ANNUAL ENVIRONMENTAL REPORT

For

BALBANE LANDFILL SITE
Co. Donegal

Waste Licence Reference: W0090-1

By
Donegal County Council
For
Environmental Protection Agency

Reporting Period:

January to December 2014

April 2015

Contents

Appendices

1 Introduction

1.1 This Annual Environmental Report (AER) has been prepared to meet the requirements of Condition 11.5 of Waste Licence 90-1 for Balbane Landfill Site, and includes the information listed in Schedule F of the Licence.

1.2 Balbane Landfill Site is located approximately 6.5 km north of Killybegs, in the townland of Balbane, County Donegal. The landfill covers an area of approximately 2.9 hectares. The landfill site was developed to operate on the dilute and disperse principle whereby leachate generated by rainfall was allowed to disperse into the surrounding environment.

1.3 Donegal County Council submitted an application to the Environmental Protection Agency for the continued operation of the landfill site, as required by the Waste Management (Licensing) Regulations 1997. On the 13th of November 2001 the Environmental Protection Agency granted the Council a Waste Licence (registration number 90-1) for the facility, in accordance with the Third Schedule of the Waste Management Act, 1996. The site closed in January 2004.

1.4 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	W0090-01
Name of site	Balbane Landfill Site
Site Location	Balbane, County Donegal
NACE Code	3821
Class/Classes of Activity	Landfill

2 Report Period

2.1 The report period for this Annual Environmental Report (AER) is from January to December 2014.

3 Waste Activities Carried Out at the Facility

3.1 In accordance with Condition 1 of the waste licence only those waste types and quantities of waste listed in Schedule A shall be disposed of at the facility unless the prior agreement of the Agency has been obtained. The maximum annual tonnage of individual waste types for disposal is listed in Schedule A of the Waste Licence at 7,500 tonnes from the date of grant of licence for municipal waste and 70,000 tonnes of inert material of the purpose of restoration.

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

- **Class 1:** Deposit on, in or under land (including landfill). This activity is limited to deposition of municipal and inert waste.
- **Class 4:** Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons. This activity is limited to leachate collection and treatment.
- **Class 13:** Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced. This activity is limited to leachate collection and storage prior to treatment.

3.3 The site is closed and is now secured to prevent unauthorised entry.

4 Quantity and Composition of Waste Received and Disposed of During the Reporting Period and each Previous Year

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

Table 4.1 Waste Quantities Accepted

Waste Types	1998	1999	2000	2001	2002	2003	2004
Municipal Waste (20 03 01)	3228	3716	4721	4107	5069	2790	187
Street Cleanings (20 03 03)						57	3

5 Summary Report on Emissions, Results and Interpretation of Environmental Monitoring

Environmental Monitoring Requirements

5.1 There are no continuous air, groundwater, surface water or wastewater (sewer) monitoring at Balbane landfill site. Periodic/non-continuous monitoring of groundwater, surface water, leachate, and landfill gas are carried out at the site as per Schedule D of the licence , and as agreed with the EPA, as set out in Tables A2, A3 and A4 of Appendix A.

5.2 Details of the monitoring locations are shown on Drawing Nos IBR0697-003 and IBR0697-004 and are given in Table A1 of Appendix A.

Monitoring Results

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

Groundwater

5.4 The groundwater results contained in this report were assessed against the following:

- EPA Interim guideline values[1] (IGV);
- SI No 278 of 2007 EC (Drinking water) Regulations (DWR); and
- SI No 9 of 2010 European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GWR 2010).

5.5 Groundwater locally flows in a south-easterly direction and GW1 reflects baseline conditions up-gradient of the site. GW2 & GW4 are down-gradient but in / adjacent to waste. It should be noted that BH2 is also located within waste and is considered to be a leachate well.

5.6 The GWR 2010 guideline value for ammonia is 0.175 mg/l. Elevated concentrations of ammonia are recorded up-gradient of the site in GW1 were levels of 6 mg/l N and 11 mg/l N are recorded in June and September of the monitoring period respectively, however concentrations recorded in March and December of the monitoring period are below the GWR 2010 guideline value. These results reflect the baseline conditions of the groundwater upstream of the site.

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

5.7 Elevated concentrations of ammonia were also recorded down gradient of the site in boreholes GW2 and GW4. These concentrations were consistently elevated in GW4 and ranged from 15.6 mg/l N to 25.2 mg/l N. In addition, elevated concentrations of ammonia were recorded in GW2 throughout the monitoring period ranging from 0.239 mg/l N to 30.2 mg/l N.

5.8 Up gradient of the site in GW1, the results for ammonia show that there are two elevated concentrations above the GWR 2010 guideline value in June and September of the monitoring period. In 2013, three elevated concentrations were recorded in April, September and November 2013. Although, this is an improvement in the trend of the results the elevated concentrations recorded in 2014 are higher than those recorded in 2013, ranging from 6 mg/l N to 11 mg/l N in 2014 instead of 0.19 mg/l N to 6 mg/l N. Down gradient of the site, in general both boreholes GW2 and GW4 follow the same trend with elevated concentrations of ammonia of comparable levels being recorded in GW4 throughout both 2013 and 2014. However, in borehole GW2 in December 2014 a significantly elevated concentration of ammonia of 30.2 mg/l N which is not comparable to the previous results trends has been recorded.

5.9 Slightly elevated concentrations of Potassium were recorded in borehole GW1, up gradient of the site, above the IGV guideline value for Potassium of 5 mg/l reflecting the baseline conditions. However, elevated concentrations of potassium were consistently recorded in borehole GW4, down gradient of the site, throughout the monitoring period with values ranging from 30.7 mg/l to 43.32 mg/l. Concentrations of Potassium in borehole GW2 down gradient of the site were below the IGV guideline value throughout the monitoring period.

5.10 Up gradient of the site in GW1, the results for potassium show that in 2014 compared to 2013 slightly higher concentrations of potassium were recorded in June, September and December of the monitoring period compared with no elevated concentrations of potassium recorded in 2013. Down gradient of the site, in borehole GW4 elevated concentrations of potassium of comparable levels were recorded in both 2013 and 2014. In borehole GW2, comparable concentrations of potassium were recorded throughout 2013 and 2014 apart from an elevated concentration of potassium of 8.74 mg/l which was recorded in November 2013.

5.11 No elevated concentrations of chloride were recorded up gradient of the site in borehole GW1 throughout the monitoring period. The GWR 2010 guideline value for chloride is 187.5 mg/l. An elevated concentration value of 229 mg/l for chloride was recorded in borehole GW4, down gradient of the site, in March 2014. No other elevated concentrations of chloride were recorded down gradient of the site throughout the monitoring period.

5.12 Up gradient of the site in GW1, the results for chloride show that comparable concentrations were recorded in all monitoring points throughout 2013 and 2014. Down gradient of the site, in borehole GW2 no elevated concentrations of chloride were recorded and these were of comparable values throughout 2013 and 2014. However, in borehole GW4 significantly higher and elevated concentrations of chloride are recorded in the majority of the results throughout 2013 and 2014.

5.13 The IGV guideline value for iron is 200 µg/l. An elevated concentration of iron was recorded up gradient of the site in borehole GW1 during the monitoring period. In particular, a value of 684.4 µg/l was recorded in borehole March 2014. In addition, an elevated concentration of iron was also recorded down gradient of the site in borehole GW4 where a value of 580 µg/l was recorded in September 2014.

5.14 All other parameters measured quarterly are below the GWR 2010 and IGV.

5.15 Analysis for metals and List I / II substances were undertaken during this monitoring period in Quarter 2 (June 2014), as agreed with the EPA to be undertaken every three years, and was undertaken at GW1, GW2 and GW4. Metals results recorded during this monitoring show that all substances are below the appropriate GWR 2010 and IGV values except for Manganese. Exceedances above the IGV of 50 µg/l for Manganese were recorded in boreholes GW1, GW2 and GW4 both up and down gradient of the site and these values ranged from 83.6 µg/l to 13,558.6 µg/l. The highest concentration was recorded up gradient.

5.16 It should be noted that iron and manganese occur naturally in Donegal groundwater as they are associated with naturally occurring conditions such as iron rich bedrock or the presence of reducing conditions, that is, anaerobic environment such as peat. This may therefore contribute to higher concentrations of these substances recorded in the monitoring results.

5.17 Analysis of groundwater List I / II results recorded during this period show that all results except for Epichlorohydrin were less than the limit of detection for the methodology used. The World Health Organisation (WHO) provisional guideline value for Epichlorohydrin is 0.4 µg/l and the values detected in boreholes GW1, GW2 and GW4 in this monitoring period were all below this value and ranged from 0.1 µg/l - 0.3 µg/l.[2]

5.18 The landfill site was developed to operate on the dilute and disperse principle and results show that groundwater is being impacted from leachate generated within the landfill. It should be noted that groundwater monitoring boreholes in Balbane are adjacent to /within the unlined waste body and it is expected that concentrations in groundwater have reduced

[2] 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.

further down gradient of the site. The graphs and results in appendix C also show the seasonal variation in parameter concentration at the site.

5.19 A hydrogeological risk assessment is currently being undertaken. Please refer to Section 6 for further details.

Surface Water

5.20 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).

5.21 S1 is upstream of the site, whilst S4 – S7 inclusive are downstream. S2 and S3 were relocated and relabelled at the request of the EPA.

5.22 The EQS 2009 guideline values for ammonia ranges from 0.09 mg/l N (high) to 0.14 mg/l N (good). Upstream of the site, at surface water monitoring point S1, elevated concentrations of ammonia were recorded in September and December of the monitoring period ranging from 1.59 mg/l N to 2.22 mg/l N. These results reflect the baseline conditions of the surface water upstream of the site.

