COMHAIRLE CHONTAE LIATROMA

Leitrim County Council

Annual Environmental Report 2016

Carrick-On-Shannon Landfill WL0064-1

Document Title	Annual Environmental Report 2016 Carrick-On-Shannon Landfill WL0064-1		
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Boylan Engineering (Eng. & Environmental Consultancy) was commissioned by Leitrim County Council to prepare the following Annual Environmental Report. The contents of the following report were compiled by Bróna Keating, Environmental Engineer.

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1.0 INTRODUCTION

Carrick-On-Shannnon Landfill was been operated as waste disposal facility by Leitrim County Council between 1965 and 2005. It was developed on cut bog and was unlined. It was used for the disposal of domestic, commercial and industrial waste in addition to sewerage sludge. As there was no weighbridge on the site, it is not possible to accurately quantify the volumes of waste which were disposed of however a figure of 131,700 has been estimated.

A waste licence was granted by the EPA in 2002 which prevented the disposal of any further biodegradable waste but it did allow for the importation of inert waste for capping purposes. The licence also authorised the storage of leachate in an appropriate container or lagoon pending dispatch to a Wastewater Treatment Plant. The landfill ceased operations in 2005 with final capping works being completed in 2006.

The landfill is situated 1.7 km north East of Carrick-on-Shannon and covers an area of c2.3 hectares. The site is accessed via the R290 and is surrounded by scrubland, agricultural land and forestry.

Condition 2.4 of Waste Licence Ref. 64-1 requires the submission of an Annual Environmental Report (AER) for Carrick-on-Shannon Landfill facility. This document is produced in order to comply with requirements of Condition 2.4.

The requirements for reporting of Annual Environmental Information arise under individual EPA licences issued under the EPA Acts 1992 – 2008, the Waste Management Acts 1996 – 2008 and other legislation.

This AER will provide information as outlined in Schedule A of the Licence “Content of the Annual Environmental Report”.

2.0 REPORTING PERIOD

The reporting period for the purpose of this AER is 01st January 2016 - 31st December 2016.

3.0 WASTE ACTIVITIES CARRIED OUT AT THE FACILITY

There were no waste activities carried out at the facility in 2016 as this facility is closed and capped.

4.0 QUANTITY AND COMPOSITION OF THE WASTE

There is no longer any waste being accepted at the site. The quantity of waste accepted is zero tonnes during 2016. Condition 5.1 of the waste licence referenced herein states that no waste shall be disposed of at the facility.

5.0 REMAINING CAPACITY

There is no remaining capacity at this landfill as capping works have been finalised. This is now a closed and capped landfill facility.

6.0 METHODS OF WASTE DEPOSITION

There was no waste deposition carried out at this landfill during 2016 as this is a closed and capped landfill facility. Condition 5.1 of the waste licence referenced herein states that no waste shall be disposed of at the facility.

7.0 SUMMARY REPORT ON EMISSIONS

The PRTR Regulations are the European Communities (European Pollutant Release and Transfer Register) Regulation 2007, S.I. No. 123 of 2007), which signed into Irish Law on 22 March 2007 the E-PRTR Regulation, (EC) No 166/2006, concerning the establishment of a European Pollutant Release and Transfer Register. The summary of emissions is detailed in the (PRTR) Report which appears in Appendix A of this report. The PRTR has been uploaded onto the EPA website in accordance with our responsibility as Licensee.

7.1 Surface Water

As detailed by table 7.1, there were slight exceedances in the surface water analysis for parameters Ammonia and Total Suspended Solids when compared to the Environmental Quality Standards (EQS) for Surface waters. The sample locations include 4 downstream points namely SW 5, SW 6, SW 7 and SW 8. An up gradient point SW1B has not been monitored in some time due to difficulty gaining access to the sampling point which is located on private secured property. SW 5 is located on the peripheries of the landfill situated to the South East. SW 6 is located to the South of the landfill while SW 7 is located approximately 1km South West of the landfill. Location SW 8 is located immediately West of the landfill adjacent to the site boundary.

Given that the upstream location was not monitored during 2016, background information on the various parameters is not available. The elevated Ammonia levels are highest at locations SW5 which would suggest some localised impact from the landfill leachate although it is suspected that the natural background levels of this parameters are themselves elevated due to the surrounding peat composition. Levels encountered at location SW6 decline and as such indicate the occurrence of dilution downstream. Ammonia levels at Location SW7 are still somewhat elevated and given the distance of this location form the landfill the elevation here is likely more representative of the background levels than contamination from the landfill.

Total suspended solids were elevated on one occasion during 2016. This cause of this elevation is attributed to external factors such as a heavy rainfall event.

Chloride levels do not exceed the EQS in any of the monitoring locations however levels at location SW5 are higher than other locations which again is indicative of localised impact from the leachate. The levels are seen to significantly decline with distance from the landfill indicating a level of attenuation in the surface water downstream.

