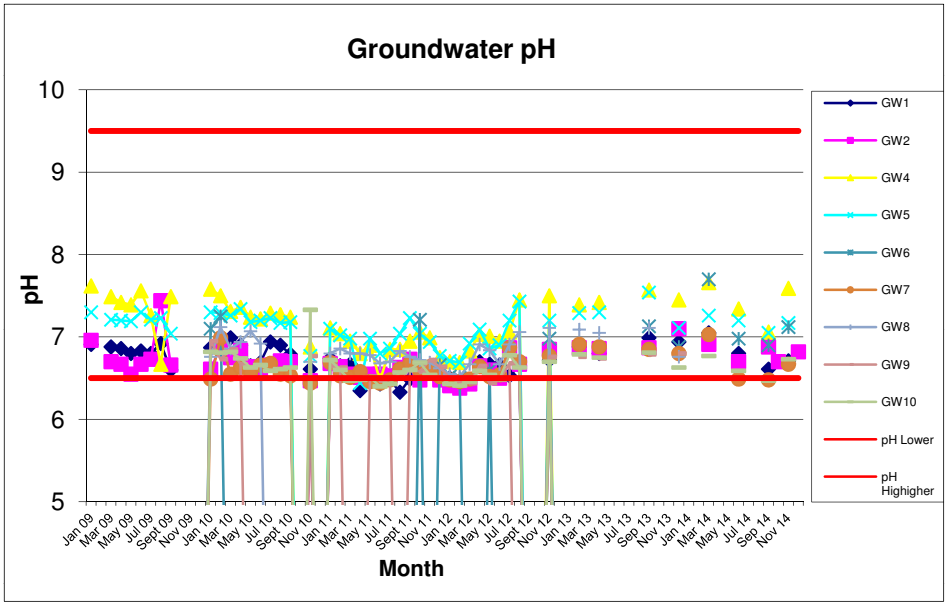

Surfacewater Chloride
Chloride ug/l
300
250
200
150
100
50
0
Month
SW1
SW1/B
SW2
SW3
SW4
Chloride SWQS
Chloride


Surfacewater BOD
BOD mg/l
70
60
50
40
30
20
10
0
Jan 09
Mar 09
May 09
Jul 09
Sept 09
Nov 09
Jan 10
MAR 10
MAY 10
JUL 10
SEPT 10
NOV 10
Jan 11
MAR 11
MAY 11
JUL 11
SEPT 11
NOV 11
Jan 12
Mar 12
May 12
Jul 12
Sept 12
Nov 12
Jan-13
Mar-13
May-13
Jul-13
Sep-13
Nov-13
Jan-14
Mar-14
May-14
Jul-14
Sep-14
Nov-14
Month
SW1
SW1/B
SW2
SW3
SW4
BOD Good
BOD High


Groundwater Ammonical Nitrogen
Ammonical Nitrogen mg/l
250
200
150
100
50
0
Jan 09
Mar 09
May 09
Jul 09
Sept 09
Nov 09
Jan 10
Mar 10
May 10
Jul 10
Sept 10
Nov 10
Jan 11
Mar 11
May 11
Jul 11
Sept 11
Nov 11
Jan 12
Mar 12
May 12
Jul 12
Sept 12
Nov 12
Jan 13
Mar 13
May 13
Jul 13
Sep 13
Nov 13
Jan 14
Mar 14
May 14
Jul 14
Sep 14
Nov 14
Month
GW1
GW2
GW4
GW5
GW6
GW7
GW8
GW9
GW10
Amomonia Lower
Amomonia Higher


Groundwater Chloride
Chloride mg/l
300
250
200
150
100
50
0
Jan 09
Mar 09
May 09
Jul 09
Sept 09
Nov 09
Jan 10
Mar 10
May 10
Jul 10
Sept 10
Nov 10
Jan 11
Mar 11
May 11
Jul 11
Sept 11
Nov 11
Jan 12
Mar 12
May 12
Jul 12
Sept 12
Nov 12
Jan 13
Mar 13
May 13
Jul 13
Sep 13
Nov 13
Jan 14
Mar 14
May 14
Jul 14
Sep 14
Nov 14
Month
GW1
GW2
GW4
GW5
GW6
GW7
GW8
GW9
GW10
Chloride Low GWR
Chloride High GWR


Groundwater Electrical Conductivity
Electrical Conductivity uS/cm
2000
1800
1600
1400
1200
1000
800
600
400
200
0
Month
GW1
GW2
GW4
GW5
GW6
GW7
GW8
GW9
GW10
Elect Cond Lower
Elect Cond Higher


Groundwater pH
pH
10
9
8
7
6
5
Month
GW1
GW2
GW4
GW5
GW6
GW7
GW8
GW9
GW10
pH Lower
pH Highigher

Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Leachate											
Site No		L1											
Date of Sample		Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
Lab No										142504608			
pH				7.40			7.02			6.89		6.72	
Temp	C			11.50			17.10			17.2		9.90	
Electrical Conductivity	uS/cm			2610			3430			3590		2440	
Ammonical Nitrogen	mg/l			137.00			137.00			160		112.00	
COD	mg/l			99			131			138		78	
BOD	mg/l			64.0000			<1			6.7		3.0400	
Dissolved Oxygen	mg/l												
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	mg/l												
Cadmium	ug/l						<0.0001						
Chromium	ug/l						0.015						
Chloride	mg/l			141			245			257.08		103	
Chlorine	mg/l												
Copper	mg/l						0.02						
Cyanide	ug/l												
Total Iron	ug/l						0.23						
Lead	mg/l						0.000						
Magnesium	mg/l						32.5000						
Manganese	ug/l						0.8151						
Mercury	ug/l						0.0001						
Nickel	mg/l						0.0100						
Potassium	mg/l						110.0000						
Sodium	mg/l												
Sulphate	mg/l						96.6000						
Zinc	mg/l						0.04						
Total Alkalinity as CaCO3	mg/l						1080.0000						
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l			0.3600			0.1260			<0.1		<0.1	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Phenol	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												
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m												

Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Leachate											
Site No		L6 Storage Tank											
Date of Sample		Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
Lab No										142504609			
pH				7.60			6.99			7.23		7.10	
Temp	C			11.20			16.50			16.4		9.20	
Electrical Conductivity	uS/cm			2640			2790			2660		1533	
Ammonical Nitrogen	mg/l			75.00			7.17			43.1		40.00	
COD	mg/l			158			152			163		75	
BOD	mg/l			19.0000			<1			322		8.9600	
Dissolved Oxygen	mg/l												
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	mg/l												
Cadmium	ug/l						<0.0001						
Chromium	ug/l						0.013						
Chloride	mg/l			289			285			347.41		205	
Chlorine	mg/l												
Copper	mg/l						0.02						
Cyanide	ug/l												
Total Iron	ug/l						0.12						
Lead	mg/l						<0.003						
Magnesium	mg/l						33.8000						
Manganese	ug/l						0.3400						
Mercury	ug/l						0.0001						
Nickel	mg/l						0.0200						
Potassium	mg/l						107.7000						
Sodium	mg/l												
Sulphate	mg/l						74.4000						
Zinc	mg/l						0.04						
Total Alkalinity as CaCO3	mg/l						282.0000						
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l			4.9200			94.0000			6.47		27.00	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Phenol	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												
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m												

Location		*Ballynacarrick, Ballintra, Co. Donegal*											
Sample Type		Leachate											
Site No		L8											
Date of Sample		Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
Lab No										142504610			
pH				7.50			7.12			7.26		7.67	
Temp	C			11.30			16.60			17.5		12.40	
Electrical Conductivity	uS/cm			753			1123			1041		890	
Ammonical Nitrogen	mg/l			2.75			12.70			4.85		3.75	
COD	mg/l			23			61			38		24	
BOD	mg/l			<1.0			<1			4.52		0.9000	
Dissolved Oxygen	mg/l												
SS	mg/l												
Residue on Evaporator	mg/l												
Calcium	mg/l												
Cadmium	ug/l						<0.0001						
Chromium	ug/l						0.002						
Chloride	mg/l			48			63			63.53		35	
Chlorine	mg/l												
Copper	ug/l						0.03						
Cyanide	ug/l												
Total Iron	ug/l						0.15						
Lead	ug/l						<0.0003						
Magnesium	mg/l						16.2000						
Manganese	ug/l						0.2458						
Mercury	ug/l						0.0001						
Nickel	mg/l						0.0100						
Potassium	mg/l						15.8000						
Sodium	mg/l												
Sulphate	mg/l						100.5000						
Zinc	mg/l						0.14						
Total Alkalinity as CaCO3	mg/l						344.0000						
Total Organic Carbon	mg/l												
Total Oxidised Nitrogen	mg/l			2.3000			0.7960			0.425		0.82	
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l												
Flouride	mg/l												
Phenol	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												
Phosphate - TOTAL	mg/l												
Total Coliforms													
Facel Coliforms													
Depth	m												

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ISO 17025 INAB ACCREDITED TESTING
DETAILED IN SCOPE REG NO. 111T

Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76876/001 03/07/2014 04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3222 - GW2		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
AQ2-UP2									
	Sulphate		EW154M-1	1.0		23.0	mg/L	INAB	
Metals-Dissolved									
	Manganese-Dissolved		EM130	1.0		417.8	ug/L	INAB	
	Cadmium-Dissolved		EM130	0.1		<0.1	ug/L	INAB	
	Copper-Dissolved		EM130	0.003		0.015	mg/L	INAB	
	Lead-Dissolved		EM130	0.3		<0.3	ug/L	INAB	
	Magnesium-Dissolved		EM130	0.3		17.0	mg/L	INAB	
	Nickel-Dissolved		EM130	0.5		2.4	ug/L	INAB	
	Zinc-Dissolved		EM130	1.0		10.6	ug/L	INAB	
	Mercury-Dissolved		EM130	0.02		0.08	ug/L	INAB	
	Potassium-Dissolved		EM130	0.2		24.7	mg/L	INAB	
Metals-Total									
	Chromium-Total		EM130	1.0		2.6	ug/L		
PhenolsTotal -Index (Sub1)									
	Phenols-Total	*	Default	0.15		<0.15	mg/L	YES	
SVOC (sub)									
	1,2,4-Trichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	1,2-Dichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	1,3-Dichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	1,4-Dichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	2,4,5-Trichlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4,6-Trichlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4-Dichlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4-Dimethylphenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4-Dinitrotoluene	*	Default	1.0		<2.0	ug/L	YES	
	2,6-Dinitrotoluene	*	Default	1.0		<2.0	ug/L	YES	
	2-Chloronaphthalene	*	Default	1.0		<2.0	ug/L	YES	
	2-Chlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2-Methylnaphthalene	*	Default	1.0		<2.0	ug/L	YES	
	2-Methylphenol	*	Default	1.0		<2.0	ug/L	YES	
	2-Nitrophenol	*	Default	1.0		<2.0	ug/L	YES	
	3&4-Methylphenol	*	Default	1.0		<2.0	ug/L	YES	
	4-Bromophenyl Phenyl Ether	*	Default	1.0		<2.0	ug/L	YES	
	4-Chloro-3-methylphenol	*	Default	1.0		<2.0	ug/L	YES	
	4-Chlorophenyl phenyl ether	*	Default	1.0		<2.0	ug/L	YES	