5.23 Elevated concentrations, relevant to the EQS 2009 guideline values for ammonia, were recorded downstream of the site. In particular, consistently elevated concentrations of ammonia were recorded at surface water monitoring points S4 and S5 ranging between 0.18 mg/l N to 31.6 mg/l N. In addition, elevated concentrations of ammonia were also recorded in surface water monitoring points S6 and S7, apart in June 2014 when concentrations in both these locations were below the EQS guideline value. Elevated concentrations of ammonia at these locations ranged from 0.57 mg/l N to 16 mg/l N.

5.24 Up stream of the site at SW1, the trend of the results in 2014 show decreasing concentrations of ammonia from 2013. In 2013, elevated concentrations of ammonia were recorded that range from 9 mg/l N to 13 mg/l N and in 2014 these values ranged from <0.04 mg/l N to 2.22 mg/l N. Down gradient of the site, the surface water the results show reduced concentrations of ammonia in 2014 compared with the values recorded in 2013.

5.25 The EQS 2009 guideline value for BOD is 2.6 mg/l. Upstream of the site, at surface water monitoring point S1, an elevated concentration of BOD, of 7.8 mg/l, was recorded in September 2014. All other values recorded at monitoring point S1 were below the EQS

guideline value. These results reflect the baseline conditions of the surface water upstream of the site.

5.26 Elevated concentrations of BOD were recorded downstream of the site. These elevated concentrations were recorded in all downstream surface water monitoring points in September 2014 these ranged from 6.5 mg/l to 9.51 mg/l. In addition, elevated concentrations of BOD were also recorded at surface water monitoring points S4 and S7 in December 2014 with values ranging from 5.95 mg/l to 6.61 mg/l.

5.27 No elevated concentrations above the appropriate EQS values have been recorded for chloride or electrical conductivity throughout the monitoring period both upstream and downstream of the site.

5.28 All other parameters measured quarterly are below the EQS AND SWQS were comparable.

5.29 Analysis for metals in surface water were also undertaken during this monitoring period in Quarter 2 (June 2014) at S1, S4, S5, S6 and S7. Metals results recorded during this monitoring show that all substances are below the appropriate EQS and SWQS values both upstream and downstream of the site.

5.30 The restoration of this landfill has not been undertaken to date. Please refer to Section 8 for further details. Results show that surface water is being impacted from leachate generated within the landfill. It is expected that surface water contamination levels will reduce significantly when the site is restored.

5.31 As can be seen from the Graphs in Appendix C surface water concentrations for key parameter reduce downstream of the site. As with the previous period contamination levels peak during summer / drier months.

Leachate

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

Table 5.1 Raw Leachate Concentrations 2014

	Balbane 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)	10.7	11.4	<0.2	1700	491
BOD	0.88	245	4.5	>4800	>834
COD	7	25	<10	33,700	3078
Chloride (mg/l)	18	73	27	3410	1256
Iron (mg/l)	333.7	333.7	0.4	664	54.4
Potassium (mg/l)	19.5	19.5	2.7	1480	491
Sodium (mg/l)	115.1	115.1	12	3000	904
TON (mg/l N)	<0.1	<0.11	/	/	/
Conductivity (μS/cm)	82.6	1208	503	19,200	7789
pH (pH units)	6.55	7.1	6.4	8.0	7.2

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

Gas Monitoring

5.34 The gas monitoring piezometers on the site at Balbane are located within waste, and are not perimeter wells. The results (as contained in Appendix B) are indicative of methanogenic gas processes that would be occurring under anaerobic conditions. Results are similar to previous periods with levels of methane production being relatively low.

Dust Monitoring

5.35 As previously agreed with the Agency, monitoring of dust ceased when the site closed. When any activity commences, such as restoration works for example, a dust-monitoring programme will be resumed.

6 Hydrogeological Risk Assessment

6.1 A hydrogeological risk assessment is currently being undertaken for Balbane 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."

6.2 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.

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

7 Volume of Leachate Produced and Volume of Leachate Transported / Discharged Off Site

7.1 A water balance calculation has been undertaken and is presented in Appendix C. It estimates that 8,947 m^3 of leachate will have been generated from this waste body during the period. Due to a lack of collection infrastructure there is no leachate transported off site. Correspondingly it is assumed that all leachate generated disperses into the surrounding environment.

8 Report on Development Work Undertaken during the Reporting Period and a Timescale for those Proposed during the Coming Year

8.1 The restoration of this landfill has been delayed due to lack of funds available to Donegal County Council as a result of the removal of grant funding for such projects. The Council met with the Agency in November 2009 and discussed this issue. The Agency requested that the Council investigate the viability of carrying out some focused works to address leachate emissions, this being the significant environmental risk from the site. This was carried out and a proposal for leachate treatment submitted to the Agency for consideration in 1st June 2010. The Council received a response from the Agency in May 2011 citing Condition 6.4.1 of the Licence and requesting a demonstration that leachate discharges will have no significant impact on receiving waters. This remains under consideration due to the complexities associated with fulfilling this request. Since this time the Council has been investigating the viability of bio-technologies as engineering techniques to remediate landfills. A counter-proposal was outlined to the Agency on 6th November 2012 proposing recirculation of leachate through willow planted over the waste body. The Agency has requested that an SEW be prepared and submitted. The viability of routing leachate through a constructed wetland is currently being investigated in order that an SEW can be submitted. Experience that will hopefully be acquired at Churchtown LS should be of assistance in this regard. Capping works have been completed and wetlands have been constructed at Churchtown LS. Mechanical and electrical works for the wetland will be completed in 2015 and wetlands are expected to be operational thereafter.

8.2 Based on experience gained at Churchtown it now considered that the optimal solution for leachate management is an integrated constructed wetland sited immediately downstream of the site (south east) on land yet to be acquired. A scoping study currently been undertaken and funding sources being investigated with the Department.

9 Report on Restoration of Completed Cells / Phases

9.1 The Restoration and Aftercare Plan was submitted to the Agency in October 2004 and approved in November 2004.

9.2 Of Donegal County Council's six closed landfill sites Balbane was scheduled to the last to restored and will be undertaken next now that the Churchtown restoration has been completed. See also comments in Section 8 above.

10 Site Survey showing Existing Levels of the Facility at the End of the Reporting Period

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

11 Annual Water Balance Calculation and Interpretation

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

Lo = [ER (A) + LW + IRCA + ER (I)] –[aW]

Where
Lo = leachate produced (m^3)
ER = effective rainfall
A = area of cell (m^3)
LW = liquid waste
IRCA = infiltration through restored areas and capped areas (m)
a = absorptive capacity of waste (m^3/t)
W = weight of waste deposited
I = surface area of lagoons (m^2)

12 Reported Incidents and Complaints Summaries

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

12.2 A non compliance was noted on 30/09/14 during a site inspection. This was in relation to inadequate leachate management with uncontrolled release to waters. See comments in Section 7 with regards to the restoration of the facility.

13 Review of Nuisance Controls

13.1 As the facility is no longer operational, all areas formerly used for the placement of municipal waste have been covered by clay and topsoil. There has been a reduction in the incidence of nuisances resulting from this. However, precautionary measures are employed to ensure

the detection and appropriate management of any nuisances that may arise. As part of the Environmental Management System for the site a procedure has been developed to provide for regular inspections of the site as part of the quarterly monitoring programme. Should this inspection reveal the incidence of any type of nuisance (vermin, litter, dust, birds or odours) then appropriate action is initiated.

14 Report on Financial Provisions made under this License, Management and Staffing Structure of the Facility and a Programme for Public Information

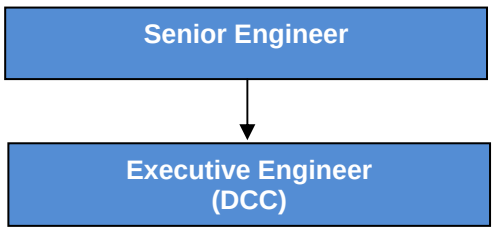
14.1 Donegal County Council being a local authority is able to provide the necessary finances to ensure the proper management, development and restoration of Balbane Landfill Site.

14.2 Overall responsibility for the ongoing operations and development of the landfill site is held by the Senior Engineer. The Senior Engineer is assisted by an Executive Engineer assigned to the Environment Section of Donegal County Council.

14.3 As part of the Environmental Management System (EMS) for the site, a communication programme (in accordance with Condition 2.8 of waste licence) is provided in Section 2 of the EMS to ensure that members of the public can obtain information concerning the environmental performance of the facility at all reasonable times.

14.4 The Management Structure at Balbane Landfill site is set out in Figure 14.1 below.

Figure 14.1 Management Structure



14.5 An Environmental Liability Risk Assessment has not been carried out at this facility as the landfill site is closed it is not a requirement of the licence.

15 Report on Staff Training

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

16 Resources and Energy Consumption Summary

16.1 An energy efficiency audit has not been carried out at this facility as the landfill site is closed it is not a requirement of the licence. No energy was consumed on the site during the reporting period.