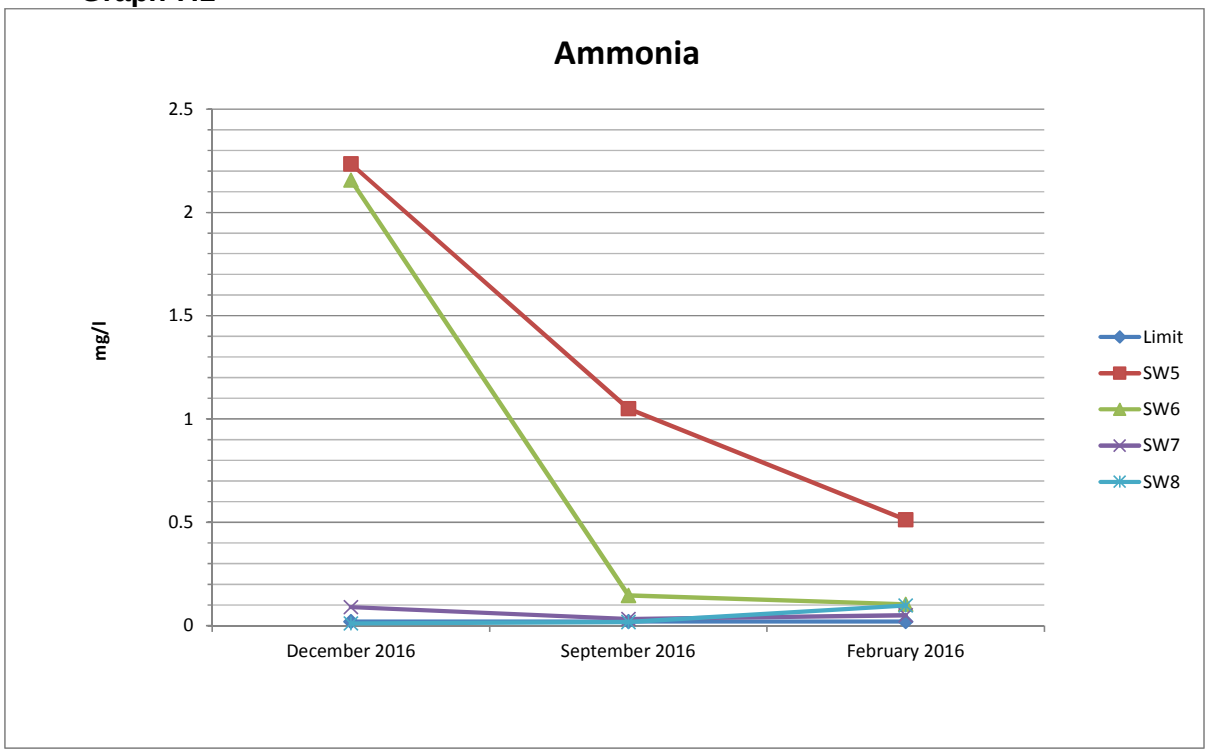
Sample SW1 is located upstream of the landfill while SW2 is located downstream. All monitoring locations are detailed in the site map which is presented in Appendix B.

All parameters have been assessed against water limits as outlined in the European Communities (Drinking Water) (No.2) Regulations 2007. Results in Bold Italics indicate where the interim guide value has been exceeded.