Signed : _____ 01/08/2014

Technical Manager (or Deputy): **Brendan Murray**

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ISO 17025 IVNAB ACCREDITED TESTING DETAILED IN SCOPE REG NO. 111T

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Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3222 - GW2		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
SVOC (sub)									
	4-Nitrophenol	*	Default	5.0		<10.0	ug/L	YES	
	Acenaphthene	*	Default	1.0		<2.0	ug/L	YES	
	Acenaphthylene	*	Default	1.0		<2.0	ug/L	YES	
	Anthracene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(a)anthracene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(a)pyrene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(b)fluoranthene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(g,h,i)perylene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(k)fluoranthene	*	Default	1.0		<2.0	ug/L	YES	
	Benzyl Butyl Phthalate	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-chloroethoxy)methane	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-chloroethyl)ether	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-chloroisopropyl)ether	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-ethylhexyl)phthalate	*	Default	5.0		<10.0	ug/L	YES	
	Chrysene	*	Default	1.0		<2.0	ug/L	YES	
	Dibenz(a,h)anthracene	*	Default	1.0		<2.0	ug/L	YES	
	Dibenzofuran	*	Default	1.0		<2.0	ug/L	YES	
	Diethylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	Dimethylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	di-n-Butylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	Di-n-octylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	Diphenylamine	*	Default	1.0		<2.0	ug/L	YES	
	Fluoranthene	*	Default	1.0		<2.0	ug/L	YES	
	Fluorene	*	Default	1.0		<2.0	ug/L	YES	
	Hexachlorobenzene	*	Default	1.0		<2.0	ug/L	YES	
	Hexachlorobutadiene	*	Default	1.0		<1.0	ug/L	YES	
	Hexachloroethane	*	Default	1.0		<1.0	ug/L	YES	
	Indeno(1,2,3-c,d)pyrene	*	Default	1.0		<2.0	ug/L	YES	
	Isophorone	*	Default	1.0		<2.0	ug/L	YES	
	Naphthalene	*	Default	2.0		<2.0	ug/L	YES	
	Nitrobenzene	*	Default	1.0		<1.0	ug/L	YES	
	n-Nitrosodi-n-propylamine	*	Default	1.0		<2.0	ug/L	YES	
	Pentachlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	Phenanthrene	*	Default	1.0		<2.0	ug/L	YES	
	Phenol	*	Default	1.0		<2.0	ug/L	YES	
	Pyrene	*	Default	1.0		<2.0	ug/L	YES	
Total Cyanide High (Sub)									

Signed : 01/08/2014

Technical Manager (or Deputy): **Brendan Murray**

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Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3222 - GW2		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
Total Cyanide High (Sub)									
	Total Cyanide High	*	Default	10		<10	ug/L	YES	
VOC Full Suite									
	Epichlorohydrin		EO025	0.1		<0.1	ug/L		
	Total THM (Calc)		EO025	5.0		<5.0	ug/L		
	Dichlorodifluoromethane		EO025	10.0		<10.0	ug/L		
	Chloromethane		EO025	0.5		<0.5	ug/L		
	Ethyl Chloride/Chloroethane		EO025	0.5		<0.5	ug/L		
	Vinyl Chloride		EO025	0.1		<0.1	ug/L		
	Bromomethane		EO025	0.5		<0.5	ug/L	INAB	
	Trichloromonofluoromethane		EO025	0.5		<0.5	ug/L		
	Ethyl Ether/Diethyl Ether		EO025	0.5		1.1	ug/L	INAB	
	11 Dichloroethene		EO025	0.5		<0.5	ug/L	INAB	
	Acetone		EO025	2.0		<2.0	ug/L		
	Iodomethane/Methyl Iodide		EO025	0.5		2.0	ug/L	INAB	
	Carbon Disulphide		EO025	0.5		<0.5	ug/L	INAB	
	Allyl Chloride		EO025	0.5		<0.5	ug/L	INAB	
	Dichloromethane		EO025	5.0		<5.0	ug/L	INAB	
	Chlormethyl Cyanide/Chloroacetonitrile		EO025	0.5		<0.5	ug/L	INAB	
	Nitrobenzene		EO025	0.5		<0.5	ug/L		
	Propanenitrile		EO025	10		<10	ug/L		
	Hexachlorobutadiene		EO025	0.5		0.5	ug/L	INAB	
	Trans-1,2 Dichloroethene		EO025	0.5		<0.5	ug/L	INAB	
	MtBE		EO025	0.5		<0.5	ug/L	INAB	
	1,1-dichloroethane		EO025	0.5		<0.5	ug/L	INAB	
	2,2-dichloropropane		EO025	0.5		<0.5	ug/L	INAB	
	cis-12 Dichloroethene		EO025	0.5		<0.5	ug/L	INAB	
	2-Butanone		EO025	5.0		<5.0	ug/L		
	Methyl Acrylate		EO025	0.5		<0.5	ug/L	INAB	
	Bromochloromethane		EO025	0.5		<0.5	ug/L	INAB	
	Methacrylonitrile		EO025	5.0		<5.0	ug/L		
	Tetrahydrofuran		EO025	0.5		2.5	ug/L	INAB	
	Chloroform		EO025	1.0		<1.0	ug/L	INAB	
	1,1,1-trichloroethane		EO025	0.5		<0.5	ug/L	INAB	
	1-Chlorobutane		EO025	0.5		<0.5	ug/L	INAB	
	Carbon Tetrachloride		EO025	0.5		<0.5	ug/L	INAB	
	11 Dichloropropene		EO025	0.5		<0.5	ug/L	INAB	
	Benzene		EO025	0.1		<0.1	ug/L	INAB	

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76876/001 03/07/2014 04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3222 - GW2		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
VOC Full Suite									
	1,2 dicloroethane		EO025	0.1		<0.1	ug/L	INAB	
	Trichloroethene		EO025	0.1		<0.1	ug/L	INAB	
	1,2-dichloropropane		EO025	0.5		<0.5	ug/L	INAB	
	Dibromomethane		EO025	0.5		<0.5	ug/L	INAB	
	Methyl Methacrylate		EO025	0.5		<0.5	ug/L	INAB	
	Bromodichloromethane		EO025	2.0		<2.0	ug/L	INAB	
	13 Dichloropropene,cis		EO025	2.0		<2.0	ug/L	INAB	
	MIBK/4 Methyl 2 Pentanone		EO025	2.0		<2.0	ug/L	INAB	
	Toluene		EO025	0.5		<0.5	ug/L	INAB	
	13 Dichloropropene,trans		EO025	2.0		<2.0	ug/L	INAB	
	Ethyl Methacrylate		EO025	2.0		<2.0	ug/L	INAB	
	112 Trichloroethane		EO025	0.5		<0.5	ug/L	INAB	
	Tetrachloroethene		EO025	0.1		0.1	ug/L	INAB	
	1,3-dichloropropane		EO025	0.5		<0.5	ug/L	INAB	
	2-Hexanone		EO025	1.0		<1.0	ug/L	INAB	
	Dibromochloromethane		EO025	1.0		<1.0	ug/L	INAB	
	1,2-dibromoethane		EO025	0.5		<0.5	ug/L	INAB	
	Chlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,1,1,2-tetrachloroethane		EO025	2.0		<2.0	ug/L	INAB	
	Ethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Xylene P&M		EO025	0.5		0.7	ug/L	INAB	
	Xylene -o		EO025	0.5		0.5	ug/L	INAB	
	Styrene		EO025	2.0		<2.0	ug/L	INAB	
	Bromoform		EO025	1.0		<1.0	ug/L	INAB	
	Isopropylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Bromobenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,1,2,2-tetrachloroethane		EO025	0.5		<0.5	ug/L	INAB	
	1,2,3-trichloropropane		EO025	2.0		<2.0	ug/L	INAB	
	Trans 14 Dichloro 2 Butene, tran		EO025	2.0		<2.0	ug/L		
	Propylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	2-chlorotoluene		EO025	0.5		<0.5	ug/L	INAB	
	4-chlorotoluene		EO025	0.5		<0.5	ug/L	INAB	
	1,3,5-trimethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Tert Butyl Benzene		EO025	0.5		<0.5	ug/L	INAB	
	1,2,4-trimethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	sec-butylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,3-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	

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Technical Manager (or Deputy): **Brendan Murray**

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number**	76876/001
		Date of Receipt	03/07/2014
		Date Started	04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3222 - GW2		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
VOC Full Suite									
	P Isopropyltoluene		EO025	0.5		<0.5	ug/L	INAB	
	1,4-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,2-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	N Butyl Benzene		EO025	0.5		<0.5	ug/L	INAB	
	Hexachloroethane		EO025	5.0		<5.0	ug/L	INAB	
	1,2-dibromo-3-chloropropane		EO025	2.0		<2.0	ug/L	INAB	
	1,2,4-trichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	Naphthalene		EO025	2.0		<2.0	ug/L		
	1,2,3-trichlorobenzene		EO025	0.5		0.5	ug/L	INAB	

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76876/002 03/07/2014 04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3223 - GW4		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
AQ2-UP2									
	Sulphate		EW154M-1	1.0		144.2	mg/L	INAB	
Metals-Dissolved									
	Manganese-Dissolved		EM130	1.0		61.4	ug/L	INAB	
	Cadmium-Dissolved		EM130	0.1		<0.1	ug/L	INAB	
	Copper-Dissolved		EM130	0.003		0.004	mg/L	INAB	
	Lead-Dissolved		EM130	0.3		<0.3	ug/L	INAB	
	Magnesium-Dissolved		EM130	0.3		14.1	mg/L	INAB	
	Nickel-Dissolved		EM130	0.5		1.9	ug/L	INAB	
	Zinc-Dissolved		EM130	1.0		9.3	ug/L	INAB	
	Mercury-Dissolved		EM130	0.02		0.07	ug/L	INAB	
	Potassium-Dissolved		EM130	0.2		3.8	mg/L	INAB	
Metals-Total									
	Chromium-Total		EM130	1.0		4.1	ug/L		
PhenolsTotal -Index (Sub1)									
	Phenols-Total	*	Default	0.15		<0.15	mg/L	YES	
SVOC (sub)									
	1,2,4-Trichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	1,2-Dichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	1,3-Dichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	1,4-Dichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	2,4,5-Trichlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4,6-Trichlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4-Dichlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4-Dimethylphenol	*	Default	1.0		<1.0	ug/L	YES	
	2,4-Dinitrotoluene	*	Default	1.0		<2.0	ug/L	YES	
	2,6-Dinitrotoluene	*	Default	1.0		<2.0	ug/L	YES	
	2-Chloronaphthalene	*	Default	1.0		<2.0	ug/L	YES	
	2-Chlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2-Methylnaphthalene	*	Default	1.0		<2.0	ug/L	YES	
	2-Methylphenol	*	Default	1.0		<2.0	ug/L	YES	
	2-Nitrophenol	*	Default	1.0		<2.0	ug/L	YES	
	3&4-Methylphenol	*	Default	1.0		<2.0	ug/L	YES	
	4-Bromophenyl Phenyl Ether	*	Default	1.0		<2.0	ug/L	YES	
	4-Chloro-3-methylphenol	*	Default	1.0		<2.0	ug/L	YES	
	4-Chlorophenyl phenyl ether	*	Default	1.0		<2.0	ug/L	YES	
	4-Nitrophenol	*	Default	5.0		<10.0	ug/L	YES	