17 Report on Environmental Management Programme

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

Appendix A - Monitoring Information

Appendix A - Monitoring Information

Table A1 Grid References of Monitoring Points

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

Note 1 – GW3 was replaced by GW4 when the landfill mass extended past the location of GW3

Note 2 – SW2 and SW3 were replaced by SW6 and SW7

Table A2 Groundwater Parameters and Monitoring Frequencies

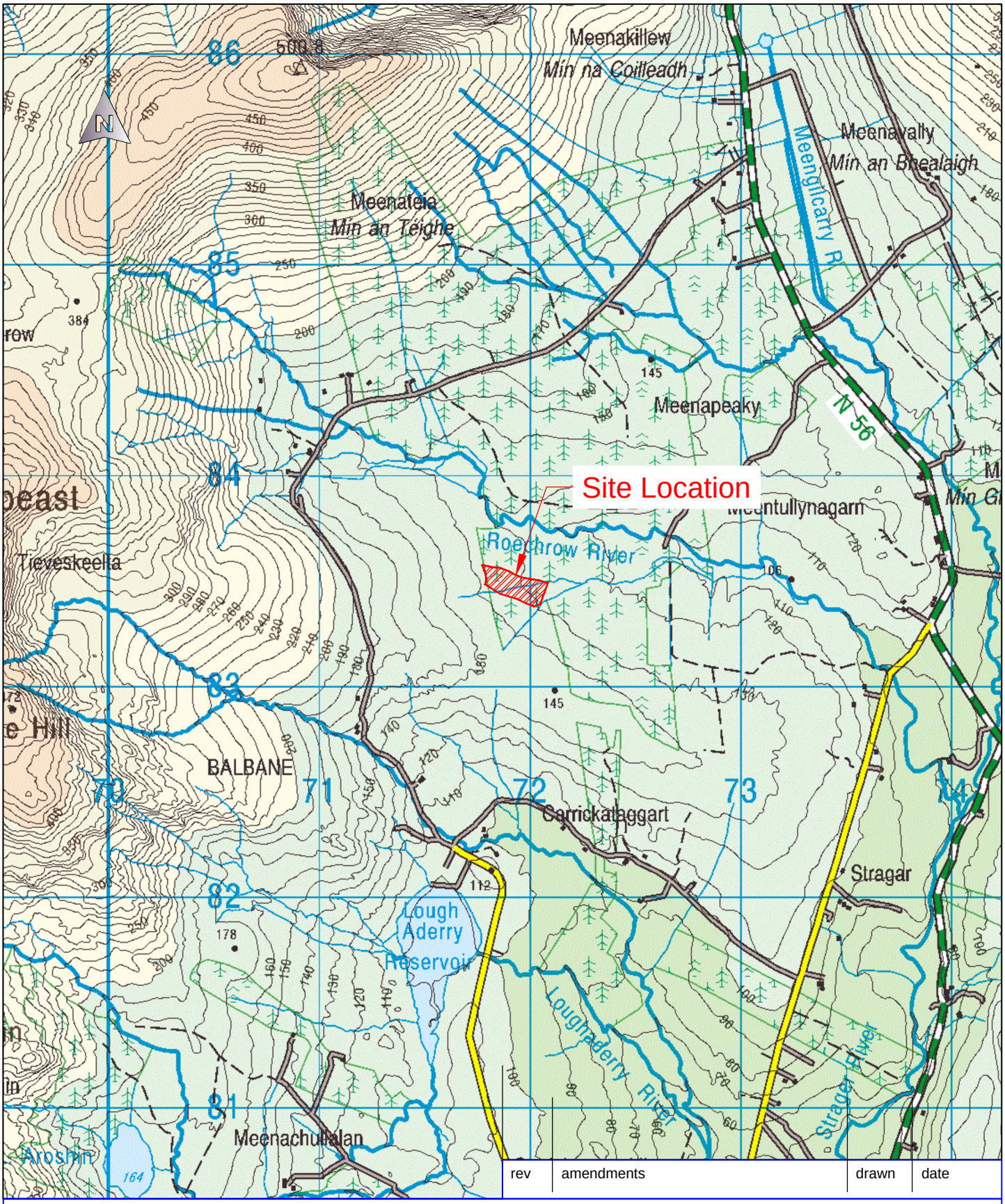
Quarterly		Every Three Year (Due 2017)	
Temperature	Chloride	Boron	Magnesium
Groundwater Level	Dissolved Oxygen	Cadmium	Manganese
	Sodium	Calcium	Mercury
	TON	Chromium	Orthophosphate
	TOC	Copper	Zinc
	Phenols	Cyanide	
	Ammoniacal Nitrogen	Fluoride	
	Electrical Conductivity	Lead	
	pH	List I/II substances	
	Iron	Sulphate	
	Potassium		

Table A3 Surface Water Parameters and Monitoring Frequencies

Quarterly		Once Every Three Year (Due 2017)	
Temperature	Chloride	Iron	Magnesium
pH	Dissolved Oxygen	Cadmium	Manganese
Ammoniacal Nitrogen	COD	Calcium	Mercury
BOD		Chromium	Orthophosphate
Electrical Conductivity		Copper	Zinc
TSS		Sodium	Potassium
		Fluoride	TON
		Lead	Sulphate
		List I/II substances	

Table A4 Landfill Gas Parameters and Monitoring Frequencies

Quarterly
Atmospheric Pressure
Carbon Dioxide
Methane
Oxygen



rev	amendments	drawn	date

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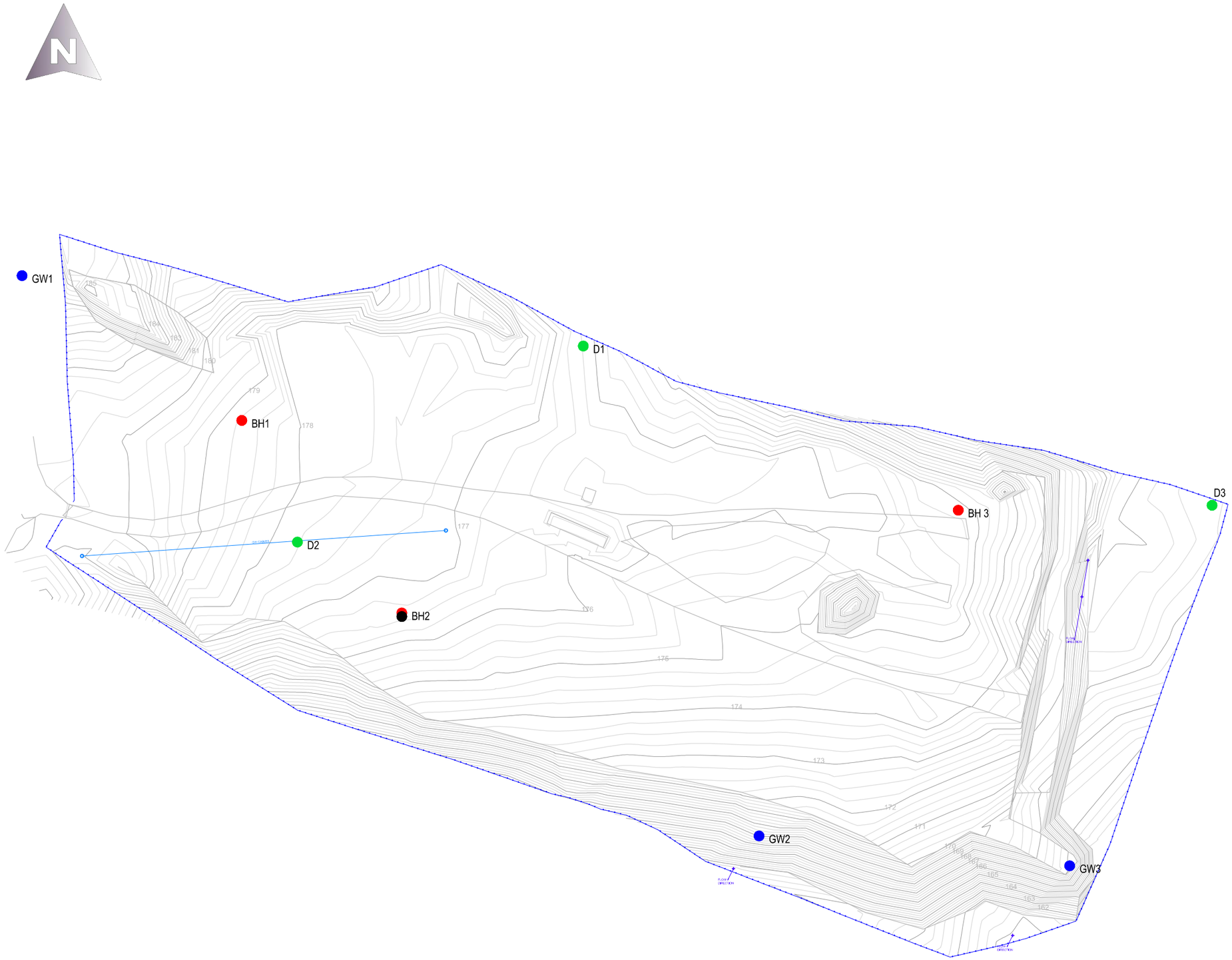
Drawing Number	Rev
IBR0697/003	0

Project	Title
Donegal Landfill Site Reporting 2015	Balbane 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:

- GW Landfill Gas Monitoring Boreholes
- D1 Dust Monitoring Point
- GW Groundwater monitoring Locations
- P Leachate Monitoring Locations

rev	amendments	drawn	date

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Project
Donegal Landfill Site Reporting 2015

Title
Balbane LFS - Monitoring Points

Drawing Status	Sheet Size	Drawing Scale
Preliminary	A3	1:1000

Drawing Number	Rev
IBR0697 /004	0

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

Appendix B - Results of Monitoring

Location		*Balbane, Killybegs, 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										142504670			
pH				6.80			6.71			6.83			6.82
Temp	C			8.8			11.5			18.4			15.0
Electrical Conductivity	uS/cm			468			548			603			604
Ammonical Nitrogen	mg/l			0.04			11.00			6.00			0.07
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l			2.50			2.98			9.30			6.09
SS	mg/l												0.001
Residue on Evaporator	mg/l						424						
Calcium	ug/l						86.5						
Cadmium	ug/l						<0.1						
Chromium	ug/l						<1						
Chloride	mg/l			15			16			18			
Chlorine	mg/l												
Copper	ug/l						<0.003						14
Cyanide	mg/l						<9						
Iron	ug/l			684.4			65.4			20.0			
Lead	ug/l						<0.3						
Magnesium	mg/l						8.4						
Manganese	ug/l						13558.6						
Mercury	ug/l						0.09						
Nickel	mg/l												
Potassium	mg/l			4.8			5.2			5.5			6.3
Sodium	mg/l			38.20			46.70			42.20			43.45
Sulphate	mg/l						18.2						
Zinc	ug/l						24.8						
Total Alkalinity as CaCO3	mg/l												
Total Organic Carbon	mg/l			8.53			8.21			10.12			9.57
Total Oxidised Nitrogen	mg/l			<0.110			<0.110			<0.100			0.070
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l						<0.02						
Fluoride	mg/l						<0.1						
Total Phenols	mg/l			<0.15			<0.15			<0.15			<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												
Phosphate - TOTAL	mg/l						<0.01						
Total Coliforms							0.066						
Facel Coliforms													
Depth	m			0.6			1.3			1.5			0.9