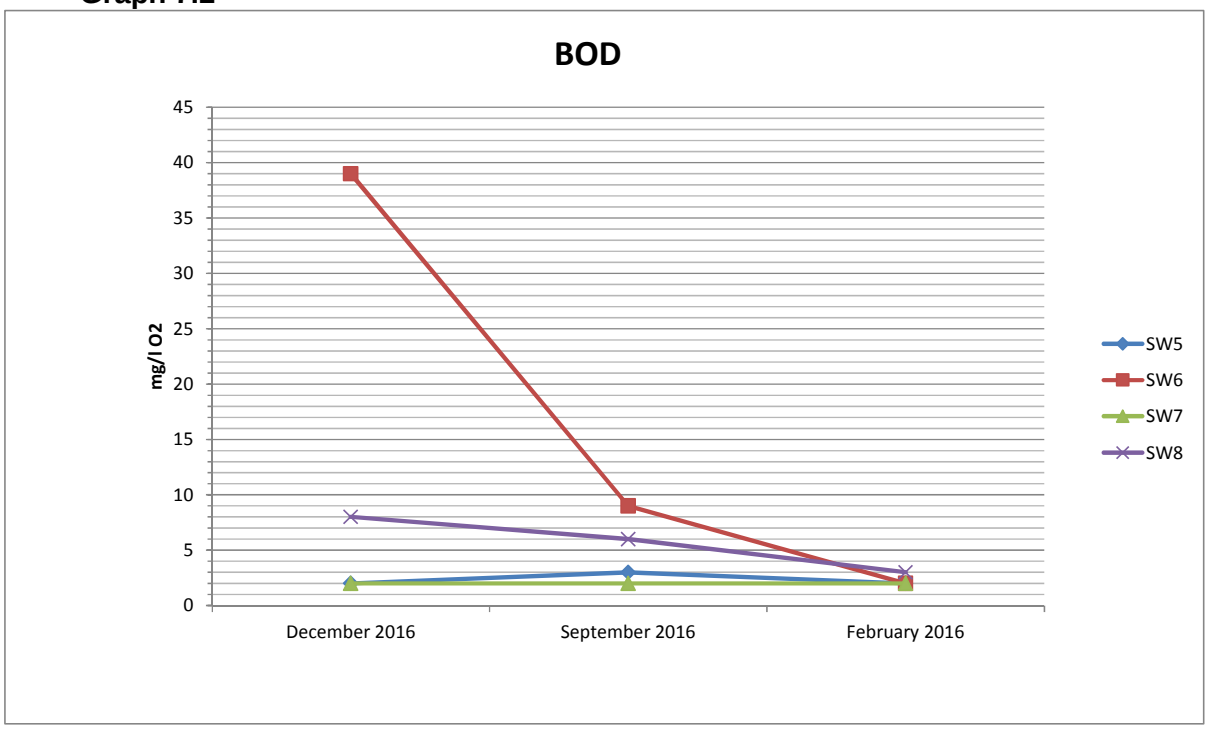
Table 7.1 Surface water summary results

	Parameters	Temperature Onsite	PH	Conductivity @ 20°C	Dissolved Oxygen Onsite	Ammonia as N	Chloride	CBOD5	COD	Total Suspended Solids
	Units	°C	pH Unit	uS/cm @20°C	mg/l O2	mg/l	mg/l	mg/l O2	mg/l O2	mg/l
SW5	December	7.9	7.42	685	9.7	***2.234***	40	2	59	19
	September	15.7	7.05	517	0.56	***1.05***	30	3	80	38
	June	14.8	7	944	1.5	***3.917***	79	2	52	11
	February	6.5	7.25	411	3	***0.513***	41	2	34	25
SW6	December	7.9	6.95	834	7.63	***2.156***	35	39	230	***1365***
	September	15.2	7.18	598	0.43	***0.147***	33	9	435	470
	February	6.4	7.46	490	2.86	***0.103***	38	< 2	42	21
SW7	December	7.9	7.48	479	9.97	***0.089***	28	< 2	44	5
	September	15.7	7.14	312	0.48	***0.033***	16	< 2	65	9
	June	17.8	7.48	515	1.67	***0.391***	26	5	147	118
	February	6.1	7.41	378	3.12	***0.05***	40	< 2	36	3
SW8	December	7.8	7.94	595	10.03	< 0.010	15	8	415	600
	September	15.6	7.36	426	0.55	0.017	12	6	348	440
	February	6.7	7.32	301	3.03	***0.098***	22	3	59	68
	EQS	**25**	**6.5- 9.5**	**1000**	**NAC**	**0.02**	**250**	**NAC**	**NAC**	**1000**