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number**	76876/002
		Date of Receipt	03/07/2014
		Date Started	04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3223 - GW4		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
SVOC (sub)									
	Acenaphthene	*	Default	1.0		<2.0	ug/L	YES	
	Acenaphthylene	*	Default	1.0		<2.0	ug/L	YES	
	Anthracene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(a)anthracene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(a)pyrene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(b)fluoranthene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(g,h,i)perylene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(k)fluoranthene	*	Default	1.0		<2.0	ug/L	YES	
	Benzyl Butyl Phthalate	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-chloroethoxy)methane	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-chloroethyl)ether	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-chloroisopropyl)ether	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-ethylhexyl)phthalate	*	Default	5.0		<10.0	ug/L	YES	
	Chrysene	*	Default	1.0		<2.0	ug/L	YES	
	Dibenz(a,h)anthracene	*	Default	1.0		<2.0	ug/L	YES	
	Dibenzofuran	*	Default	1.0		<2.0	ug/L	YES	
	Diethylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	Dimethylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	di-n-Butylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	Di-n-octylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	Diphenylamine	*	Default	1.0		<2.0	ug/L	YES	
	Fluoranthene	*	Default	1.0		<2.0	ug/L	YES	
	Fluorene	*	Default	1.0		<2.0	ug/L	YES	
	Hexachlorobenzene	*	Default	1.0		<2.0	ug/L	YES	
	Hexachlorobutadiene	*	Default	1.0		<1.0	ug/L	YES	
	Hexachloroethane	*	Default	1.0		<1.0	ug/L	YES	
	Indeno(1,2,3-c,d)pyrene	*	Default	1.0		<2.0	ug/L	YES	
	Isophorone	*	Default	1.0		<2.0	ug/L	YES	
	Naphthalene	*	Default	2.0		<2.0	ug/L	YES	
	Nitrobenzene	*	Default	1.0		<1.0	ug/L	YES	
	n-Nitrosodi-n-propylamine	*	Default	1.0		<2.0	ug/L	YES	
	Pentachlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	Phenanthrene	*	Default	1.0		<2.0	ug/L	YES	
	Phenol	*	Default	1.0		<2.0	ug/L	YES	
	Pyrene	*	Default	1.0		<2.0	ug/L	YES	
Total Cyanide High (Sub)									
	Total Cyanide High	*	Default	10		<10	ug/L	YES	

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76876/002 03/07/2014 04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3223 - GW4		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
Total Cyanide High (Sub)									
VOC Full Suite									
	Epichlorohydrin		EO025	0.1		<0.1	ug/L		
	Total THM (Calc)		EO025	5.0		<5.0	ug/L		
	Dichlorodifluoromethane		EO025	10.0		<10.0	ug/L		
	Chloromethane		EO025	0.5		0.5	ug/L		
	Ethyl Chloride/Chloroethane		EO025	0.5		<0.5	ug/L		
	Vinyl Chloride		EO025	0.1		<0.1	ug/L		
	Bromomethane		EO025	0.5		<0.5	ug/L	INAB	
	Trichloromonofluoromethane		EO025	0.5		<0.5	ug/L		
	Ethyl Ether/Diethyl Ether		EO025	0.5		<0.5	ug/L	INAB	
	11 Dichloroethene		EO025	0.5		<0.5	ug/L	INAB	
	Acetone		EO025	2.0		<2.0	ug/L		
	Iodomethane/Methyl Iodide		EO025	0.5		<0.5	ug/L	INAB	
	Carbon Disulphide		EO025	0.5		<0.5	ug/L	INAB	
	Allyl Chloride		EO025	0.5		<0.5	ug/L	INAB	
	Dichloromethane		EO025	5.0		<5.0	ug/L	INAB	
	Chlormethyl Cyanide/Chloroacetonitrile		EO025	0.5		<0.5	ug/L	INAB	
	Nitrobenzene		EO025	0.5		<0.5	ug/L		
	Propanenitrile		EO025	10		<10	ug/L		
	Hexachlorobutadiene		EO025	0.5		<0.5	ug/L	INAB	
	Trans-1,2 Dichloroethene		EO025	0.5		<0.5	ug/L	INAB	
	MtBE		EO025	0.5		<0.5	ug/L	INAB	
	1,1-dichloroethane		EO025	0.5		<0.5	ug/L	INAB	
	2,2-dichloropropane		EO025	0.5		<0.5	ug/L	INAB	
	cis-12 Dichloroethene		EO025	0.5		<0.5	ug/L	INAB	
	2-Butanone		EO025	5.0		<5.0	ug/L		
	Methyl Acrylate		EO025	0.5		<0.5	ug/L	INAB	
	Bromochloromethane		EO025	0.5		<0.5	ug/L	INAB	
	Methacrylonitrile		EO025	5.0		<5.0	ug/L		
	Tetrahydrofuran		EO025	0.5		<0.5	ug/L	INAB	
	Chloroform		EO025	1.0		<1.0	ug/L	INAB	
	1,1,1-trichloroethane		EO025	0.5		<0.5	ug/L	INAB	
	1-Chlorobutane		EO025	0.5		<0.5	ug/L	INAB	
	Carbon Tetrachloride		EO025	0.5		<0.5	ug/L	INAB	
	11 Dichloropropene		EO025	0.5		<0.5	ug/L	INAB	
	Benzene		EO025	0.1		<0.1	ug/L	INAB	
	1,2 dicloroethane		EO025	0.1		<0.1	ug/L	INAB	

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76876/002 03/07/2014 04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3223 - GW4		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
VOC Full Suite									
	Trichloroethene		EO025	0.1		<0.1	ug/L	INAB	
	1,2-dichloropropane		EO025	0.5		<0.5	ug/L	INAB	
	Dibromomethane		EO025	0.5		<0.5	ug/L	INAB	
	Methyl Methacrylate		EO025	0.5		<0.5	ug/L	INAB	
	Bromodichloromethane		EO025	2.0		<2.0	ug/L	INAB	
	13 Dichloropropene,cis		EO025	2.0		<2.0	ug/L	INAB	
	MIBK/4 Methyl 2 Pentanone		EO025	2.0		<2.0	ug/L	INAB	
	Toluene		EO025	0.5		<0.5	ug/L	INAB	
	13 Dichloropropene,trans		EO025	2.0		<2.0	ug/L	INAB	
	Ethyl Methacrylate		EO025	2.0		<2.0	ug/L	INAB	
	112 Trichloroethane		EO025	0.5		<0.5	ug/L	INAB	
	Tetrachloroethene		EO025	0.1		<0.1	ug/L	INAB	
	1,3-dichloropropane		EO025	0.5		<0.5	ug/L	INAB	
	2-Hexanone		EO025	1.0		<1.0	ug/L	INAB	
	Dibromochloromethane		EO025	1.0		<1.0	ug/L	INAB	
	1,2-dibromoethane		EO025	0.5		<0.5	ug/L	INAB	
	Chlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,1,1,2-tetrachloroethane		EO025	2.0		<2.0	ug/L	INAB	
	Ethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Xylene P&M		EO025	0.5		<0.5	ug/L	INAB	
	Xylene -o		EO025	0.5		<0.5	ug/L	INAB	
	Styrene		EO025	2.0		<2.0	ug/L	INAB	
	Bromoform		EO025	1.0		<1.0	ug/L	INAB	
	Isopropylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Bromobenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,1,2,2-tetrachloroethane		EO025	0.5		<0.5	ug/L	INAB	
	1,2,3-trichloropropane		EO025	2.0		<2.0	ug/L	INAB	
	Trans 14 Dichloro 2 Butene, tran		EO025	2.0		<2.0	ug/L		
	Propylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	2-chlorotoluene		EO025	0.5		<0.5	ug/L	INAB	
	4-chlorotoluene		EO025	0.5		<0.5	ug/L	INAB	
	1,3,5-trimethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Tert Butyl Benzene		EO025	0.5		<0.5	ug/L	INAB	
	1,2,4-trimethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	sec-butylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,3-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	P Isopropyltoluene		EO025	0.5		<0.5	ug/L	INAB	

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number**	76876/002
		Date of Receipt	03/07/2014
		Date Started	04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3223 - GW4		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
VOC Full Suite									
	1,4-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,2-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	N Butyl Benzene		EO025	0.5		<0.5	ug/L	INAB	
	Hexachloroethane		EO025	5.0		<5.0	ug/L	INAB	
	1,2-dibromo-3-chloropropane		EO025	2.0		<2.0	ug/L	INAB	
	1,2,4-trichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	Naphthalene		EO025	2.0		<2.0	ug/L		
	1,2,3-trichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	

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DETAILED IN SCOPE REG NO. 111T

Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76876/003 03/07/2014 04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3224 - GW5		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
AQ2-UP2									
	Sulphate		EW154M-1	1.0		1.0	mg/L	INAB	
Metals-Dissolved									
	Manganese-Dissolved		EM130	1.0		15.3	ug/L	INAB	
	Cadmium-Dissolved		EM130	0.1		<0.1	ug/L	INAB	
	Copper-Dissolved		EM130	0.003		0.007	mg/L	INAB	
	Lead-Dissolved		EM130	0.3		<0.3	ug/L	INAB	
	Magnesium-Dissolved		EM130	0.3		43.7	mg/L	INAB	
	Nickel-Dissolved		EM130	0.5		0.6	ug/L	INAB	
	Zinc-Dissolved		EM130	1.0		8.8	ug/L	INAB	
	Mercury-Dissolved		EM130	0.02		0.06	ug/L	INAB	
	Potassium-Dissolved		EM130	0.2		5.4	mg/L	INAB	
Metals-Total									
	Chromium-Total		EM130	1.0		1.6	ug/L		
PhenolsTotal -Index (Sub1)									
	Phenols-Total	*	Default	0.15		<0.15	mg/L	YES	
SVOC (sub)									
	1,2,4-Trichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	1,2-Dichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	1,3-Dichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	1,4-Dichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	2,4,5-Trichlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4,6-Trichlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4-Dichlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4-Dimethylphenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4-Dinitrotoluene	*	Default	1.0		<2.0	ug/L	YES	
	2,6-Dinitrotoluene	*	Default	1.0		<2.0	ug/L	YES	
	2-Chloronaphthalene	*	Default	1.0		<2.0	ug/L	YES	
	2-Chlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2-Methylnaphthalene	*	Default	1.0		<2.0	ug/L	YES	
	2-Methylphenol	*	Default	1.0		<2.0	ug/L	YES	
	2-Nitrophenol	*	Default	1.0		<2.0	ug/L	YES	
	3&4-Methylphenol	*	Default	1.0		<2.0	ug/L	YES	
	4-Bromophenyl Phenyl Ether	*	Default	1.0		<2.0	ug/L	YES	
	4-Chloro-3-methylphenol	*	Default	1.0		<2.0	ug/L	YES	
	4-Chlorophenyl phenyl ether	*	Default	1.0		<2.0	ug/L	YES	
	4-Nitrophenol	*	Default	5.0		<10.0	ug/L	YES	

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76876/003 03/07/2014 04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3224 - GW5		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
SVOC (sub)									
	Acenaphthene	*	Default	1.0		<2.0	ug/L	YES	
	Acenaphthylene	*	Default	1.0		<2.0	ug/L	YES	
	Anthracene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(a)anthracene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(a)pyrene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(b)fluoranthene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(g,h,i)perylene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(k)fluoranthene	*	Default	1.0		<2.0	ug/L	YES	
	Benzyl Butyl Phthalate	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-chloroethoxy)methane	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-chloroethyl)ether	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-chloroisopropyl)ether	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-ethylhexyl)phthalate	*	Default	5.0		<10.0	ug/L	YES	
	Chrysene	*	Default	1.0		<2.0	ug/L	YES	
	Dibenz(a,h)anthracene	*	Default	1.0		<2.0	ug/L	YES	
	Dibenzofuran	*	Default	1.0		<2.0	ug/L	YES	
	Diethylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	Dimethylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	di-n-Butylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	Di-n-octylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	Diphenylamine	*	Default	1.0		<2.0	ug/L	YES	
	Fluoranthene	*	Default	1.0		<2.0	ug/L	YES	
	Fluorene	*	Default	1.0		<2.0	ug/L	YES	
	Hexachlorobenzene	*	Default	1.0		<2.0	ug/L	YES	
	Hexachlorobutadiene	*	Default	1.0		<1.0	ug/L	YES	
	Hexachloroethane	*	Default	1.0		<1.0	ug/L	YES	
	Indeno(1,2,3-c,d)pyrene	*	Default	1.0		<2.0	ug/L	YES	
	Isophorone	*	Default	1.0		<2.0	ug/L	YES	
	Naphthalene	*	Default	2.0		<2.0	ug/L	YES	
	Nitrobenzene	*	Default	1.0		<1.0	ug/L	YES	
	n-Nitrosodi-n-propylamine	*	Default	1.0		<2.0	ug/L	YES	
	Pentachlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	Phenanthrene	*	Default	1.0		<2.0	ug/L	YES	
	Phenol	*	Default	1.0		<2.0	ug/L	YES	
	Pyrene	*	Default	1.0		<2.0	ug/L	YES	
Total Cyanide High (Sub)									
	Total Cyanide High	*	Default	10		<10	ug/L	YES	