Location		*Balbane, Killybegs, 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	Oct-14	Nov-14	Dec-14
Lab No										142504670			
pH				6.40			6.53			6.86			6.42
Temp	C			11.8			13.4			17.4			14.0
Electrical Conductivity	uS/cm			82.6			79.0			85.8			79.0
Ammonical Nitrogen	mg/l			<0.040			0.239			1.960			30.200
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l			6.83			7.75			9.16			7.68
SS	mg/l												0.01
Residue on Evaporator	mg/l						74000						
Calcium	ug/l						4.4						
Cadmium	ug/l						<0.1						
Chromium	ug/l						<1						
Chloride	mg/l			22			14			15			
Chlorine	mg/l												
Copper	ug/l						<3						40
Cyanide	mg/l						<9						
Iron	ug/l			29.7			27.9			80.0			
Lead	ug/l						<0.3						
Magnesium	mg/l						0.9						
Manganese	ug/l						83.6						
Mercury	ug/l						0.19						
Nickel	mg/l												
Potassium	mg/l			3.90			3.10			4.40			4.97
Sodium	mg/l			11.50			10.60			5.00			7.15
Sulphate	mg/l						<1						
Zinc	ug/l						17.7						
Total Alkalinity as CaCO3	mg/l												
Total Organic Carbon	mg/l			3.38			1.30			2.37			1.37
Total Oxidised Nitrogen	mg/l			<0.110			<0.110			4.870			2.114
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l						<0.02						
Fluoride	mg/l						<0.1						
Total Phenols	mg/l			<0.15			<0.15			<0.15			<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												
Phosphate - TOTAL	mg/l						0.172						
Total Coliforms							1.11						
Facel Coliforms													
Depth	m			4.34			1.20			2.80			3.40

Location		*Balbane, Killybegs, 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										142504671			
pH				7.09			7.35			7.22			7.86
Temp	C			10.8			12.2			17.5			14.3
Electrical Conductivity	uS/cm			1719.0			1509.0			1438.0			118.7
Ammonical Nitrogen	mg/l			23.4			23.2			25.2			15.6
COD	mg/l												
BOD	mg/l												
Dissolved Oxygen	mg/l			4.65			5.33			9.01			6.90
SS	mg/l												0.007
Residue on Evaporator	mg/l						904						
Calcium	ug/l						166						
Cadmium	ug/l						<0.1						
Chromium	ug/l						<1						
Chloride	mg/l			229			188			173			
Chlorine	mg/l												
Copper	ug/l						<0.003						147
Cyanide	mg/l						<9						
Iron	ug/l			42.4			59.4			580.0			
Lead	ug/l						<0.3						
Magnesium	mg/l						19.3						
Manganese	ug/l						3932.1						
Mercury	ug/l						0.13						
Nickel	mg/l												
Potassium	mg/l			30.70			30.90			31.70			43.32
Sodium	mg/l			133.0			118.5			120.1			OR
Sulphate	mg/l						2.2						
Zinc	ug/l						8.3						
Total Alkalinity as CaCO3	mg/l												
Total Organic Carbon	mg/l			16.70			10.45			11.38			9.70
Total Oxidised Nitrogen	mg/l			<0.110			<0.110			0.050			0.252
Arsenic	mg/l												
Barium	mg/l												
Boron	ug/l						0.07						
Fluoride	mg/l						<0.1						
Total Phenols	mg/l			<0.15			<0.15			<0.15			<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												
Phosphate - TOTAL	mg/l						<0.01						
Total Coliforms							0.026						
Facel Coliforms													
Depth	m			4.0			1.5			1.2			2.9

Location		*Balbane, Killybegs, 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										142504673			
pH				5.98			7.14			7.10			6.93
Temp	**C**			10			12			19			15
Electrical Conductivity	**uS/cm**			59.6			43.3			58.9			32.7
Ammonical Nitrogen	**mg/l**			<0.04			<0.04			2.22			1.59
COD	**mg/l**			14			58			13			18
BOD	**mg/l**			0.49			<1.00			7.80			0.35
Dissolved Oxygen	**mg/l**			10.03			8.43			11.47			9.59
SS	**mg/l**			0.5			<6.0			30.8			
Residue on Evaporator	**mg/l**												
Calcium	**ug/l**						1700						
Cadmium	**ug/l**						<0.1						
Chromium	**ug/l**						<1						
Chloride	**mg/l**			20			8			15			11
Chlorine	**mg/l**												
Copper	**ug/l**						<3						
Cyanide	**mg/l**												
Iron	**ug/l**						418.2						
Lead	**ug/l**						<0.3						
Magnesium	**mg/l**						1.2						
Manganese	**ug/l**						294.2						
Mercury	**ug/l**						0.04						
Nickel	**mg/l**												
Potassium	**mg/l**						<0.2						
Sodium	**mg/l**						6.8						
Sulphate	**mg/l**						1						
Zinc	**ug/l**						8.5						
Total Alkalinity as CaCO3	**mg/l**												
Total Organic Carbon	**mg/l**												
Total Oxidised Nitrogen	**mg/l**						<0.11						
Arsenic	**mg/l**												
Barium	**mg/l**												
Boron	**ug/l**												
Fluoride	**mg/l**												
Total Phenols	**mg/l**												
Phosphorous	**mg/l**												
Selenium	**mg/l**												
Silver	**mg/l**												
Mircrotox	**Toxic Units**												
Microtox	**Toxic Units**												
Nitrite	**mg/l**												
Nitrate	**mg/l**												
Phosphate - ORTHO	**mg/l**						0.012						
Phosphate - TOTAL	**mg/l**						<0.01						
Total Coliforms													
Facel Coliforms													
Depth	**m**												

Location		*Balbane, Killybegs, 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										142504674			
pH				8.03			7.60			7.77			7.79
Temp	**C**			12.9			12.0			19.3			16.8
Electrical Conductivity	**uS/cm**			300			435			671			210
Ammonical Nitrogen	**mg/l**			3.42			31.60			2.00			0.34
COD	**mg/l**			12			220			18			17
BOD	**mg/l**			2.24			<1.00			6.50			6.61
Dissolved Oxygen	**mg/l**			10.30			8.75			11.08			10.53
SS	**mg/l**			0.3			<6.0			2.5			
Residue on Evaporator	**mg/l**												
Calcium	**ug/l**						52700						
Cadmium	**ug/l**						<0.1						
Chromium	**ug/l**						<1						
Chloride	**mg/l**			41			50			62			22
Chlorine	**mg/l**												
Copper	**ug/l**						<3						
Cyanide	**mg/l**												
Iron	**ug/l**						588.6						
Lead	**ug/l**						<0.3						
Magnesium	**mg/l**						12.8						
Manganese	**ug/l**						221.5						
Mercury	**ug/l**						0.04						
Nickel	**mg/l**												
Potassium	**mg/l**						6.6						
Sodium	**mg/l**						35.8						
Sulphate	**mg/l**						<1						
Zinc	**ug/l**						5.1						
Total Alkalinity as CaCO3	**mg/l**												
Total Organic Carbon	**mg/l**												
Total Oxidised Nitrogen	**mg/l**						3.71						
Arsenic	**mg/l**												
Barium	**mg/l**												
Boron	**ug/l**												
Fluoride	**mg/l**												
Total Phenols	**mg/l**												
Phosphorous	**mg/l**												
Selenium	**mg/l**												
Silver	**mg/l**												
Mircrotox	**Toxic Units**												
Microtox	**Toxic Units**												
Nitrite	**mg/l**												
Nitrate	**mg/l**												
Phosphate - ORTHO	**mg/l**						<0.01						
Phosphate - TOTAL	**mg/l**						<0.01						
Total Coliforms													
Facel Coliforms													
Depth	**m**												

Location		*Balbane, Killybegs, Co. Donegal*											
Sample Type		**Surface Water**											
Site No		**SW5**											
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										142504675			
pH				7.16			7.79			7.74			7.50
Temp	**C**			14.0			12.0			19.3			14.0
Electrical Conductivity	**uS/cm**			110			390			588			209
Ammonical Nitrogen	**mg/l**			0.18			2.85			9.83			0.87
COD	**mg/l**			31			200			17			17
BOD	**mg/l**			0.61			<1.00			8.31			0.71
Dissolved Oxygen	**mg/l**			10.37			8.70			11.74			10.53
SS	**mg/l**			0.0			<6.0			3.0			
Residue on Evaporator	**mg/l**												
Calcium	**ug/l**						42800						
Cadmium	**ug/l**						<0.1						
Chromium	**ug/l**						<1						
Chloride	**mg/l**			32			48			57			22
Chlorine	**mg/l**												
Copper	**ug/l**						<3						
Cyanide	**mg/l**												
Iron	**ug/l**						535.1						
Lead	**ug/l**						<0.3						
Magnesium	**mg/l**						10.9						
Manganese	**ug/l**						72.6						
Mercury	**ug/l**						0.04						
Nickel	**mg/l**												
Potassium	**mg/l**						6.4						
Sodium	**mg/l**						35.2						
Sulphate	**mg/l**						<1						
Zinc	**ug/l**						3.3						
Total Alkalinity as CaCO3	**mg/l**												
Total Organic Carbon	**mg/l**												
Total Oxidised Nitrogen	**mg/l**						3.91						
Arsenic	**mg/l**												
Barium	**mg/l**												
Boron	**ug/l**												
Fluoride	**mg/l**												
Total Phenols	**mg/l**												
Phosphorous	**mg/l**												
Selenium	**mg/l**												
Silver	**mg/l**												
Mircrotox	**Toxic Units**												
Microtox	**Toxic Units**												
Nitrite	**mg/l**												
Nitrate	**mg/l**												
Phosphate - ORTHO	**mg/l**						0.02						
Phosphate - TOTAL	**mg/l**						0.399						
Total Coliforms													
Facel Coliforms													
Depth	**m**												