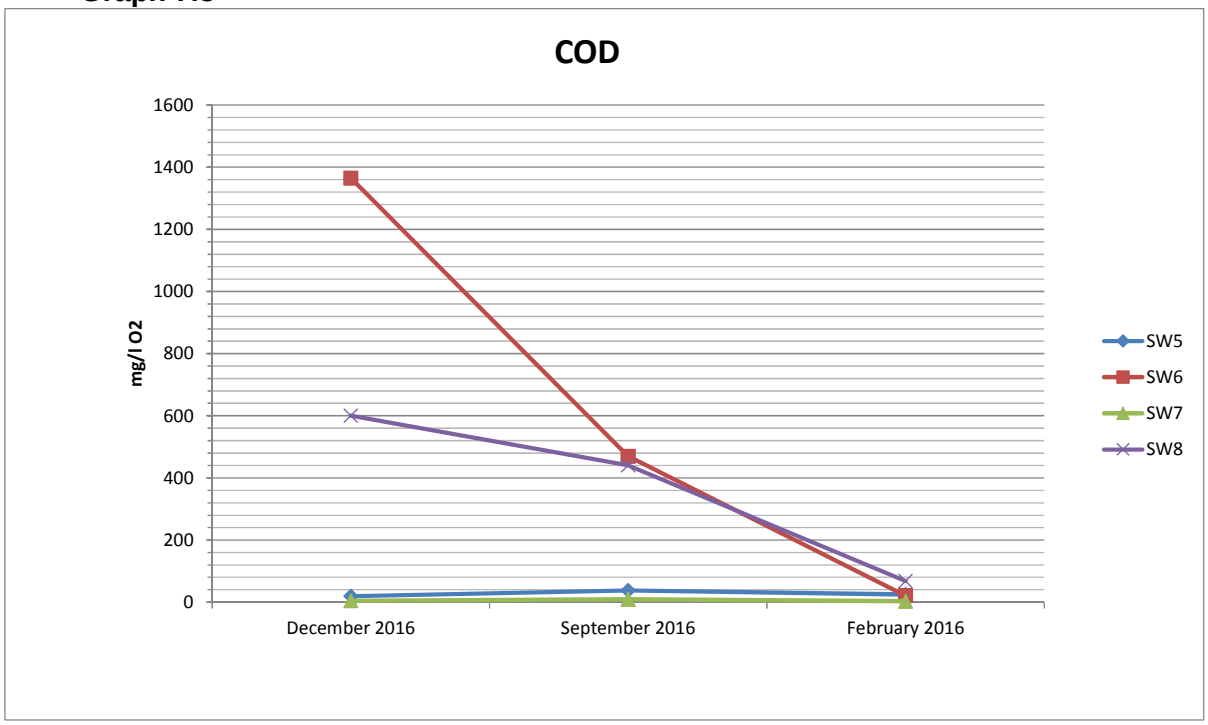
Graph 7.1



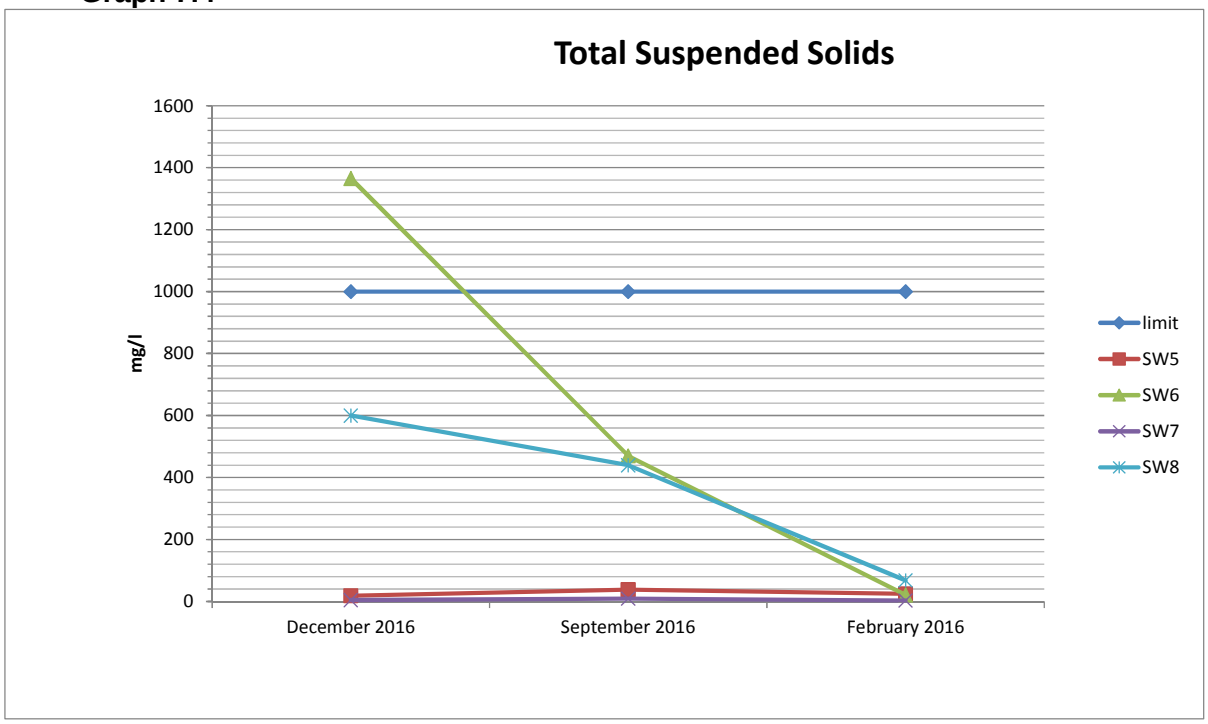
Graph 7.2



Graph 7.3



Graph 7.4



7.2 Groundwater

The following table details all reoccurring elevations at groundwater wells during 2016. Results in Bold Italics indicate where the Interim Guide Value (IGV) for groundwaters has been exceeded when compared to limits stipulated by the Environmental Protection Agency. The IGV represent typical background or unpolluted conditions, however levels higher than IGV can incur naturally, depending on the local geology and hydrogeology of the surrounding area.

There are currently no up gradient hydraulic ground water monitoring wells at this landfill site. Water samples are currently collected at downgradient locations only. Up gradient samples were once abstracted from well MW 07 which was damaged and was not used after 2008.

Results obtained show a persistent elevation in terms of the Ammonia parameter with levels currently higher at well MW 10 which is situated some distance from the landfill. Although elevated background levels of the parameter are suspected in this area from the surrounding peat. There may also be some localised impact associated with the landfill. Well MW 10 is also situated in close proximity to a malfunctioning waste water treatment system which may also be attributing to the deterioration in water quality in this area.

Elevated levels of potassium have been encountered at both wells during 2016. This parameters indicates localised impact associated with either the landfill or an alternative contamination source such as waste water treatment system effluent or slurries from agricultural activities.

Slightly elevated levels of pH and conductivity have also been encountered at well MW10, These elevations seem to have occurred early in 2016 and have not been encountered recently. Elevated levels of both parameters are indicative of the underlying limestone geology.