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ISO 17025 INAB ACCREDITED TESTING DETAILED IN SCOPE REG NO. 111T

Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76876/003 03/07/2014 04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3224 - GW5		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
Total Cyanide High (Sub)									
VOC Full Suite									
	Epichlorohydrin		EO025	0.1		<0.1	ug/L		
	Total THM (Calc)		EO025	5.0		<5.0	ug/L		
	Dichlorodifluoromethane		EO025	10.0		<10.0	ug/L		
	Chloromethane		EO025	0.5		<0.5	ug/L		
	Ethyl Chloride/Chloroethane		EO025	0.5		<0.5	ug/L		
	Vinyl Chloride		EO025	0.1		<0.1	ug/L		
	Bromomethane		EO025	0.5		<0.5	ug/L	INAB	
	Trichloromonofluoromethane		EO025	0.5		<0.5	ug/L		
	Ethyl Ether/Diethyl Ether		EO025	0.5		<0.5	ug/L	INAB	
	11 Dichloroethene		EO025	0.5		<0.5	ug/L	INAB	
	Acetone		EO025	2.0		<2.0	ug/L		
	Iodomethane/Methyl Iodide		EO025	0.5		<0.5	ug/L	INAB	
	Carbon Disulphide		EO025	0.5		<0.5	ug/L	INAB	
	Allyl Chloride		EO025	0.5		<0.5	ug/L	INAB	
	Dichloromethane		EO025	5.0		<5.0	ug/L	INAB	
	Chlormethyl Cyanide/Chloroacetonitrile		EO025	0.5		<0.5	ug/L	INAB	
	Nitrobenzene		EO025	0.5		<0.5	ug/L		
	Propanenitrile		EO025	10		<10	ug/L		
	Hexachlorobutadiene		EO025	0.5		<0.5	ug/L	INAB	
	Trans-1,2 Dichloroethene		EO025	0.5		<0.5	ug/L	INAB	
	MtBE		EO025	0.5		<0.5	ug/L	INAB	
	1,1-dichloroethane		EO025	0.5		<0.5	ug/L	INAB	
	2,2-dichloropropane		EO025	0.5		<0.5	ug/L	INAB	
	cis-12 Dichloroethene		EO025	0.5		<0.5	ug/L	INAB	
	2-Butanone		EO025	5.0		<5.0	ug/L		
	Methyl Acrylate		EO025	0.5		<0.5	ug/L	INAB	
	Bromochloromethane		EO025	0.5		<0.5	ug/L	INAB	
	Methacrylonitrile		EO025	5.0		<5.0	ug/L		
	Tetrahydrofuran		EO025	0.5		<0.5	ug/L	INAB	
	Chloroform		EO025	1.0		<1.0	ug/L	INAB	
	1,1,1-trichloroethane		EO025	0.5		<0.5	ug/L	INAB	
	1-Chlorobutane		EO025	0.5		<0.5	ug/L	INAB	
	Carbon Tetrachloride		EO025	0.5		<0.5	ug/L	INAB	
	11 Dichloropropene		EO025	0.5		<0.5	ug/L	INAB	
	Benzene		EO025	0.1		<0.1	ug/L	INAB	
	1,2 dicloroethane		EO025	0.1		<0.1	ug/L	INAB	

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Technical Manager (or Deputy): **Brendan Murray**

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number**	76876/003
		Date of Receipt	03/07/2014
		Date Started	04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3224 - GW5		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
VOC Full Suite									
	Trichloroethene		EO025	0.1		<0.1	ug/L	INAB	
	1,2-dichloropropane		EO025	0.5		<0.5	ug/L	INAB	
	Dibromomethane		EO025	0.5		<0.5	ug/L	INAB	
	Methyl Methacrylate		EO025	0.5		<0.5	ug/L	INAB	
	Bromodichloromethane		EO025	2.0		<2.0	ug/L	INAB	
	13 Dichloropropene,cis		EO025	2.0		<2.0	ug/L	INAB	
	MIBK/4 Methyl 2 Pentanone		EO025	2.0		<2.0	ug/L	INAB	
	Toluene		EO025	0.5		<0.5	ug/L	INAB	
	13 Dichloropropene,trans		EO025	2.0		<2.0	ug/L	INAB	
	Ethyl Methacrylate		EO025	2.0		<2.0	ug/L	INAB	
	112 Trichloroethane		EO025	0.5		<0.5	ug/L	INAB	
	Tetrachloroethene		EO025	0.1		<0.1	ug/L	INAB	
	1,3-dichloropropane		EO025	0.5		<0.5	ug/L	INAB	
	2-Hexanone		EO025	1.0		<1.0	ug/L	INAB	
	Dibromochloromethane		EO025	1.0		<1.0	ug/L	INAB	
	1,2-dibromoethane		EO025	0.5		<0.5	ug/L	INAB	
	Chlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,1,1,2-tetrachloroethane		EO025	2.0		<2.0	ug/L	INAB	
	Ethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Xylene P&M		EO025	0.5		<0.5	ug/L	INAB	
	Xylene -o		EO025	0.5		<0.5	ug/L	INAB	
	Styrene		EO025	2.0		<2.0	ug/L	INAB	
	Bromoform		EO025	1.0		<1.0	ug/L	INAB	
	Isopropylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Bromobenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,1,2,2-tetrachloroethane		EO025	0.5		<0.5	ug/L	INAB	
	1,2,3-trichloropropane		EO025	2.0		<2.0	ug/L	INAB	
	Trans 14 Dichloro 2 Butene, tran		EO025	2.0		<2.0	ug/L		
	Propylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	2-chlorotoluene		EO025	0.5		<0.5	ug/L	INAB	
	4-chlorotoluene		EO025	0.5		<0.5	ug/L	INAB	
	1,3,5-trimethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Tert Butyl Benzene		EO025	0.5		<0.5	ug/L	INAB	
	1,2,4-trimethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	sec-butylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,3-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	P Isopropyltoluene		EO025	0.5		<0.5	ug/L	INAB	

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number**	76876/003
		Date of Receipt	03/07/2014
		Date Started	04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3224 - GW5		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
VOC Full Suite									
	1,4-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,2-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	N Butyl Benzene		EO025	0.5		<0.5	ug/L	INAB	
	Hexachloroethane		EO025	5.0		<5.0	ug/L	INAB	
	1,2-dibromo-3-chloropropane		EO025	2.0		<2.0	ug/L	INAB	
	1,2,4-trichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	Naphthalene		EO025	2.0		<2.0	ug/L		
	1,2,3-trichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76876/004 03/07/2014 04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3225 - GW6		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
AQ2-UP2									
	Sulphate		EW154M-1	1.0		41.9	mg/L	INAB	
Metals-Dissolved									
	Manganese-Dissolved		EM130	1.0		79.3	ug/L	INAB	
	Cadmium-Dissolved		EM130	0.1		<0.1	ug/L	INAB	
	Copper-Dissolved		EM130	0.003		0.008	mg/L	INAB	
	Lead-Dissolved		EM130	0.3		<0.3	ug/L	INAB	
	Magnesium-Dissolved		EM130	0.3		4.1	mg/L	INAB	
	Nickel-Dissolved		EM130	0.5		2.3	ug/L	INAB	
	Zinc-Dissolved		EM130	1.0		166.8	ug/L	INAB	
	Mercury-Dissolved		EM130	0.02		0.05	ug/L	INAB	
	Potassium-Dissolved		EM130	0.2		3.5	mg/L	INAB	
Metals-Total									
	Chromium-Total		EM130	1.0		26.5	ug/L		
PhenolsTotal -Index (Sub1)									
	Phenols-Total	*	Default	0.15		<0.15	mg/L	YES	
SVOC (sub)									
	1,2,4-Trichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	1,2-Dichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	1,3-Dichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	1,4-Dichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	2,4,5-Trichlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4,6-Trichlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4-Dichlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4-Dimethylphenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4-Dinitrotoluene	*	Default	1.0		<2.0	ug/L	YES	
	2,6-Dinitrotoluene	*	Default	1.0		<2.0	ug/L	YES	
	2-Chloronaphthalene	*	Default	1.0		<2.0	ug/L	YES	
	2-Chlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2-Methylnaphthalene	*	Default	1.0		<2.0	ug/L	YES	
	2-Methylphenol	*	Default	1.0		<2.0	ug/L	YES	
	2-Nitrophenol	*	Default	1.0		<2.0	ug/L	YES	
	3&4-Methylphenol	*	Default	1.0		<2.0	ug/L	YES	
	4-Bromophenyl Phenyl Ether	*	Default	1.0		<2.0	ug/L	YES	
	4-Chloro-3-methylphenol	*	Default	1.0		<2.0	ug/L	YES	
	4-Chlorophenyl phenyl ether	*	Default	1.0		<2.0	ug/L	YES	
	4-Nitrophenol	*	Default	5.0		<10.0	ug/L	YES	

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76876/004 03/07/2014 04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3225 - GW6		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
SVOC (sub)									
	Acenaphthene	*	Default	1.0		<2.0	ug/L	YES	
	Acenaphthylene	*	Default	1.0		<2.0	ug/L	YES	
	Anthracene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(a)anthracene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(a)pyrene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(b)fluoranthene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(g,h,i)perylene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(k)fluoranthene	*	Default	1.0		<2.0	ug/L	YES	
	Benzyl Butyl Phthalate	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-chloroethoxy)methane	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-chloroethyl)ether	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-chloroisopropyl)ether	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-ethylhexyl)phthalate	*	Default	5.0		<10.0	ug/L	YES	
	Chrysene	*	Default	1.0		<2.0	ug/L	YES	
	Dibenz(a,h)anthracene	*	Default	1.0		<2.0	ug/L	YES	
	Dibenzofuran	*	Default	1.0		<2.0	ug/L	YES	
	Diethylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	Dimethylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	di-n-Butylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	Di-n-octylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	Diphenylamine	*	Default	1.0		<2.0	ug/L	YES	
	Fluoranthene	*	Default	1.0		<2.0	ug/L	YES	
	Fluorene	*	Default	1.0		<2.0	ug/L	YES	
	Hexachlorobenzene	*	Default	1.0		<2.0	ug/L	YES	
	Hexachlorobutadiene	*	Default	1.0		<1.0	ug/L	YES	
	Hexachloroethane	*	Default	1.0		<1.0	ug/L	YES	
	Indeno(1,2,3-c,d)pyrene	*	Default	1.0		<2.0	ug/L	YES	
	Isophorone	*	Default	1.0		<2.0	ug/L	YES	
	Naphthalene	*	Default	2.0		<2.0	ug/L	YES	
	Nitrobenzene	*	Default	1.0		<1.0	ug/L	YES	
	n-Nitrosodi-n-propylamine	*	Default	1.0		<2.0	ug/L	YES	
	Pentachlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	Phenanthrene	*	Default	1.0		<2.0	ug/L	YES	
	Phenol	*	Default	1.0		<2.0	ug/L	YES	
	Pyrene	*	Default	1.0		<2.0	ug/L	YES	
Total Cyanide High (Sub)									
	Total Cyanide High	*	Default	10		<10	ug/L	YES	