Location		*Balbane, Killybegs, Co. Donegal*											
Sample Type		**Surface Water**											
Site No		**SW6**											
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										142504676			
pH				7.36			7.77			7.46			7.49
Temp	**C**			12.1			12.0			19.3			14.3
Electrical Conductivity	**uS/cm**			214			335			494			178
Ammonical Nitrogen	**mg/l**			2.06			<0.04			4.65			11.00
COD	**mg/l**			18			180			13			17
BOD	**mg/l**			1.07			<1.00			9.23			6.04
Dissolved Oxygen	**mg/l**			9.78			8.77			11.34			10.69
SS	**mg/l**			0.2			<6.00			0.25			
Residue on Evaporator	**mg/l**												
Calcium	**ug/l**						35800						
Cadmium	**ug/l**						<0.1						
Chromium	**ug/l**						<1						
Chloride	**mg/l**			33			42			55			64
Chlorine	**mg/l**												
Copper	**ug/l**						<0.003						
Cyanide	**mg/l**												
Iron	**ug/l**						463.3						
Lead	**ug/l**						<0.3						
Magnesium	**mg/l**						9.4						
Manganese	**ug/l**						44.3						
Mercury	**ug/l**						0.06						
Nickel	**mg/l**												
Potassium	**mg/l**						5.7						
Sodium	**mg/l**						31.4						
Sulphate	**mg/l**						<1						
Zinc	**ug/l**						4.9						
Total Alkalinity as CaCO3	**mg/l**												
Total Organic Carbon	**mg/l**												
Total Oxidised Nitrogen	**mg/l**						3.47						
Arsenic	**mg/l**												
Barium	**mg/l**												
Boron	**ug/l**												
Fluoride	**mg/l**												
Total Phenols	**mg/l**												
Phosphorous	**mg/l**												
Selenium	**mg/l**												
Silver	**mg/l**												
Mircrotox	**Toxic Units**												
Microtox	**Toxic Units**												
Nitrite	**mg/l**												
Nitrate	**mg/l**												
Phosphate - ORTHO	**mg/l**						<0.01						
Phosphate - TOTAL	**mg/l**						0.071						
Total Coliforms													
Facel Coliforms													
Depth	**m**												

Location		*Balbane, Killybegs, Co. Donegal*											
Sample Type		**Surface Water**											
Site No		**SW7**											
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										142504677			
pH				7.40			7.56			7.20			7.53
Temp	**C**			11.6			12.0			19.9			15.4
Electrical Conductivity	**uS/cm**			121.5			121.0			175.3			88.4
Ammonical Nitrogen	**mg/l**			0.57			<0.04			0.36			16.00
COD	**mg/l**			12			100			4			15
BOD	**mg/l**			0.56			<1.00			9.51			5.95
Dissolved Oxygen	**mg/l**			10.35			8.30			11.30			10.91
SS	**mg/l**			0.1			<6.0			0.0			
Residue on Evaporator	**mg/l**												
Calcium	**ug/l**						12200						
Cadmium	**ug/l**						<0.1						
Chromium	**ug/l**						<1						
Chloride	**mg/l**			26			16			25			38
Chlorine	**mg/l**												
Copper	**ug/l**						<0.003						
Cyanide	**mg/l**												
Iron	**ug/l**						490.4						
Lead	**ug/l**						<0.3						
Magnesium	**mg/l**						3.5						
Manganese	**ug/l**						89.7						
Mercury	**ug/l**						0.04						
Nickel	**mg/l**												
Potassium	**mg/l**						0.9						
Sodium	**mg/l**						11.5						
Sulphate	**mg/l**						1.2						
Zinc	**ug/l**						13.3						
Total Alkalinity as CaCO3	**mg/l**												
Total Organic Carbon	**mg/l**												
Total Oxidised Nitrogen	**mg/l**						0.601						
Arsenic	**mg/l**												
Barium	**mg/l**												
Boron	**ug/l**												
Fluoride	**mg/l**												
Total Phenols	**mg/l**												
Phosphorous	**mg/l**												
Selenium	**mg/l**												
Silver	**mg/l**												
Mircrotox	**Toxic Units**												
Microtox	**Toxic Units**												
Nitrite	**mg/l**												
Nitrate	**mg/l**												
Phosphate - ORTHO	**mg/l**						<0.01						
Phosphate - TOTAL	**mg/l**						<0.01						
Total Coliforms													
Facel Coliforms													
Depth	**m**												

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**	**76864 - 2**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76864/001 03/07/2014 03/07/2014
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	QN002578	**Sample Type**	Ground Waters
Customer Ref	3266 - GW2		

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	
Ion Chromatography								
Fluoride		EW137	0.1		<0.1	mg/L	INAB	
Metals-Dissolved								
Iron-Dissolved		EM130	20.0		27.9	ug/L	INAB	
Manganese-Dissolved		EM130	1.0		83.6	ug/L	INAB	
Boron-Dissolved		EM130	0.02		<0.02	mg/L	INAB	
Cadmium-Dissolved		EM130	0.1		<0.1	ug/L	INAB	
Calcium-Dissolved		EM130	1.0		4.4	mg/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		0.9	mg/L	INAB	
Zinc-Dissolved		EM130	1.0		17.7	ug/L	INAB	
Mercury-Dissolved		EM130	0.02		0.19	ug/L	INAB	
Potassium-Dissolved		EM130	0.2		3.1	mg/L	INAB	
Sodium-Dissolved		EM130	0.5		10.6	mg/L	INAB	
Metals-Total								
Chromium-Total		EM130	1.0		<1.0	ug/L		
PhenolsTotal -Index (Sub1)								
Phenols-Total	*	Default	0.15		<0.15	mg/L	YES	
Residue on Evaporation (Tot Solids-TS)								
Residue on Evaporation (Tot Solids-TS)		EW060	10.0		74.0	mg/L		
Total Cyanide High (Sub)								
Total Cyanide High	*	Default	10		<9	ug/L	YES	
VOC Full Suite								
Total THM (Calc)		EO025	5.0		<5.0	ug/L		
Epichlorohydrin		EO025	0.1		0.3	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	

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

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Contact Name	Joe Ferry	**Report Number**	**76864 - 2**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number**	76864/001
		Date of Receipt	03/07/2014
		Date Started	03/07/2014
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	QN002578	**Sample Type**	Ground Waters
Customer Ref	3266 - GW2		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
VOC Full Suite									
	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		
	Analyst QC Comment QC:Due to quality failure during this test run the following result is indicative Allyl Chloride, 123 Trichoropropane, 22 dichloropropane 76864/001-/003								
	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		
	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	
	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	

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Contact Name	Joe Ferry	**Report Number**	**76864 - 2**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number**	76864/001
		Date of Receipt	03/07/2014
		Date Started	03/07/2014
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	QN002578	**Sample Type**	Ground Waters
Customer Ref	3266 - GW2		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
VOC Full Suite									
	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		
	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	
	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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ISO 17025 INAB ACCREDITED TESTING DETAILED IN SCOPE REG NO. 111T

Contact Name	Joe Ferry	**Report Number**	**76864 - 2**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76864/002 03/07/2014 03/07/2014
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	QN002578	**Sample Type**	Ground Waters
Customer Ref	3267 - GW4		

CERTIFICATE OF ANALYSIS

TEST / ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
AQ2-UP2								
Sulphate		EW154M-1	1.0		2.2	mg/L	INAB	
Ion Chromatography								
Fluoride		EW137	0.1		<0.1	mg/L	INAB	
Metals-Dissolved								
Iron-Dissolved		EM130	20.0		59.4	ug/L	INAB	
Manganese-Dissolved		EM130	1.0		3932.1	ug/L	INAB	
Boron-Dissolved		EM130	0.02		0.07	mg/L	INAB	
Cadmium-Dissolved		EM130	0.1		<0.1	ug/L	INAB	
Calcium-Dissolved		EM130	1.0		166.0	mg/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		19.3	mg/L	INAB	
Zinc-Dissolved		EM130	1.0		8.3	ug/L	INAB	
Mercury-Dissolved		EM130	0.02		0.13	ug/L	INAB	
Potassium-Dissolved		EM130	0.2		30.9	mg/L	INAB	
Sodium-Dissolved		EM130	0.5		118.5	mg/L	INAB	
Metals-Total								
Chromium-Total		EM130	1.0		<1.0	ug/L		
PhenolsTotal -Index (Sub1)								
Phenols-Total	*	Default	0.15		<0.15	mg/L	YES	
Residue on Evaporation (Tot Solids-TS)								
Residue on Evaporation (Tot Solids-TS)		EW060	10.0		904.0	mg/L		
Total Cyanide High (Sub)								
Total Cyanide High	*	Default	10		<9	ug/L	YES	
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		