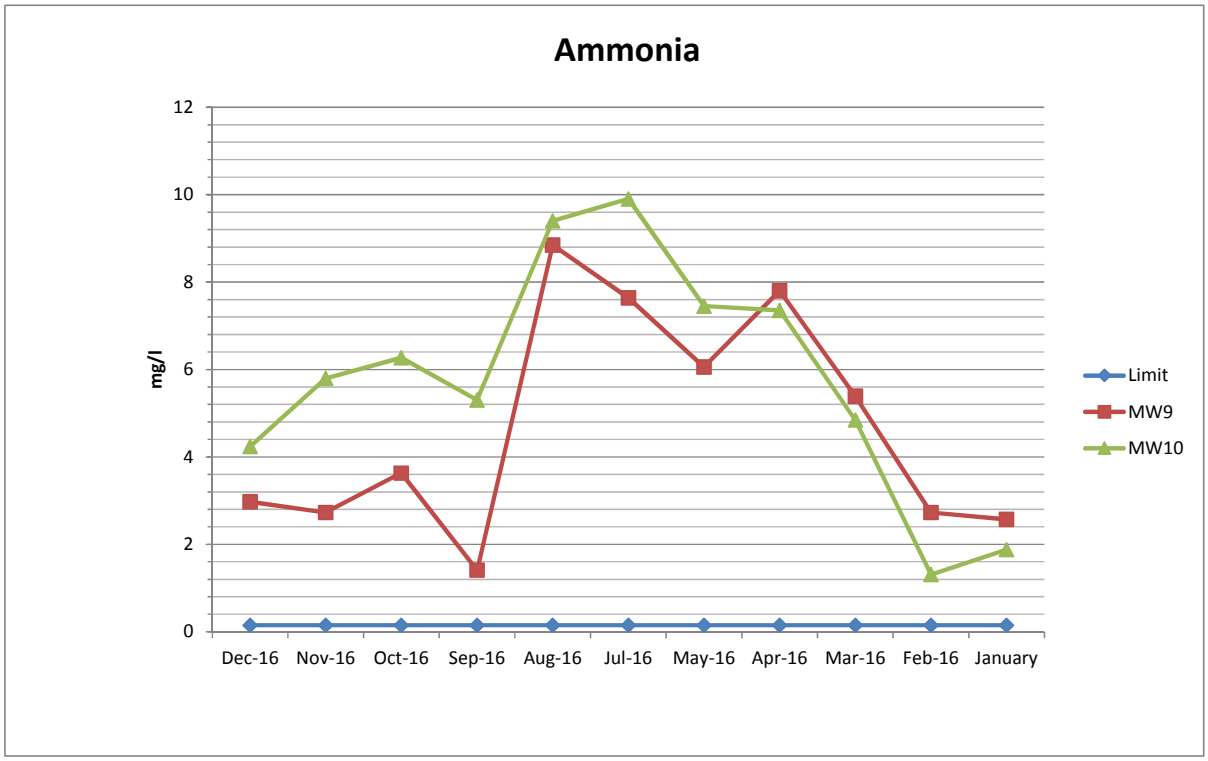
Variation in the conductivity trend may be associated with the karst groundwater systems which can be flashy in their nature thus causing fluctuations. An additional contributor may be a poorly functioning waste water treatment system which at a nearby private dwelling.

Elevated levels of Chloride at location MW 9 are indicative of leachate migration, however the contamination and impact and predominantly localised and have not appeared at location MW 10.