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76876/004 03/07/2014 04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3225 - GW6		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
Total Cyanide High (Sub)									
VOC Full Suite									
	Epichlorohydrin		EO025	0.1		0.2	ug/L		
	Total THM (Calc)		EO025	5.0		<5.0	ug/L		
	Dichlorodifluoromethane		EO025	10.0		<10.0	ug/L		
	Chloromethane		EO025	0.5		0.8	ug/L		
	Ethyl Chloride/Chloroethane		EO025	0.5		<0.5	ug/L		
	Vinyl Chloride		EO025	0.1		<0.1	ug/L		
	Bromomethane		EO025	0.5		<0.5	ug/L	INAB	
	Trichloromonofluoromethane		EO025	0.5		<0.5	ug/L		
	Ethyl Ether/Diethyl Ether		EO025	0.5		<0.5	ug/L	INAB	
	11 Dichloroethene		EO025	0.5		<0.5	ug/L	INAB	
	Acetone		EO025	2.0		<2.0	ug/L		
	Iodomethane/Methyl Iodide		EO025	0.5		<0.5	ug/L	INAB	
	Carbon Disulphide		EO025	0.5		<0.5	ug/L	INAB	
	Allyl Chloride		EO025	0.5		<0.5	ug/L	INAB	
	Dichloromethane		EO025	5.0		<5.0	ug/L	INAB	
	Chlormethyl Cyanide/Chloroacetonitrile		EO025	0.5		<0.5	ug/L	INAB	
	Nitrobenzene		EO025	0.5		<0.5	ug/L		
	Propanenitrile		EO025	10		<10	ug/L		
	Hexachlorobutadiene		EO025	0.5		<0.5	ug/L	INAB	
	Trans-1,2 Dichloroethene		EO025	0.5		<0.5	ug/L	INAB	
	MtBE		EO025	0.5		<0.5	ug/L	INAB	
	1,1-dichloroethane		EO025	0.5		<0.5	ug/L	INAB	
	2,2-dichloropropane		EO025	0.5		<0.5	ug/L	INAB	
	cis-12 Dichloroethene		EO025	0.5		<0.5	ug/L	INAB	
	2-Butanone		EO025	5.0		<5.0	ug/L		
	Methyl Acrylate		EO025	0.5		<0.5	ug/L	INAB	
	Bromochloromethane		EO025	0.5		<0.5	ug/L	INAB	
	Methacrylonitrile		EO025	5.0		<5.0	ug/L		
	Tetrahydrofuran		EO025	0.5		<0.5	ug/L	INAB	
	Chloroform		EO025	1.0		<1.0	ug/L	INAB	
	1,1,1-trichloroethane		EO025	0.5		<0.5	ug/L	INAB	
	1-Chlorobutane		EO025	0.5		<0.5	ug/L	INAB	
	Carbon Tetrachloride		EO025	0.5		<0.5	ug/L	INAB	
	11 Dichloropropene		EO025	0.5		<0.5	ug/L	INAB	
	Benzene		EO025	0.1		<0.1	ug/L	INAB	
	1,2 dicloroethane		EO025	0.1		<0.1	ug/L	INAB	

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76876/004 03/07/2014 04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3225 - GW6		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
VOC Full Suite									
	Trichloroethene		EO025	0.1		<0.1	ug/L	INAB	
	1,2-dichloropropane		EO025	0.5		<0.5	ug/L	INAB	
	Dibromomethane		EO025	0.5		<0.5	ug/L	INAB	
	Methyl Methacrylate		EO025	0.5		<0.5	ug/L	INAB	
	Bromodichloromethane		EO025	2.0		<2.0	ug/L	INAB	
	13 Dichloropropene,cis		EO025	2.0		<2.0	ug/L	INAB	
	MIBK/4 Methyl 2 Pentanone		EO025	2.0		<2.0	ug/L	INAB	
	Toluene		EO025	0.5		<0.5	ug/L	INAB	
	13 Dichloropropene,trans		EO025	2.0		<2.0	ug/L	INAB	
	Ethyl Methacrylate		EO025	2.0		<2.0	ug/L	INAB	
	112 Trichloroethane		EO025	0.5		<0.5	ug/L	INAB	
	Tetrachloroethene		EO025	0.1		<0.1	ug/L	INAB	
	1,3-dichloropropane		EO025	0.5		<0.5	ug/L	INAB	
	2-Hexanone		EO025	1.0		<1.0	ug/L	INAB	
	Dibromochloromethane		EO025	1.0		<1.0	ug/L	INAB	
	1,2-dibromoethane		EO025	0.5		<0.5	ug/L	INAB	
	Chlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,1,1,2-tetrachloroethane		EO025	2.0		<2.0	ug/L	INAB	
	Ethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Xylene P&M		EO025	0.5		<0.5	ug/L	INAB	
	Xylene -o		EO025	0.5		<0.5	ug/L	INAB	
	Styrene		EO025	2.0		<2.0	ug/L	INAB	
	Bromoform		EO025	1.0		<1.0	ug/L	INAB	
	Isopropylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Bromobenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,1,2,2-tetrachloroethane		EO025	0.5		<0.5	ug/L	INAB	
	1,2,3-trichloropropane		EO025	2.0		<2.0	ug/L	INAB	
	Trans 14 Dichloro 2 Butene, tran		EO025	2.0		<2.0	ug/L		
	Propylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	2-chlorotoluene		EO025	0.5		<0.5	ug/L	INAB	
	4-chlorotoluene		EO025	0.5		<0.5	ug/L	INAB	
	1,3,5-trimethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Tert Butyl Benzene		EO025	0.5		<0.5	ug/L	INAB	
	1,2,4-trimethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	sec-butylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,3-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	P Isopropyltoluene		EO025	0.5		<0.5	ug/L	INAB	

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number**	76876/004
		Date of Receipt	03/07/2014
		Date Started	04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3225 - GW6		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
VOC Full Suite									
	1,4-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,2-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	N Butyl Benzene		EO025	0.5		<0.5	ug/L	INAB	
	Hexachloroethane		EO025	5.0		<5.0	ug/L	INAB	
	1,2-dibromo-3-chloropropane		EO025	2.0		<2.0	ug/L	INAB	
	1,2,4-trichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	Naphthalene		EO025	2.0		<2.0	ug/L		
	1,2,3-trichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76876/005 03/07/2014 04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3226 - GW7		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
AQ2-UP2									
	Sulphate		EW154M-1	1.0		4.7	mg/L	INAB	
Metals-Dissolved									
	Manganese-Dissolved		EM130	1.0		411.6	ug/L	INAB	
	Cadmium-Dissolved		EM130	0.1		<0.1	ug/L	INAB	
	Copper-Dissolved		EM130	0.003		<0.003	mg/L	INAB	
	Lead-Dissolved		EM130	0.3		<0.3	ug/L	INAB	
	Magnesium-Dissolved		EM130	0.3		9.9	mg/L	INAB	
	Nickel-Dissolved		EM130	0.5		2.9	ug/L	INAB	
	Zinc-Dissolved		EM130	1.0		<1.0	ug/L	INAB	
	Mercury-Dissolved		EM130	0.02		0.04	ug/L	INAB	
	Potassium-Dissolved		EM130	0.2		3.1	mg/L	INAB	
Metals-Total									
	Chromium-Total		EM130	1.0		11.5	ug/L		
PhenolsTotal -Index (Sub1)									
	Phenols-Total	*	Default	0.15		<0.15	mg/L	YES	
SVOC (sub)									
	1,2,4-Trichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	1,2-Dichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	1,3-Dichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	1,4-Dichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	2,4,5-Trichlorophenol	*	Default	1.0		<1.0	ug/L	YES	
	2,4,6-Trichlorophenol	*	Default	1.0		<1.0	ug/L	YES	
	2,4-Dichlorophenol	*	Default	1.0		<1.0	ug/L	YES	
	2,4-Dimethylphenol	*	Default	1.0		<1.0	ug/L	YES	
	2,4-Dinitrotoluene	*	Default	1.0		<1.0	ug/L	YES	
	2,6-Dinitrotoluene	*	Default	1.0		<1.0	ug/L	YES	
	2-Chloronaphthalene	*	Default	1.0		<1.0	ug/L	YES	
	2-Chlorophenol	*	Default	1.0		<1.0	ug/L	YES	
	2-Methylnaphthalene	*	Default	1.0		<1.0	ug/L	YES	
	2-Methylphenol	*	Default	1.0		<1.0	ug/L	YES	
	2-Nitrophenol	*	Default	1.0		<1.0	ug/L	YES	
	3&4-Methylphenol	*	Default	1.0		<1.0	ug/L	YES	
	4-Bromophenyl Phenyl Ether	*	Default	1.0		<1.0	ug/L	YES	
	4-Chloro-3-methylphenol	*	Default	1.0		<1.0	ug/L	YES	
	4-Chlorophenyl phenyl ether	*	Default	1.0		<1.0	ug/L	YES	
	4-Nitrophenol	*	Default	5.0		<5.0	ug/L	YES	

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76876/005 03/07/2014 04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3226 - GW7		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
SVOC (sub)									
	Acenaphthene	*	Default	1.0		<1.0	ug/L	YES	
	Acenaphthylene	*	Default	1.0		<1.0	ug/L	YES	
	Anthracene	*	Default	1.0		<1.0	ug/L	YES	
	Benzo(a)anthracene	*	Default	1.0		<1.0	ug/L	YES	
	Benzo(a)pyrene	*	Default	1.0		<1.0	ug/L	YES	
	Benzo(b)fluoranthene	*	Default	1.0		<1.0	ug/L	YES	
	Benzo(g,h,i)perylene	*	Default	1.0		<1.0	ug/L	YES	
	Benzo(k)fluoranthene	*	Default	1.0		<1.0	ug/L	YES	
	Benzyl Butyl Phthalate	*	Default	1.0		<1.0	ug/L	YES	
	Bis(2-chloroethoxy)methane	*	Default	1.0		<1.0	ug/L	YES	
	Bis(2-chloroethyl)ether	*	Default	1.0		<1.0	ug/L	YES	
	Bis(2-chloroisopropyl)ether	*	Default	1.0		<1.0	ug/L	YES	
	Bis(2-ethylhexyl)phthalate	*	Default	5.0		<5.0	ug/L	YES	
	Chrysene	*	Default	1.0		<1.0	ug/L	YES	
	Dibenz(a,h)anthracene	*	Default	1.0		<1.0	ug/L	YES	
	Dibenzofuran	*	Default	1.0		<1.0	ug/L	YES	
	Diethylphthalate	*	Default	1.0		<1.0	ug/L	YES	
	Dimethylphthalate	*	Default	1.0		<1.0	ug/L	YES	
	di-n-Butylphthalate	*	Default	1.0		<1.0	ug/L	YES	
	Di-n-octylphthalate	*	Default	1.0		<1.0	ug/L	YES	
	Diphenylamine	*	Default	1.0		<1.0	ug/L	YES	
	Fluoranthene	*	Default	1.0		<1.0	ug/L	YES	
	Fluorene	*	Default	1.0		<1.0	ug/L	YES	
	Hexachlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	Hexachlorobutadiene	*	Default	1.0		<1.0	ug/L	YES	
	Hexachloroethane	*	Default	1.0		<1.0	ug/L	YES	
	Indeno(1,2,3-c,d)pyrene	*	Default	1.0		<1.0	ug/L	YES	
	Isophorone	*	Default	1.0		<1.0	ug/L	YES	
	Naphthalene	*	Default	2.0		<2.0	ug/L	YES	
	Nitrobenzene	*	Default	1.0		<1.0	ug/L	YES	
	n-Nitrosodi-n-propylamine	*	Default	1.0		<1.0	ug/L	YES	
	Pentachlorophenol	*	Default	1.0		<1.0	ug/L	YES	
	Phenanthrene	*	Default	1.0		<1.0	ug/L	YES	
	Phenol	*	Default	1.0		<1.0	ug/L	YES	
	Pyrene	*	Default	1.0		<1.0	ug/L	YES	
Total Cyanide High (Sub)									
	Total Cyanide High	*	Default	10		<10	ug/L	YES	