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Contact Name	Joe Ferry	**Report Number**	**76864 - 2**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number**	76864/002
		Date of Receipt	03/07/2014
		Date Started	03/07/2014
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	QN002578	**Sample Type**	Ground Waters
Customer Ref	3267 - GW4		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
VOC Full Suite									
	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		
	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		
	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	
	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	

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**	**76864 - 2**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number**	76864/002
		Date of Receipt	03/07/2014
		Date Started	03/07/2014
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	QN002578	**Sample Type**	Ground Waters
Customer Ref	3267 - GW4		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
VOC Full Suite									
	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		
	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	
	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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ISO 17025 IVNAB ACCREDITED TESTING DETAILED IN SCOPE REG NO. 111T

Contact Name	Joe Ferry	**Report Number**	**76864 - 2**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76864/003 03/07/2014 03/07/2014
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	QN002578	**Sample Type**	Ground Waters
Customer Ref	3268 - GW7		

CERTIFICATE OF ANALYSIS

TEST / ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
AQ2-UP2								
Sulphate		EW154M-1	1.0		18.2	mg/L	INAB	
Ion Chromatography								
Fluoride		EW137	0.1		<0.1	mg/L	INAB	
Metals-Dissolved								
Iron-Dissolved		EM130	20.0		65.4	ug/L	INAB	
Manganese-Dissolved		EM130	1.0		13558.6	ug/L	INAB	
Boron-Dissolved		EM130	0.02		<0.02	mg/L	INAB	
Cadmium-Dissolved		EM130	0.1		<0.1	ug/L	INAB	
Calcium-Dissolved		EM130	1.0		86.5	mg/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		8.4	mg/L	INAB	
Zinc-Dissolved		EM130	1.0		24.8	ug/L	INAB	
Mercury-Dissolved		EM130	0.02		0.09	ug/L	INAB	
Potassium-Dissolved		EM130	0.2		5.2	mg/L	INAB	
Sodium-Dissolved		EM130	0.5		46.7	mg/L	INAB	
PhenolsTotal -Index (Sub1)								
Phenols-Total	*	Default	0.15		<0.15	mg/L	YES	
Residue on Evaporation (Tot Solids-TS)								
Residue on Evaporation (Tot Solids-TS)		EW060	10.0		424.0	mg/L		
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	

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Contact Name	Joe Ferry	**Report Number**	**76864 - 2**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number**	76864/003
		Date of Receipt	03/07/2014
		Date Started	03/07/2014
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	QN002578	**Sample Type**	Ground Waters
Customer Ref	3268 - GW7		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
SVOC (sub)									
	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	
	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	

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

Contact Name	Joe Ferry	**Report Number**	**76864 - 2**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number** **Date of Receipt** **Date Started**	76864/003 03/07/2014 03/07/2014
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	QN002578	**Sample Type**	Ground Waters
Customer Ref	3268 - GW7		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
SVOC (sub)									
	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		<9	ug/L	YES	
VOC Full Suite									
	Epichlorohydrin		EO025	0.1		0.3	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		
	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		
	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	

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

Contact Name	Joe Ferry	**Report Number**	**76864 - 2**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number**	76864/003
		Date of Receipt	03/07/2014
		Date Started	03/07/2014
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	QN002578	**Sample Type**	Ground Waters
Customer Ref	3268 - GW7		

CERTIFICATE OF ANALYSIS

TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
VOC Full Suite									
	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	
	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		
	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	

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

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Contact Name	Joe Ferry	**Report Number**	**76864 - 2**
Address	Donegal County Council Donegal County Council Central Laboratory.	**Sample Number**	76864/003
		Date of Receipt	03/07/2014
		Date Started	03/07/2014
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	QN002578	**Sample Type**	Ground Waters
Customer Ref	3268 - GW7		

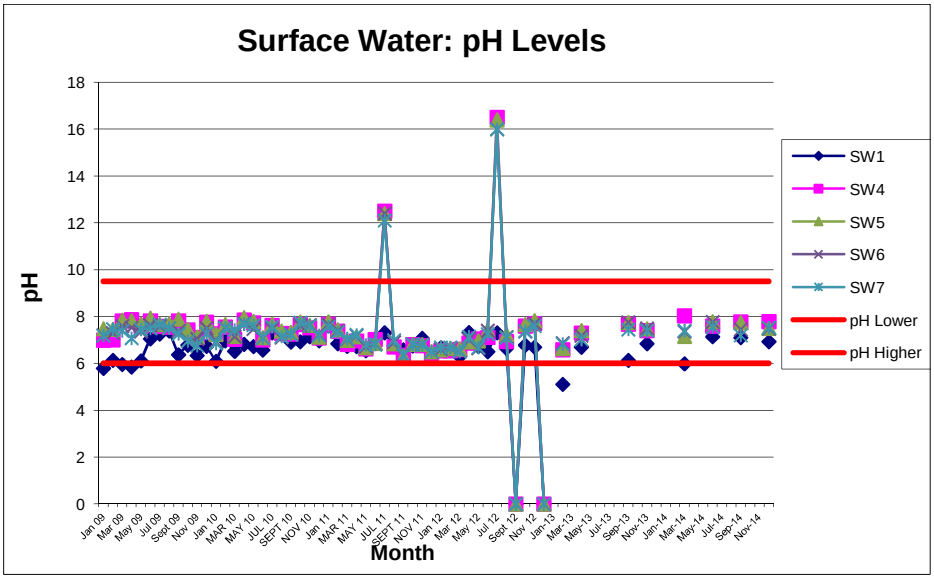
CERTIFICATE OF ANALYSIS

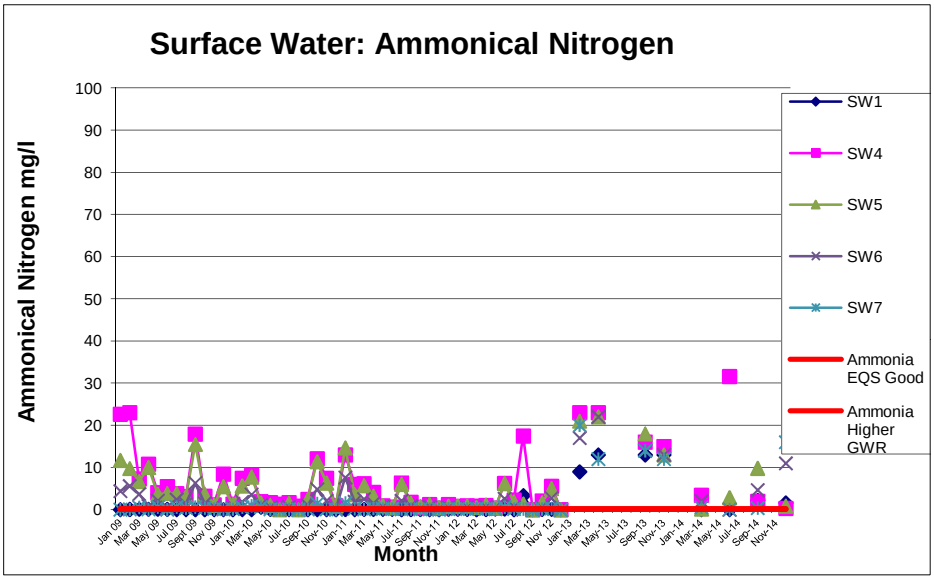
TEST	ANALYTE	SUB	METHOD	LOQ	SPEC	RESULT	UNITS	ACCRED.	OOS
VOC Full Suite									
	1,3,5-trimethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	Tert Butyl Benzene		EO025	0.5		<0.5	ug/L	INAB	
	1,2,4-trimethylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	sec-butylbenzene		EO025	0.5		<0.5	ug/L	INAB	
	1,3-dichlorobenzene		EO025	0.5		<0.5	ug/L	INAB	
	P Isopropyltoluene		EO025	0.5		<0.5	ug/L	INAB	
	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	