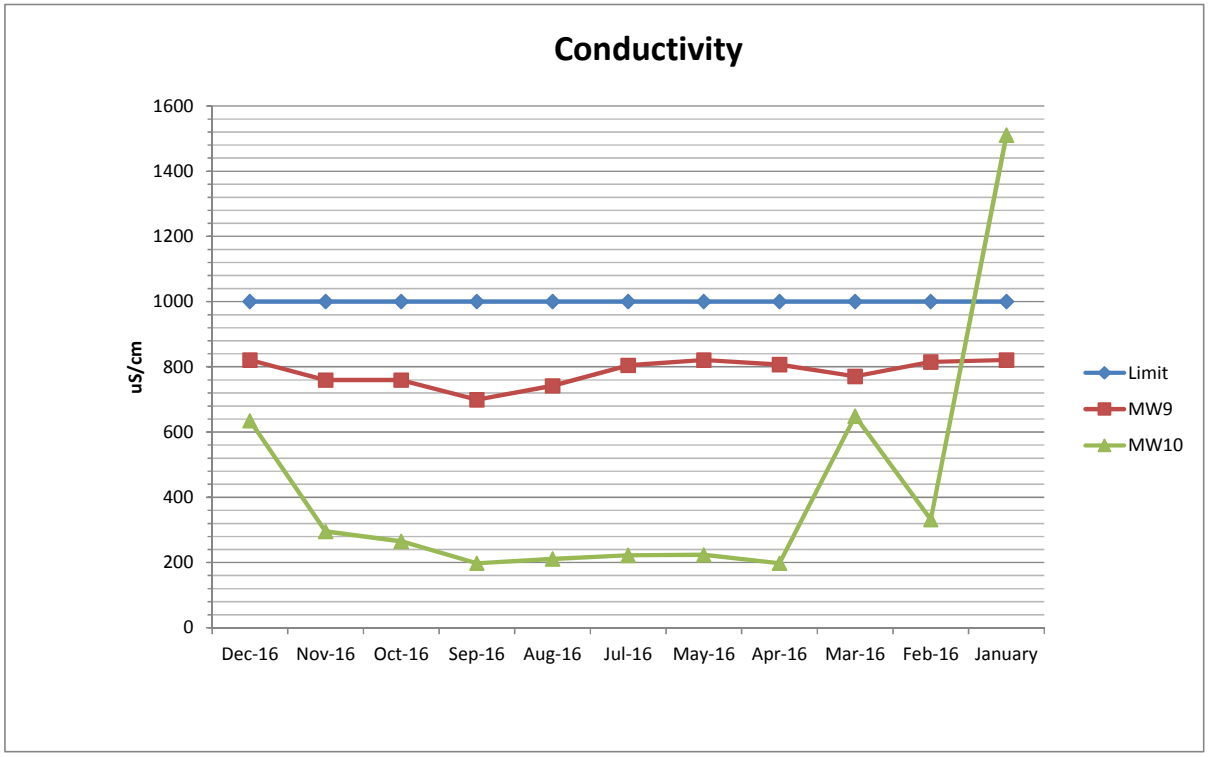
Table 7.2 Groundwater Summary Results

	Parameters	Temperature Onsite	PH Onsite	PH	Conductivity @ 20°C	Dissolved Oxygen Onsite	Dissolved Oxygen Onsite	Ammonia as N	Chloride	Potassium	Sodium	TON as N	Total Organic Carbon	Phenolics as Phenol
	Units	°C	pH Unit	pH Unit	uS/cm @20°C	%	mg/l O2	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
MW10	December	8.1	7.9	7.8	635	3.1	11.0	4.2	24.5	***5.8***	33.8	4.7	3.8	0.02
	November	10.0	8.7		295	40.0	3.7	***5.8***						
	October	13.5	8.1		265			***6.7***						
	September	14.2	9.3	9.1	198	3.7	0.4	***5.3***	22.0	4.2	16.0	4.0	0.7	0.02
	August	14.1	8.8	8.1	211			***9.4***						
	July	13.3	9.0	8.6	222	3.8	0.4	***9.9***						
	June	12.2	***9.9***			11.8	1.2		21.0	4.5	19.7	2.0	2.5	0.02
	May	11.4	9.4		224	19.6	2.2	***7.5***						
	April	9.0	***10.0***	***9.7***	198	21.1	2.4	***7.4***						
	March	7.4			649	18.4	2.3	***4.8***	19.8	***5.3***	26.0	2.0	3.3	0.02
	February	11.0		***10.4***	332			***1.3***						
	January	8.2	***10.4***	7.7	***1511***		19.5	***1.9***						
MW9	December	8.0	7.0	7.4	821	2.9	5.7	***3.0***	***37.3***	***6.3***	42.2	2	12.4	0.02
	November	10.0	7.3		760	19.0	1.8	***2.7***						
	October	13.2	7.3		760			***3.6***						
	September	16.5	7.4	7.2	699	4.5	0.4	***1.4***	***37.5***	***9.4***	35.4	2.8	22.6	0.02
	August	8.8	7.3	7.0	742			***8.9***						
	July	14.0	7.5	7.1	805	3.7	0.0	***7.6***						
	June	14.1	7.5			9.1	0.9		***42.0***	***11.8***	43.5	2.0	6.7	0.02
	May	12.5	7.5		821	10.4	1.2	***6.1***						
	April	10.1	7.7	7.5	807	14.8	1.7	***7.8***						
	March	7.9			771	16.2	2.0	***5.4***	***39.4***	***11.0***	42.3	2.0	8.4	0.02
	February	11.5		7.2	815			***2.7***						
	January	8.4	7.7	7.1	821		23.0	***2.6***						
IGV's		25.0	≥6.5&≤9.5	≥6.5&≤9.5	1000.0	NAC	NAC	0.2	30.0	5.0	150.0	NAC		0.0005