Signed : 01/08/2014

Technical Manager (or Deputy): **Brendan Murray**

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ISO 17025 INAB ACCREDITED TESTING DETAILED IN SCOPE REG NO. 111T

Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76876/005 03/07/2014 04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3226 - GW7		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
Total Cyanide High (Sub)									
VOC Full Suite									
	Epichlorohydrin		EO025	0.1		<0.1	ug/L		
	Total THM (Calc)		EO025	5.0		<5.0	ug/L		
	Dichlorodifluoromethane		EO025	10.0		<10.0	ug/L		
	Chloromethane		EO025	0.5		<0.5	ug/L		
	Ethyl Chloride/Chloroethane		EO025	0.5		<0.5	ug/L		
	Vinyl Chloride		EO025	0.1		<0.1	ug/L		
	Bromomethane		EO025	0.5		<0.5	ug/L	INAB	
	Trichloromonofluoromethane		EO025	0.5		<0.5	ug/L		
	Ethyl Ether/Diethyl Ether		EO025	0.5		<0.5	ug/L	INAB	
	11 Dichloroethene		EO025	0.5		<0.5	ug/L	INAB	
	Acetone		EO025	2.0		<2.0	ug/L		
	Iodomethane/Methyl Iodide		EO025	0.5		0.8	ug/L	INAB	
	Carbon Disulphide		EO025	0.5		<0.5	ug/L	INAB	
	Allyl Chloride		EO025	0.5		<0.5	ug/L	INAB	
	Dichloromethane		EO025	5.0		<5.0	ug/L	INAB	
	Chlormethyl Cyanide/Chloroacetonitrile		EO025	0.5		<0.5	ug/L	INAB	
	Nitrobenzene		EO025	0.5		<0.5	ug/L		
	Propanenitrile		EO025	10		<10	ug/L		
	Hexachlorobutadiene		EO025	0.5		<0.5	ug/L	INAB	
	Trans-1,2 Dichloroethene		EO025	0.5		<0.5	ug/L	INAB	
	MtBE		EO025	0.5		<0.5	ug/L	INAB	
	1,1-dichloroethane		EO025	0.5		<0.5	ug/L	INAB	
	2,2-dichloropropane		EO025	0.5		<0.5	ug/L	INAB	
	cis-12 Dichloroethene		EO025	0.5		<0.5	ug/L	INAB	
	2-Butanone		EO025	5.0		<5.0	ug/L		
	Methyl Acrylate		EO025	0.5		<0.5	ug/L	INAB	
	Bromochloromethane		EO025	0.5		<0.5	ug/L	INAB	
	Methacrylonitrile		EO025	5.0		<5.0	ug/L		
	Tetrahydrofuran		EO025	0.5		<0.5	ug/L	INAB	
	Chloroform		EO025	1.0		<1.0	ug/L	INAB	
	1,1,1-trichloroethane		EO025	0.5		<0.5	ug/L	INAB	
	1-Chlorobutane		EO025	0.5		<0.5	ug/L	INAB	
	Carbon Tetrachloride		EO025	0.5		<0.5	ug/L	INAB	
	11 Dichloropropene		EO025	0.5		<0.5	ug/L	INAB	
	Benzene		EO025	0.1		<0.1	ug/L	INAB	
	1,2 dicloroethane		EO025	0.1		<0.1	ug/L	INAB	

Signed : 01/08/2014

Technical Manager (or Deputy): **Brendan Murray**

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ISO 17025 INAB ACCREDITED TESTING DETAILED IN SCOPE REG NO. 111T

Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76876/005 03/07/2014 04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3226 - GW7		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
VOC Full Suite									
	Trichloroethene		EO025	0.1		<0.1	ug/L	INAB	
	1,2-dichloropropane		EO025	0.5		<0.5	ug/L	INAB	
	Dibromomethane		EO025	0.5		<0.5	ug/L	INAB	
	Methyl Methacrylate		EO025	0.5		<0.5	ug/L	INAB	
	Bromodichloromethane		EO025	2.0		<2.0	ug/L	INAB	
	13 Dichloropropene,cis		EO025	2.0		<2.0	ug/L	INAB	
	MIBK/4 Methyl 2 Pentanone		EO025	2.0		<2.0	ug/L	INAB	
	Toluene		EO025	0.5		1.4	ug/L	INAB	
	13 Dichloropropene,trans		EO025	2.0		<2.0	ug/L	INAB	
	Ethyl Methacrylate		EO025	2.0		<2.0	ug/L	INAB	
	112 Trichloroethane		EO025	0.5		<0.5	ug/L	INAB	
	Tetrachloroethene		EO025	0.1		<0.1	ug/L	INAB	
	1,3-dichloropropane		EO025	0.5		<0.5	ug/L	INAB	
	2-Hexanone		EO025	1.0		<1.0	ug/L	INAB	
	Dibromochloromethane		EO025	1.0		<1.0	ug/L	INAB	
	1,2-dibromoethane		EO025	0.5		<0.5	ug/L	INAB	
	Chlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,1,1,2-tetrachloroethane		EO025	2.0		<2.0	ug/L	INAB	
	Ethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Xylene P&M		EO025	0.5		0.7	ug/L	INAB	
	Xylene -o		EO025	0.5		0.7	ug/L	INAB	
	Styrene		EO025	2.0		<2.0	ug/L	INAB	
	Bromoform		EO025	1.0		<1.0	ug/L	INAB	
	Isopropylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Bromobenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,1,2,2-tetrachloroethane		EO025	0.5		<0.5	ug/L	INAB	
	1,2,3-trichloropropane		EO025	2.0		<2.0	ug/L	INAB	
	Trans 14 Dichloro 2 Butene, tran		EO025	2.0		<2.0	ug/L		
	Propylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	2-chlorotoluene		EO025	0.5		<0.5	ug/L	INAB	
	4-chlorotoluene		EO025	0.5		<0.5	ug/L	INAB	
	1,3,5-trimethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Tert Butyl Benzene		EO025	0.5		<0.5	ug/L	INAB	
	1,2,4-trimethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	sec-butylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,3-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	P Isopropyltoluene		EO025	0.5		<0.5	ug/L	INAB	

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number**	76876/005
		Date of Receipt	03/07/2014
		Date Started	04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3226 - GW7		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
VOC Full Suite									
	1,4-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,2-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	N Butyl Benzene		EO025	0.5		<0.5	ug/L	INAB	
	Hexachloroethane		EO025	5.0		<5.0	ug/L	INAB	
	1,2-dibromo-3-chloropropane		EO025	2.0		<2.0	ug/L	INAB	
	1,2,4-trichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	Naphthalene		EO025	2.0		<2.0	ug/L		
	1,2,3-trichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	

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DETAILED IN SCOPE REG NO. 111T

Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76876/006 03/07/2014 04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3229 - GW10		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
AQ2-UP2									
	Sulphate		EW154M-1	1.0		3.7	mg/L	INAB	
Metals-Dissolved									
	Manganese-Dissolved		EM130	1.0		820.5	ug/L	INAB	
	Cadmium-Dissolved		EM130	0.1		<0.1	ug/L	INAB	
	Copper-Dissolved		EM130	0.003		0.005	mg/L	INAB	
	Lead-Dissolved		EM130	0.3		0.6	ug/L	INAB	
	Magnesium-Dissolved		EM130	0.3		8.8	mg/L	INAB	
	Nickel-Dissolved		EM130	0.5		1.2	ug/L	INAB	
	Zinc-Dissolved		EM130	1.0		23.1	ug/L	INAB	
	Mercury-Dissolved		EM130	0.02		0.04	ug/L	INAB	
	Potassium-Dissolved		EM130	0.2		5.1	mg/L	INAB	
Metals-Total									
	Chromium-Total		EM130	1.0		2.2	ug/L		
PhenolsTotal -Index (Sub1)									
	Phenols-Total	*	Default	0.15		<0.15	mg/L	YES	
SVOC (sub)									
	1,2,4-Trichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	1,2-Dichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	1,3-Dichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	1,4-Dichlorobenzene	*	Default	1.0		<1.0	ug/L	YES	
	2,4,5-Trichlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4,6-Trichlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4-Dichlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4-Dimethylphenol	*	Default	1.0		<2.0	ug/L	YES	
	2,4-Dinitrotoluene	*	Default	1.0		<2.0	ug/L	YES	
	2,6-Dinitrotoluene	*	Default	1.0		<2.0	ug/L	YES	
	2-Chloronaphthalene	*	Default	1.0		<2.0	ug/L	YES	
	2-Chlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	2-Methylnaphthalene	*	Default	1.0		<2.0	ug/L	YES	
	2-Methylphenol	*	Default	1.0		<2.0	ug/L	YES	
	2-Nitrophenol	*	Default	1.0		<2.0	ug/L	YES	
	3&4-Methylphenol	*	Default	1.0		<2.0	ug/L	YES	
	4-Bromophenyl Phenyl Ether	*	Default	1.0		<2.0	ug/L	YES	
	4-Chloro-3-methylphenol	*	Default	1.0		<2.0	ug/L	YES	
	4-Chlorophenyl phenyl ether	*	Default	1.0		,2.0	ug/L	YES	
	4-Nitrophenol	*	Default	5.0		<10.0	ug/L	YES	

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Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number**	76876/006
		Date of Receipt	03/07/2014
		Date Started	04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3229 - GW10		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
SVOC (sub)									
	Acenaphthene	*	Default	1.0		<2.0	ug/L	YES	
	Acenaphthylene	*	Default	1.0		<2.0	ug/L	YES	
	Anthracene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(a)anthracene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(a)pyrene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(b)fluoranthene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(g,h,i)perylene	*	Default	1.0		<2.0	ug/L	YES	
	Benzo(k)fluoranthene	*	Default	1.0		<2.0	ug/L	YES	
	Benzyl Butyl Phthalate	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-chloroethoxy)methane	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-chloroethyl)ether	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-chloroisopropyl)ether	*	Default	1.0		<2.0	ug/L	YES	
	Bis(2-ethylhexyl)phthalate	*	Default	5.0		<10.0	ug/L	YES	
	Chrysene	*	Default	1.0		<1.0	ug/L	YES	
	Dibenz(a,h)anthracene	*	Default	1.0		<2.0	ug/L	YES	
	Dibenzofuran	*	Default	1.0		<2.0	ug/L	YES	
	Diethylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	Dimethylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	di-n-Butylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	Di-n-octylphthalate	*	Default	1.0		<2.0	ug/L	YES	
	Diphenylamine	*	Default	1.0		<2.0	ug/L	YES	
	Fluoranthene	*	Default	1.0		<2.0	ug/L	YES	
	Fluorene	*	Default	1.0		<2.0	ug/L	YES	
	Hexachlorobenzene	*	Default	1.0		<2.0	ug/L	YES	
	Hexachlorobutadiene	*	Default	1.0		<1.0	ug/L	YES	
	Hexachloroethane	*	Default	1.0		<1.0	ug/L	YES	
	Indeno(1,2,3-c,d)pyrene	*	Default	1.0		<2.0	ug/L	YES	
	Isophorone	*	Default	1.0		<2.0	ug/L	YES	
	Naphthalene	*	Default	2.0		<2.0	ug/L	YES	
	Nitrobenzene	*	Default	1.0		<1.0	ug/L	YES	
	n-Nitrosodi-n-propylamine	*	Default	1.0		<2.0	ug/L	YES	
	Pentachlorophenol	*	Default	1.0		<2.0	ug/L	YES	
	Phenanthrene	*	Default	1.0		<2.0	ug/L	YES	
	Phenol	*	Default	1.0		<2.0	ug/L	YES	
	Pyrene	*	Default	1.0		<2.0	ug/L	YES	
Total Cyanide High (Sub)									
	Total Cyanide High	*	Default	10		<10	ug/L	YES	