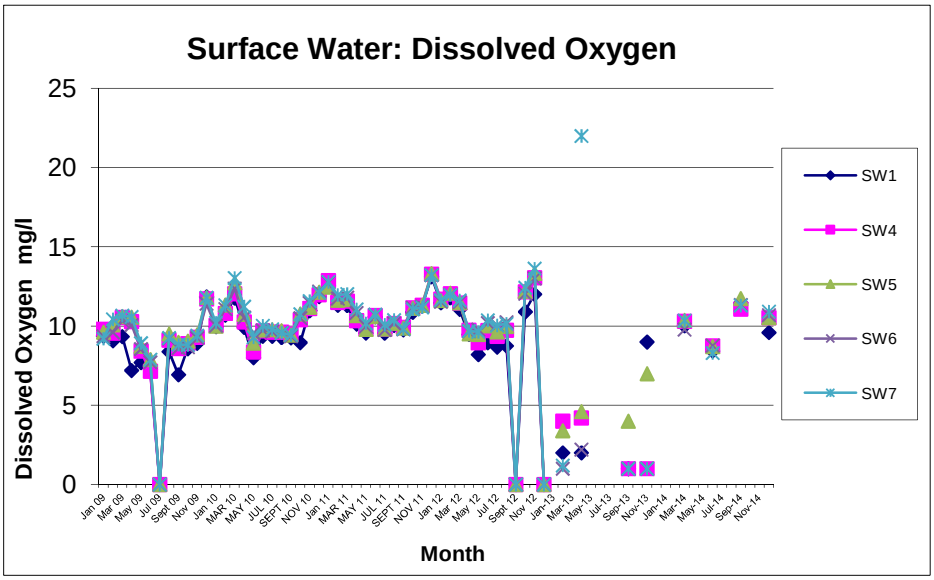
Signed : 01/08/2014

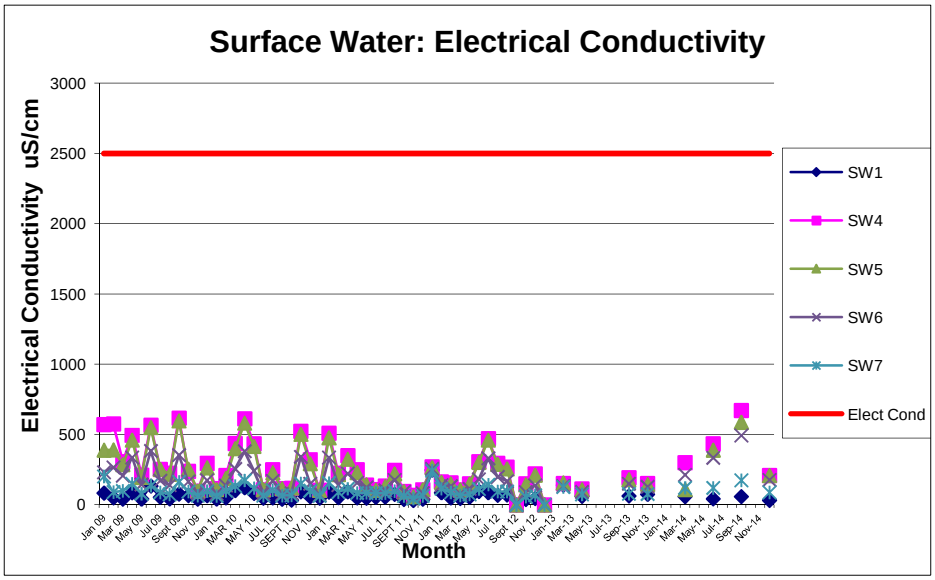
Technical Manager (or Deputy): **Brendan Murray**

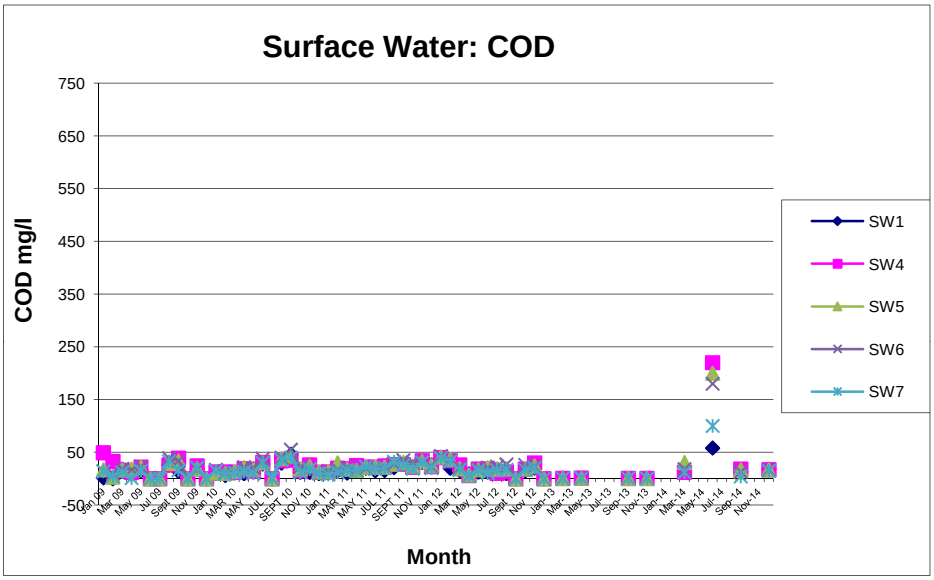
NOTES
1.This Report shall not be Reproduced except in full, without the permission of the laboratory and only relates to the items tested.
2.SPEC= Allowable limit or parametric value
3.OOS=Result which is outside specification highlighted as OOS
4.LOQ=Limit of Quantification or lowest value that can be reported for the test
5.ACCRED=Indicates matrix accreditation for the test,a blank field indicates not accredited

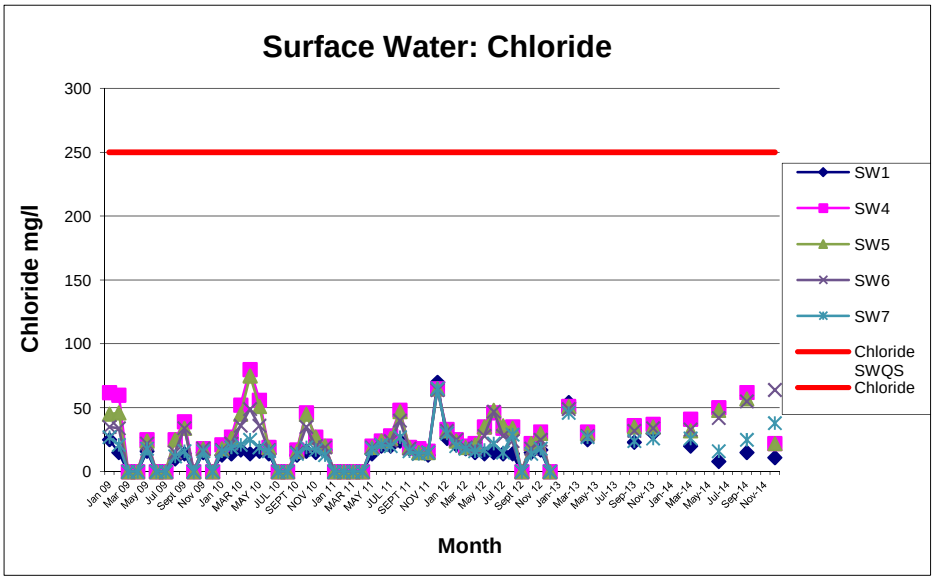

Surface Water: pH Levels
pH
Month
SW1
SW4
SW5
SW6
SW7
pH Lower
pH Higher

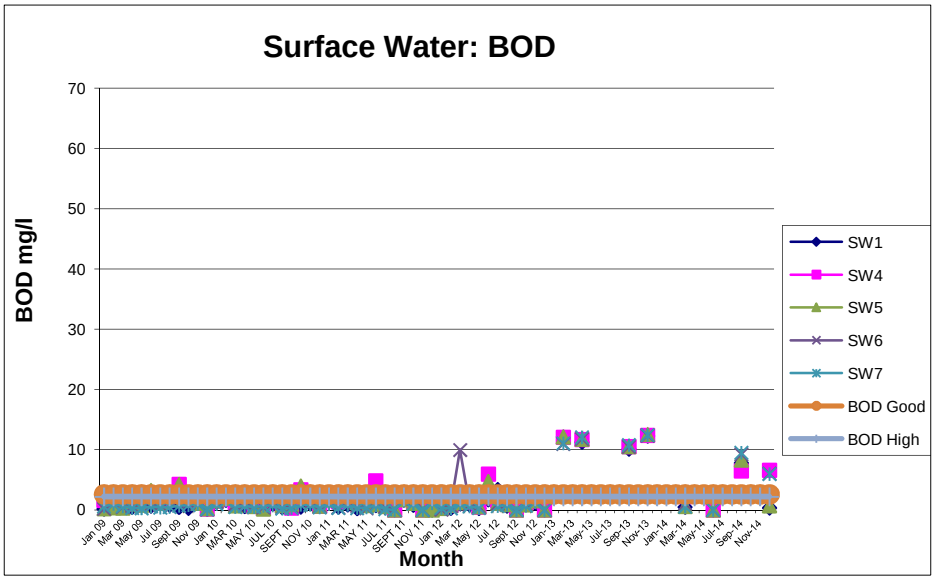

Surface Water: Ammonical Nitrogen
Ammonical Nitrogen mg/l
Month
SW1
SW4
SW5
SW6
SW7
Ammonia EQS Good
Ammonia Higher GWR