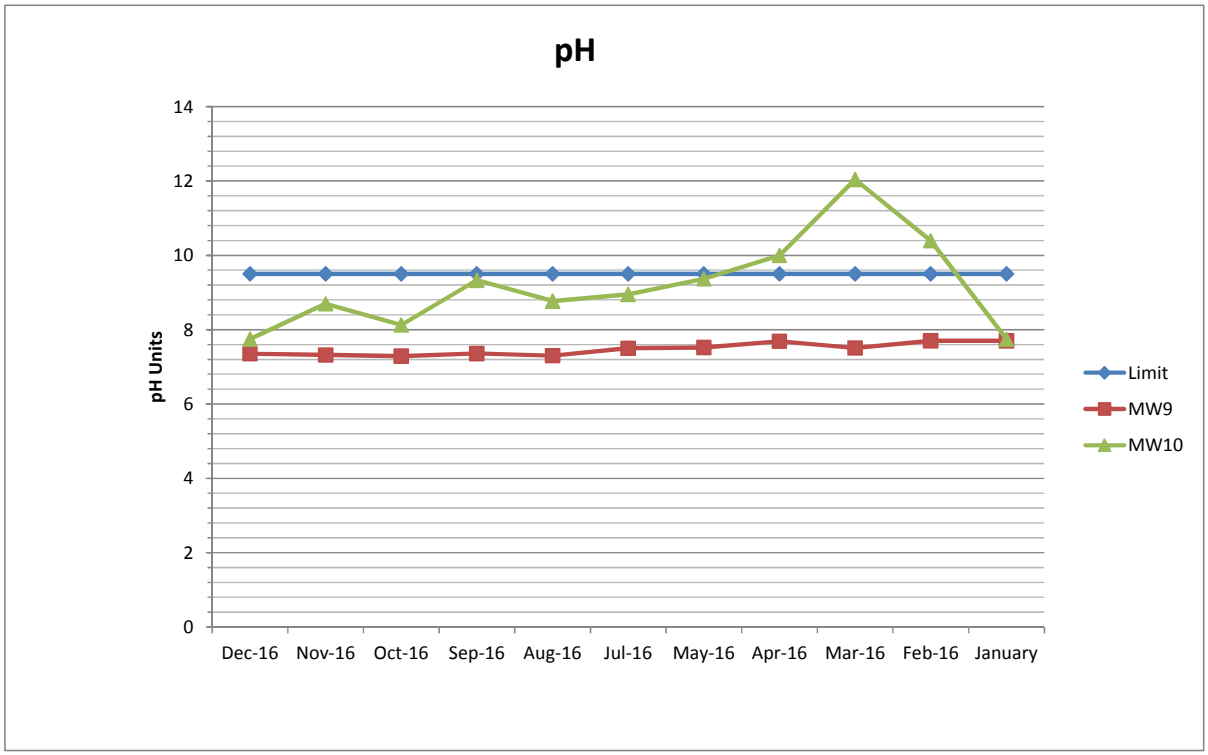
Graph 7.5



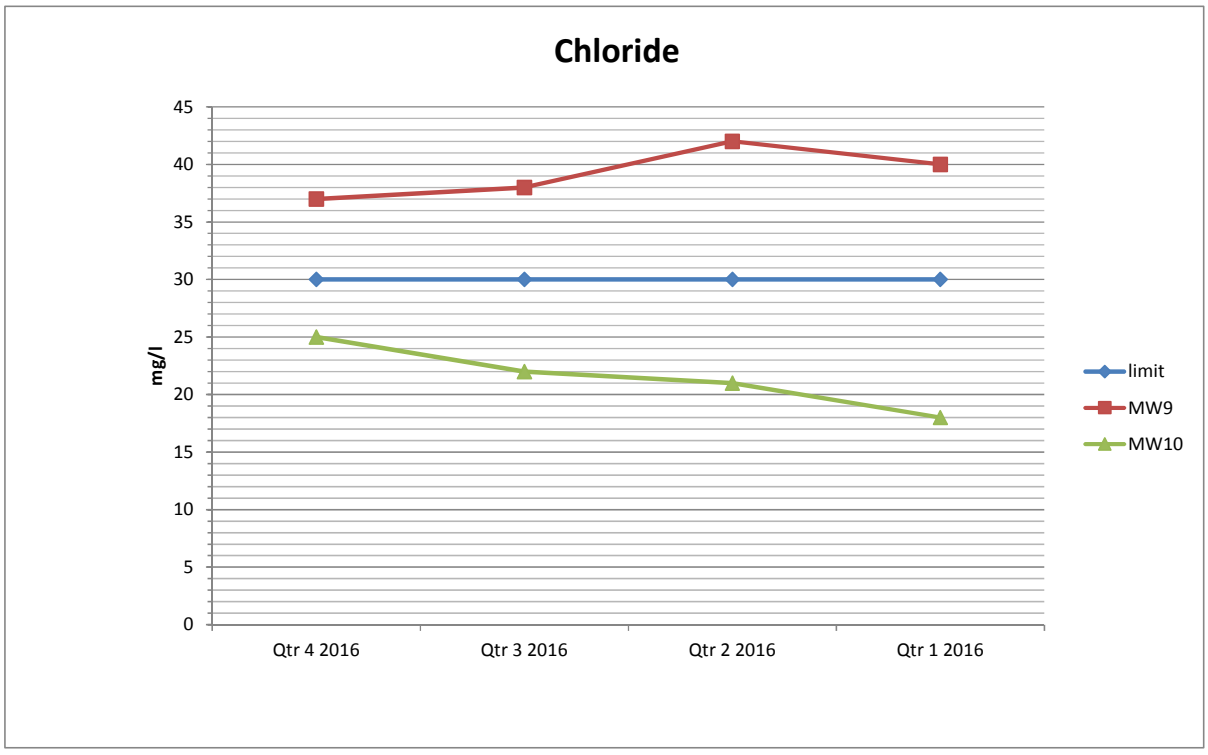
Graph 7.6



Graph 7.7



Graph 7.8



7.3 Leachate Monitoring

Leachate monitoring is required bi-annually in accordance with the EPA waste licence for this site.

Leachate samples were obtained from the leachate sump which is located to the east of the site. The most recent leachate monitoring results are presented below and have been compared to the ranges outlined in the EPA Landfill Design Manual. The results obtained reveal that the leachate at this landfill is quite weak in comparison to the typical ranges encountered in landfills in general.