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ISO 17025 INAB ACCREDITED TESTING DETAILED IN SCOPE REG NO. 111T

Contact Name	Joe Ferry	**Report Number**	**76876 - 1**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76876/006 03/07/2014 04/07/2014
Tel No	074-9122787 / 9176274	**Received or Collected**	TNT
Fax No		**Condition on Receipt**	Good
Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3229 - GW10		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
Total Cyanide High (Sub)									
VOC Full Suite									
	Epichlorohydrin		EO025	0.1		0.2	ug/L		
	Total THM (Calc)		EO025	5.0		<5.0	ug/L		
	Dichlorodifluoromethane		EO025	10.0		<10.0	ug/L		
	Chloromethane		EO025	0.5		<0.5	ug/L		
	Ethyl Chloride/Chloroethane		EO025	0.5		<0.5	ug/L		
	Vinyl Chloride		EO025	0.1		<0.1	ug/L		
	Bromomethane		EO025	0.5		<0.5	ug/L	INAB	
	Trichloromonofluoromethane		EO025	0.5		<0.5	ug/L		
	Ethyl Ether/Diethyl Ether		EO025	0.5		<0.5	ug/L	INAB	
	11 Dichloroethene		EO025	0.5		<0.5	ug/L	INAB	
	Acetone		EO025	2.0		<2.0	ug/L		
	Iodomethane/Methyl Iodide		EO025	0.5		<0.5	ug/L	INAB	
	Carbon Disulphide		EO025	0.5		<0.5	ug/L	INAB	
	Allyl Chloride		EO025	0.5		<0.5	ug/L	INAB	
	Dichloromethane		EO025	5.0		<5.0	ug/L	INAB	
	Chlormethyl Cyanide/Chloroacetonitrile		EO025	0.5		<0.5	ug/L	INAB	
	Nitrobenzene		EO025	0.5		<0.5	ug/L		
	Propanenitrile		EO025	10		<10	ug/L		
	Hexachlorobutadiene		EO025	0.5		<0.5	ug/L	INAB	
	Trans-1,2 Dichloroethene		EO025	0.5		<0.5	ug/L	INAB	
	MtBE		EO025	0.5		<0.5	ug/L	INAB	
	1,1-dichloroethane		EO025	0.5		<0.5	ug/L	INAB	
	2,2-dichloropropane		EO025	0.5		<0.5	ug/L	INAB	
	cis-12 Dichloroethene		EO025	0.5		<0.5	ug/L	INAB	
	2-Butanone		EO025	5.0		<5.0	ug/L		
	Methyl Acrylate		EO025	0.5		<0.5	ug/L	INAB	
	Bromochloromethane		EO025	0.5		<0.5	ug/L	INAB	
	Methacrylonitrile		EO025	5.0		<5.0	ug/L		
	Tetrahydrofuran		EO025	0.5		<0.5	ug/L	INAB	
	Chloroform		EO025	1.0		<1.0	ug/L	INAB	
	1,1,1-trichloroethane		EO025	0.5		<0.5	ug/L	INAB	
	1-Chlorobutane		EO025	0.5		<0.5	ug/L	INAB	
	Carbon Tetrachloride		EO025	0.5		<0.5	ug/L	INAB	
	11 Dichloropropene		EO025	0.5		<0.5	ug/L	INAB	
	Benzene		EO025	0.1		<0.1	ug/L	INAB	
	1,2 dicloroethane		EO025	0.1		<0.1	ug/L	INAB	

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Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3229 - GW10		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
VOC Full Suite									
	Trichloroethene		EO025	0.1		<0.1	ug/L	INAB	
	1,2-dichloropropane		EO025	0.5		<0.5	ug/L	INAB	
	Dibromomethane		EO025	0.5		<0.5	ug/L	INAB	
	Methyl Methacrylate		EO025	0.5		<0.5	ug/L	INAB	
	Bromodichloromethane		EO025	2.0		<2.0	ug/L	INAB	
	13 Dichloropropene,cis		EO025	2.0		<2.0	ug/L	INAB	
	MIBK/4 Methyl 2 Pentanone		EO025	2.0		<2.0	ug/L	INAB	
	Toluene		EO025	0.5		<0.5	ug/L	INAB	
	13 Dichloropropene,trans		EO025	2.0		<2.0	ug/L	INAB	
	Ethyl Methacrylate		EO025	2.0		<2.0	ug/L	INAB	
	112 Trichloroethane		EO025	0.5		<0.5	ug/L	INAB	
	Tetrachloroethene		EO025	0.1		<0.1	ug/L	INAB	
	1,3-dichloropropane		EO025	0.5		<0.5	ug/L	INAB	
	2-Hexanone		EO025	1.0		<1.0	ug/L	INAB	
	Dibromochloromethane		EO025	1.0		<1.0	ug/L	INAB	
	1,2-dibromoethane		EO025	0.5		<0.5	ug/L	INAB	
	Chlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,1,1,2-tetrachloroethane		EO025	2.0		<2.0	ug/L	INAB	
	Ethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Xylene P&M		EO025	0.5		0.5	ug/L	INAB	
	Xylene -o		EO025	0.5		0.5	ug/L	INAB	
	Styrene		EO025	2.0		<2.0	ug/L	INAB	
	Bromoform		EO025	1.0		<1.0	ug/L	INAB	
	Isopropylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Bromobenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,1,2,2-tetrachloroethane		EO025	0.5		<0.5	ug/L	INAB	
	1,2,3-trichloropropane		EO025	2.0		<2.0	ug/L	INAB	
	Trans 14 Dichloro 2 Butene, tran		EO025	2.0		<2.0	ug/L		
	Propylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	2-chlorotoluene		EO025	0.5		<0.5	ug/L	INAB	
	4-chlorotoluene		EO025	0.5		<0.5	ug/L	INAB	
	1,3,5-trimethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Tert Butyl Benzene		EO025	0.5		<0.5	ug/L	INAB	
	1,2,4-trimethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	sec-butylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,3-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	P Isopropyltoluene		EO025	0.5		<0.5	ug/L	INAB	

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		Date of Receipt	03/07/2014
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Customer PO	240518780	**Date of Report**	01/08/2014
Quotation No	QN002940	**Sample Type**	Ground Waters
Customer Ref	3229 - GW10		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
VOC Full Suite									
	1,4-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,2-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	N Butyl Benzene		EO025	0.5		<0.5	ug/L	INAB	
	Hexachloroethane		EO025	5.0		<5.0	ug/L	INAB	
	1,2-dibromo-3-chloropropane		EO025	2.0		<2.0	ug/L	INAB	
	1,2,4-trichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	Naphthalene		EO025	2.0		<2.0	ug/L		
	1,2,3-trichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	

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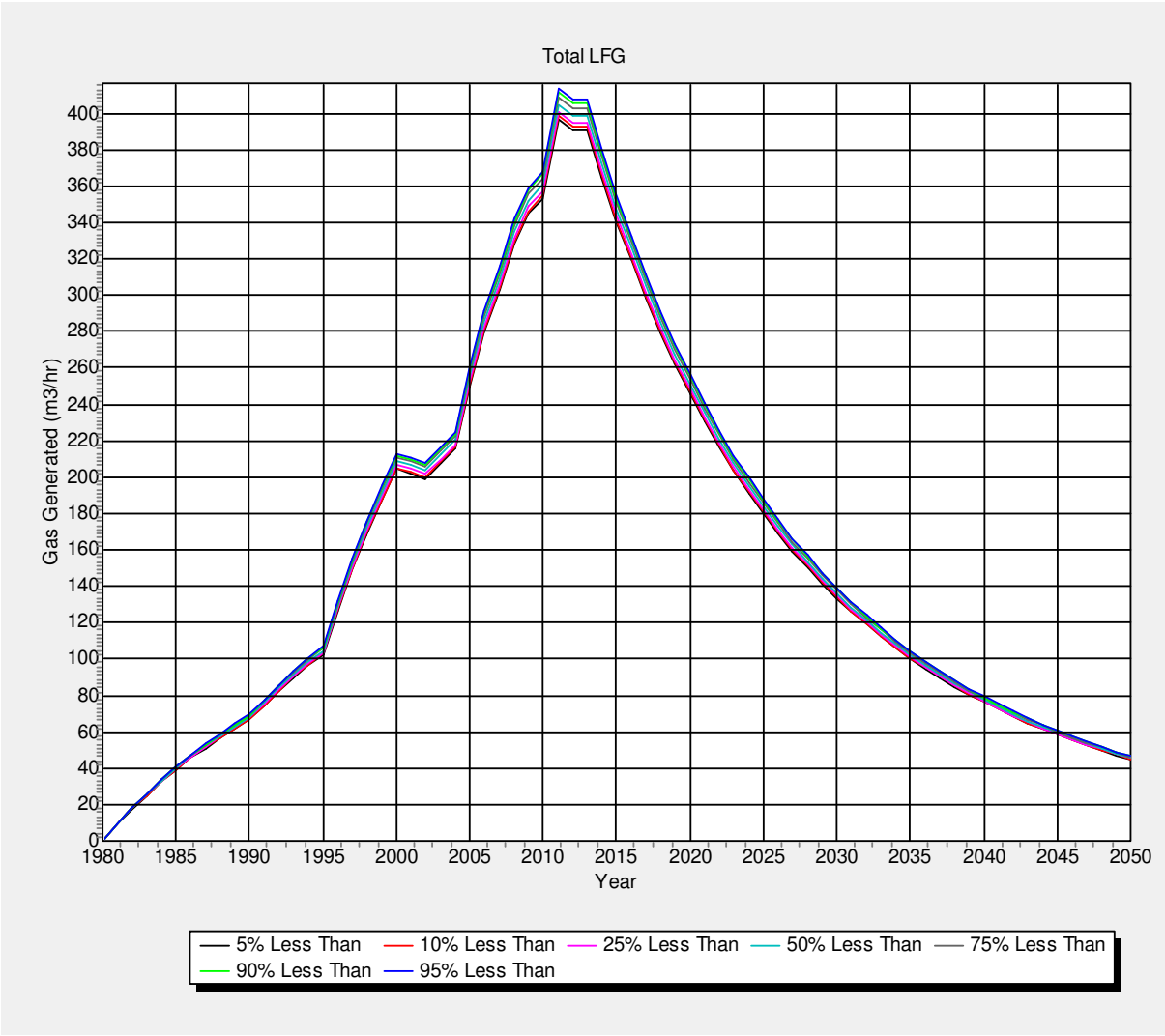
Location	Date	Methane % v/v	Carbon Dioxide % v/v	Oxygen %v/v	Atmospheric Pressure mBar
LG2	24/03/2014	59.2	32.6	0.3	994
LG4	24/03/2014	61.2	24.6	3.2	994
LG5	24/03/2014	57.3	26.1	2.1	994
LG6	24/03/2014	55.3	22.8	4.6	994
LG8	24/03/2014	0	2.2	10.3	994
LG9	24/03/2014	0	0.3	20.3	994
LG10	24/03/2014	0	0.5	20.1	994
LG11	24/03/2014	0	0.4	19.1	994
LG12	24/03/2014	0	4.1	16.4	994
LG13	24/03/2014	0	2.6	20.1	994
LG14	24/03/2014	0.2	0.5	18.9	994
LG15	24/03/2014	0	2.2	5.5	994
LG16	24/03/2014	0	4.2	19.3	994
BH at caravan	24/03/2014	0	6.2	0.9	994
Caravan (Gas)	24/03/2014	0	0	20.8	994