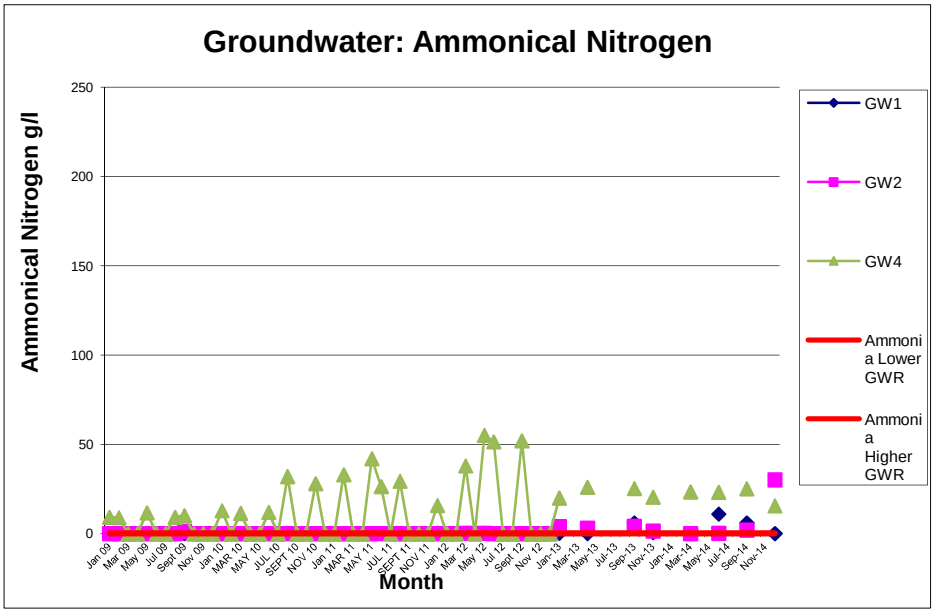

Surface Water: Dissolved Oxygen
Dissolved Oxygen mg/l
Month
SW1
SW4
SW5
SW6
SW7

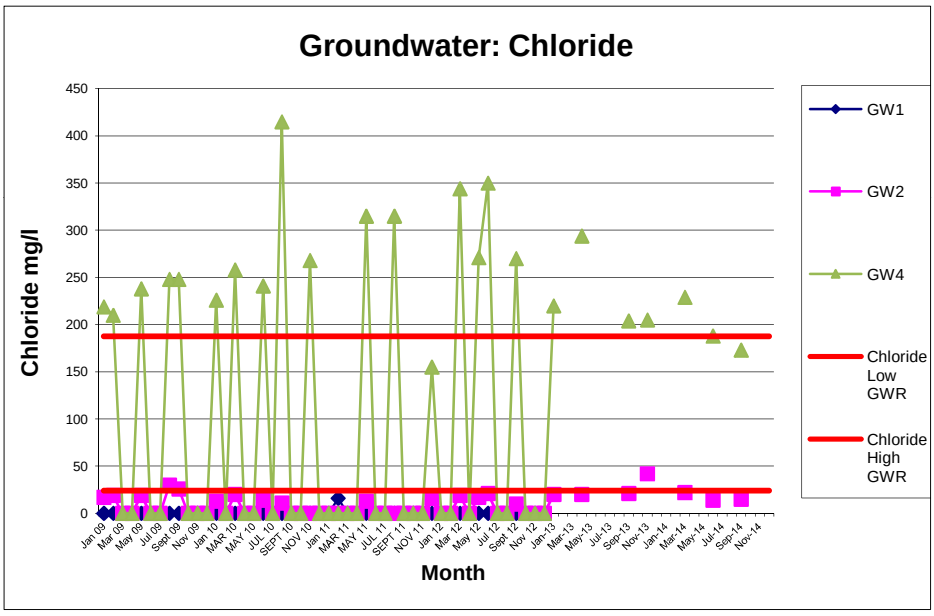

Surface Water: Electrical Conductivity
Electrical Conductivity uS/cm
3000
2500
2000
1500
1000
500
0
Month
SW1
SW4
SW5
SW6
SW7
Elect Cond

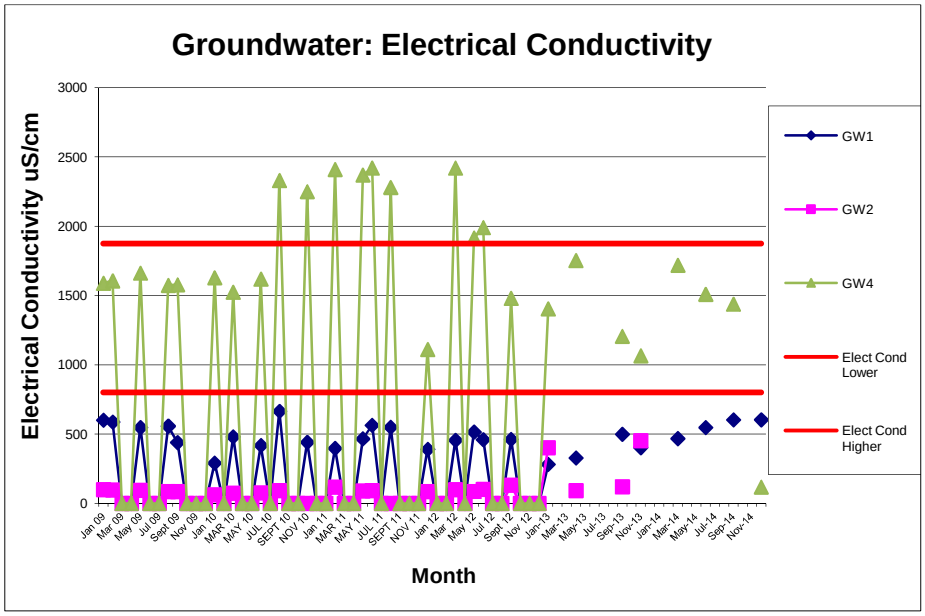

Surface Water: COD
COD mg/l
750
650
550
450
350
250
150
50
-50
Month
SW1
SW4
SW5
SW6
SW7

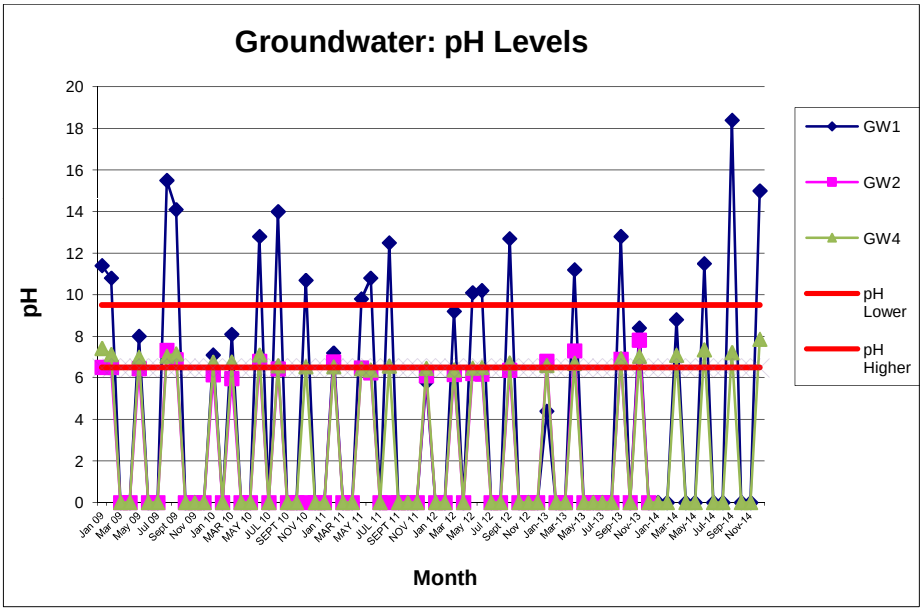

Surface Water: Chloride
Chloride mg/l
300
250
200
150
100
50
0
Month
SW1
SW4
SW5
SW6
SW7
Chloride SWQS
Chloride


Surface Water: 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
SW4
SW5
SW6
SW7
BOD Good
BOD High


Groundwater: Ammonical Nitrogen
Ammonical Nitrogen g/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
Ammonia Lower GWR
Ammonia Higher GWR


Groundwater: Chloride
Chloride mg/l
450
400
350
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
Chloride Low GWR
Chloride High GWR


Groundwater: Electrical Conductivity
Electrical Conductivity uS/cm
3000
2500
2000
1500
1000
500
0
GW1
GW2
GW4
Elect Cond Lower
Elect Cond Higher
Month


Groundwater: pH Levels
pH
20
18
16
14
12
10
8
6
4
2
0
GW1
GW2
GW4
pH Lower
pH Higher
Month

Appendix C - Water Balance Calculation and Meteorological Data

BALBANE WATER BALANCE CALCULATION

Year	Status	Rainfall (mm)	Restored area	Temp Restored area RCA(m^2)	Temp Restored area infiltration IRCA(m3)	Total Water	Leachate produced Lo(m3)
2014	Closed	1,213	0	29,500	8,947	8,947	8,947
Total							8,947

Assumptions

IRCA=	Temp restored area infiltration of rainfall estimated % (25-30% of annual rainfall,EPA Manual)	30%	%
Temporary restored area	Area of landfill site temporary restored, site closed in Jan 2004	29,500	m2
Rainfall Data	Data taken from Ballynacarrick Weather Station. Evaporation los	1,213	mm

Appendix D - E-PRTR Return

(AER Electronic Reporting System)

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	Balbane Landfill Site
PRTR Identification Number	W0090
Licence Number	W0090-01

Classes of Activity

No.	**class_name**
-	Refer to PRTR class activities below

Address 1	Balbane
Address 2	Killybegs
Address 3	
Address 4	
	Donegal
Country	Ireland
Coordinates of Location	-8.44483 54.6955
River Basin District	GBNIIENW
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Julie 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	
Web Address	

2. PRTR CLASS ACTIVITIES

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

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

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

4. 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) ?	

4.1 RELEASES TO AIR Link to previous years emissions data | PRTR# : W0090 | Facility Name : Balbane Landfill Site | Filename : W0090_2014.xls | Return Year : 2014 | 22/04/2015 12:43

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD				QUANTITY		
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
01	Methane (CH4)	C	OTH	Landgem	0.0	158541.96	0.0	158541.96
03	Carbon dioxide (CO2)	C	OTH	Landgem	0.0	435001.98	0.0	435001.98
02	Carbon monoxide (CO)	C	OTH	Landgem	0.0	77.52	0.0	77.52
07	Non-methane volatile organic compounds (NMVOC)	C	OTH	Landgem	0.0	1022.18	0.0	1022.18
55	1,1,1-trichloroethane	C	OTH	Landgem	0.0	1.27	0.0	1.27

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

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD				QUANTITY		
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
56	1,1,2,2-tetrachloroethane	C	OTH	Landgem	0.0	3.65	0.0	3.65
34	1,2-dichloroethane (EDC)	C	OTH	Landgem	0.0	0.8	0.0	0.8
62	Benzene	C	OTH	Landgem	0.0	2.93	0.0	2.93
58	Trichloromethane	C	OTH	Landgem	0.0	0.07	0.0	0.07
35	Dichloromethane (DCM)	C	OTH	Landgem	0.0	24.47	0.0	24.47
65	Ethyl benzene	C	OTH	Landgem	0.0	9.65	0.0	9.65
73	Toluene	C	OTH	Landgem	0.0	71.03	0.0	71.03
60	Vinyl chloride	C	OTH	Landgem	0.0	9.02	0.0	9.02
78	Xylenes	C	OTH	Landgem	0.0	25.18	0.0	25.18
57	Trichloroethylene	C	OTH	Landgem	0.0	7.27	0.0	7.27

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

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

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

* 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) flare 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: Balbane 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)	0.0				N/A	
Methane flared	0.0				0.0	(Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0	(Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0				N/A	