Location	Date	Methane % v/v	Carbon Dioxide % v/v	Oxygen %v/v	Atmospheric Pressure mBar
LG2	24/06/2014	49.5	33.2	0.9	1023
LG4	24/06/2014	55.3	28.3	2.5	1023
LG5	24/06/2014	48.2	22.3	3.1	1023
LG6	24/06/2014	50.1	26.4	3.9	1023
LG8	24/06/2014	0	2.3	12.3	1023
LG9	24/06/2014	0	0.9	20.1	1023
LG10	24/06/2014	0	1.1	19.6	1023
LG11	24/06/2014	0	2.3	18.9	1023
LG12	24/06/2014	0	4.6	17.2	1023
LG13	24/06/2014	0	3.3	20.1	1023
LG14	24/06/2014	0.1	1.2	19.2	1023
LG15	24/06/2014	0	1.8	4.3	1023
LG16	24/06/2014	0	3.6	20.1	1023
BH at caravan	24/06/2014	0	5.2	1.2	1023
Caravan (Gas)	24/06/2014	0	0	20.6	1023

Location	Date	Methane % v/v	Carbon Dioxide % v/v	Oxygen %v/v	Atmospheric Pressure mBar
LG2	16/09/2014	45.3	29.6	1.2	1000
LG4	16/09/2014	53.2	26.3	2.1	1000
LG5	16/09/2014	49.2	21.3	2.3	1000
LG6	16/09/2014	48.3	24.3	4.1	1000
LG8	16/09/2014	0	2.1	12.3	1000
LG9	16/09/2014	0	1.1	20.1	1000
LG10	16/09/2014	0	1.3	19.6	1000
LG11	16/09/2014	0	2.6	18.9	1000
LG12	16/09/2014	0	3.3	17.2	1000
LG13	16/09/2014	0	3.9	20.1	1000
LG14	16/09/2014	4.1	8.6	13.2	1000
LG15	16/09/2014	0	2.2	3.2	1000
LG16	16/09/2014	0	3.8	20.3	1000
BH at caravan	16/09/2014	0	6.3	1.9	1000
Caravan (Gas)	16/09/2014	0	0	20.8	1000

Location	Date	Methane % v/v	Carbon Dioxide % v/v	Oxygen %v/v	Atmospheric Pressure mBar
LG2	12/11/2014	40.1	30.2	2.4	972
LG4	12/11/2014	43.2	24.3	2.6	972
LG5	12/11/2014	46.1	24.3	1.9	972
LG6	12/11/2014	39.9	36.9	6.3	972
LG8	12/11/2014	0	1.1	19	972
LG9	12/11/2014	0	0.6	19	972
LG10	12/11/2014	0	0.9	20	972
LG11	12/11/2014	0	0.4	20	972
LG12	12/11/2014	0	3.9	18	972
LG13	12/11/2014	0	2.1	20	972
LG14	12/11/2014	0	0.7	21	972
LG15	12/11/2014	0	2.1	14	972
LG16	12/11/2014	0	0.6	21	972
BH at caravan	12/11/2014	0	6.8	0.3	972
Caravan (Gas)	12/11/2014	0	0	21	972

Appendix E – Gas Modelling


Total LFG
Gas Generated (m3/hr)
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
320
340
360
380
400
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

Appendix F – Biological Assessment

Report on Biological Monitoring of Surface Water at SSRS Sites – Co. Donegal

1. Methodology

Sampling was undertaken on the 4th December 2014. Samples were taken using a 3-minute 'kick' sampling method in the riffle sections of the watercourses using a standard hand net. A bank side sort involving stone washing was undertaken to ensure that any species clinging to stones were also included in the sample. Macroinvertebrates collected from each sire were stored in large white buckets and returned to the laboratory for identification. The samples were sufficiently aerated on arrival at the laboratory with small pumps and all samples were identified under the microscope within 24 hours of collection.

Specimens were identified using literature from the Freshwater Biological Association. In particular: *Guide to British Freshwater Macroinvertebrates for Biotic Assessment* (Pawley *et al*, 2012) and *Guide to Freshwater Invertebrates* (Dobson *et al*, 2012). The Biological Monitoring Working Party (BMWP) is a procedure for measuring water quality using species of macroinvertebrates as biological indicators. The method is based on the principle that different aquatic invertebrates have different tolerances to pollutants. In the case of BMWP, this is based on the sensitivity/tolerance to organic pollution. It is important to recognise that the ranking of sensitivity/tolerance will vary for different kinds of pollution. In the case of BMWP/Organic pollution rankings, the presence of mayflies or stoneflies for instance indicate the cleanest waterways and are given a tolerance score of 10. The lowest scoring invertebrates are worms (*Oligochaeta*) which score 1. The number of different macroinvertebrates is also an important factor, because a better quality water is assumed to contain fewer pollutants that would exclude "sensitive" species - resulting in a higher diversity.

The BMWP score equals the sum of the tolerance scores of all macroinvertebrate families in the sample. A higher BMWP score is considered to reflect a better water quality. Alternatively, the Average Score Per Taxon (ASPT) score is calculated. The ASPT equals the average of the tolerance scores of all macroinvertebrate families found, and ranges from 0 to 10. The main difference between both indices is that ASPT does not depend on the family richness. Table 2 shows the biological water quality based on BMWP scores.

Table 2: Water quality banding of BMWP scores

DESCRIPTION	SCORE BAND
Poor	<25
Moderate	26 - 50
Good	51 - 100
Very Good	101 - 150
Excellent	>150

2. Results

Data from the kick samples are displayed in Table 3, with the exception of the upstream Ballynacarrick site, where a sample could not be obtained. BMWP scores are listed for all sites, along with the ASPT calculations and an overall indication of water quality (based on BMWP scores). Table 4 to 19 shows extracts from the field data collected from each site.

Table 3: BMWP, ASPT and number of taxa for all 3-minute kick samples taken in November/December 2014

Site Name	BMWP	No. Taxa	ASPT	Water Quality
Ballynacarrick (u/s)	-	-	-	
Ballynacarrick (d/s)	39	7	5.6	Moderate

Table 32: Site 8 (Downstream)

Date: 04.12.14	**Stream:** Ballynacarrick DS	**Site ID: Site 8**	**DO:** 6.89mg/l
Time: 13:55	**Catchment:**	**X Coordinate:** 193276	**Temp:** 8.0℃
Investigators: OD & SF		**Y Coordinate:** 367728	

Table 33: Field observations of Macrobenthos - Site 8 (Downstream)

Common Name	Family	BMWP Score	Tick if present
Snails	*Hydrobiidae*	3	✓
Worms	*Oligochaeta*	1	✓
Crustaceans	*Gammaridae*	6	✓
Mayflies	*Baetidae*	4	✓
	Heptageniidae	10	✓
Caddisflies	*Polycentropidae*	7	✓
	Psychomidae	8	✓
		Total = 39	

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Determining BMWP Score

Date:
Site ID: **BMWP Score:** **ASPT:**

Common Name	Family	BMWP Score	If present Tick box
Flatworms	Planariidae	5	
	Dendrocoelidae	5	
Snails	Neritidae	6	
	Viviparidae	6	
	Valvatidae	3	
	Hydrobiidae	3	
	Lymnaeidae	3	
	Physidae	3	
	Planorbidae	3	
Limpets and Mussels	Ancylidae	6	
	Unionidae	6	
	Sphaeriidae	3	
Worms	Oligochaeta	1	
Leeches	Piscicolidae	4	
	Glossiphoniidae	3	
	Hirudididae	3	
	Erpobdellidae	3	
Crustaceans	Asellidae	3	
	Corophiidae	6	
	Gammaridae	6	
	Astacidae	8	
Mayflies	Siphlonuridae	10	
	Baetidae	4	
	Heptageniidae	10	
	Leptophlebiidae	10	
	Ephemerellidae	10	
	Potamanthidae	10	
	Ephemeridae	10	
	Caenidae	7	
Stoneflies	Taeniopterygidae	10	
	Nemouridae	7	
	Leuctridae	10	
	Capniidae	10	
	Perlodidae	10	
	Perlidae	10	
	Chloroperlidae	10	
Damselflies	Platycnemidae	6	
	Coenagriidae	6	
	Lestidae	8	
	Calopterygidae	8	

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Dragonflies	Gomphidae	8	
	Cordulegasteridae	8	
	Aeshnidae	8	
	Corduliidae	8	
	Libellulidae	8	
Bugs	Mesoveliidae *	5	
	Hydrometridae	5	
	Gerridae	5	
	Nepidae	5	
	Naucoridae	5	
	Aphelocheiridae	10	
	Notonectidae	5	
	Pleidae	5	
	Corixidae	5	
Beetles	Haliplidae	5	
	Hygrobiidae	5	
	Dytiscidae	5	
	Gyrinidae	5	
	Hydrophilidae	5	
	Clambidae	5	
	Scirtidae	5	
	Dryopidae	5	
	Elmidae	5	
	Chrysomelidae *	5	
	Curculionidae *	5	
Alderflies	Sialidae	4	
Caddisflies	Rhyacophilidae	7	
	Philopotamidae	8	
	Polycentropidae	7	
	Psychomyiidae	8	
	Hydropsychidae	5	
	Hydroptilidae	6	
	Phryganeidae	10	
	Limnephilidae	7	
	Molannidae	10	
	Beraeidae	10	
	Odontoceridae	10	
	Leptoceridae	10	
	Goeridae	10	
	Lepidostomatidae	10	
	Brachycentridae	10	
	Sericostomatidae	10	
True flies	Tipulidae	5	
	Chironomidae	2	
	Simuliidae	5	

Appendix G – Integrity testing

Measurement Results	Leachate Tank 1	Small Tank	
Date	Distance From Top Of Tank	Rain Fall mm / day	Observations
09/04/2014	712mm	0	Dry And Overcast
10/04/2014	712mm	7.6	Overcast Some Showers
11/04/2014	709mm	1.3	Dry And Overcast
12/04/2014	709mm	4.3	Dry And Overcast
13/04/2014	709mm	6.8	Dry And Overcast
14/04/2014	709mm	0	Dry

Measurement Results	Leachate Tank 2	(L6) Big Tank	
Date	Distance From Top Of Tank	Rain Fall mm / day	Observations
09/04/2014	905mm	0	Dry And Overcast
10/04/2014	905mm	7.6	Overcast Some Showers
11/04/2014	902mm	1.3	Dry And Overcast
12/04/2014	902mm	4.3	Dry And Overcast
13/04/2014	902mm	6.8	Dry And Overcast
14/04/2014	901mm	0	Dry

Measurement Results	Underground Tank	N/W Corner	
Date	Distance From Top Of Tank	Rain Fall mm / day	Observations
09/04/2014	502mm	0	Dry And Overcast
10/04/2014	502mm	7.6	Overcast Some Showers
11/04/2014	500mm	1.3	Dry And Overcast
12/04/2014	500mm	4.3	Dry And Overcast
13/04/2014	500mm	6.8	Dry And Overcast
14/04/2014	500mm	0	Dry

Measurement Results	Underground Tank	Northern Boundry	
Date	Distance From Top Of Tank	Rain Fall mm / day	Observations
09/04/2014	150mm	0	Dry And Overcast
10/04/2014	150mm	7.6	Overcast Some Showers
11/04/2014	150mm	1.3	Dry And Overcast
12/04/2014	150mm	4.3	Dry And Overcast
13/04/2014	150mm	6.8	Dry And Overcast
14/04/2014	150mm	0	Dry