Table 7.3 Leachate Summary Results

	Parameters	Temperature Onsite	PH	Conductivity @ 20°C	Ammonia as N	Chloride	CBOD5	COD	Iron	Potassium	Sodium	TON as N
	Units	°C	pH Unit	uS/cm @20°C	mg/l	mg/l	mg/l O2	mg/l O2	mg/l	mg/l	mg/l	mg/l
Leachate Sump	Dec-16	7.9	7.1	966	16	82	2	42	0.2	10	48	5
	Feb-16	7.3	7.0	836	5	71	2	16	0.34	6	41	5
	Jun-15	15	7.1	821	15	53	2	3	0.28	4.5	37	2.4
	Mar-15	9.4	7.2	830	1	149	2	43	0.3	3.8	33	5
	EPA Design Manual	-	6.8-8.2	5,900-19,300	283-2,040	570 - 4,710	110-1,900	622-8,000	1,600-160,000	100-1,580	474-3,650	-

7.4 Gas Emissions

Landfill gas monitoring must be completed at 9 locations on a quarterly basis in accordance with the EPA waste licence for this site. Landfill gas monitoring was not completed during 2016 due to complications which have arisen as a result of a change in monitoring personal. The location of the gas monitoring wells is currently unknown. However, Leitrim County Council are in the processes of acquiring a topographical survey of the landfill to identify the locations of all Ground Water, Surface Water, Leachate and Gas monitoring locations. Upon completion of the survey, landfill gas monitoring will be reinstated for 2017.

8.0 RESULTS SUMMARY & INTERPRETATION OF MONITORING

Included in Appendix C is a copy of the 4th quarter monitoring results as reported by Monitoring Company City Analysts Ltd. Environmental monitoring at this landfill is lacking due to damaged and missing wells. Attempts to rectify this issue are currently underway in the hope of reaching compliance with the EPA Waste Licence before the end of 2017. We are also satisfied that there are no major environmental impacts associated with this facility.

9.0 RESOURCE & ENERGY CONSUMPTION SUMMARY

As there is in-sufficient gas produced to run a gas flare or engine there is no use for the gas resource on site. There is no energy consumed on site.

10.0 PROPOSED DEVELOPMENT OF THE FACILITY & TIMEFRAME

All development works have been completed for this site with final capping and engineering works finalised. There are no plans for any further development at this facility.

11.0 VOLUMES OF LEACHATE PRODUCED & DISCHARGED

There is no information available regarding the volume of leachate produced. Leachate is collected into a large sump and pumped directly to a council owned sewer for treatment at the town waste water treatment plant. There is no information available pertaining to leachate volumes.

12.0 REPORT ON THE DEVELOPMENT WORKS UNDERTAKEN

This site has been closed since 2002 with all specified engineering works compete. There were no further works undertaken during the 2016 period.

13.0 REPORT ON RESTORATION OF THE FACILITY

The site is fully restored and the cap intact. Gorse overgrowth is monitored with periodic maintenance being undertaken when required.

14.0 SITE SURVEY SHOWING EXISTING LEVELS

A topographical survey of this facility detailing existing levels will be completed in 2017.

15.0 ESTIMATED ANNUAL & CUMULATIVE QUANTITIES OF LANDFILL GAS EMITTED FROM THE FACILITY

Approval was granted by the EPA for a passive landfill gas venting system, as there were insufficient gas volumes to sustain a flaring system.

Methane and Carbon Dioxide are measured in concentration % v/v. However it is not possible to obtain accurate flow data so as provide an estimate of annual and cumulative quantity of landfill gas emitted from the facility.

16.0 ESTIMATED QUANTITY OF EMISSIONS TO GROUNDWATER

No data available. Please see attached spreadsheets and monitoring results, which trends concentration results for various parameters required to be monitored and analysed as per Waste Licence 64-1.

17.0 MONTHLY WATER BALANCE CALCULATION

There is no data available to facilitate monthly water balance calculations or interruptions. This is a closed landfill facility and the site has not been operational since 2002.

18.0 FULL TITLE & WRITTEN SUMMARY OF ANY PROCEDURES DEVELOPED BY THE LICENSEE IN THE YEAR WHICH RELATES TOT HE FACILITY OPERATION

There was no change to or development of any procedures undertaken by the licensee or monitoring contractor in 2016. The environmental monitoring contractor 'City Analysts Limited' adhere to all standard practices for environmental monitoring.

19.0 TANK, PIPELINE AND BUND TESTING INSPECTION REPORT

This requirement is non applicable in this instance as there are no operational tanks, pipelines or bunds at this closed landfill facility at present.

20.0 REPORTED INCIDENTS & COMPLAINTS SUMMARY

There were no complaints received by the EPA or the Local Authority regarding this facility in the reporting period 2016 and there were no reportable incidents encountered.

21.0 REVIEW OF NUISANCE CONTROLS

As there are no known nuisances associated with this site, there are no nuisance controls in place for noise or vermin. There is no odour detectable from the site and as these are the main nuisances associated with landfills. This is substantiated by the absence of complaints regarding the facility. However, if any nuisances arise at the facility, the licensee will deal with them using appropriate measures and procedures.

22.0 FINANCIAL PROVISION & MANAGEMENT & STAFFING STRUCTURE

Leitrim County Council made available appropriate finances to facilitate the rehabilitation works which were completed in conjunction with the capping and closure of the landfill. Budgetary provision has been made to allow for the monitoring of the facility in accordance with the requirements of the waste licence.

Executive Technician Karina O'Grady from Leitrim County Council deals with in full, any issues identified by the Agency Inspectors or any other party.

Table 13.1 Management Structure 2016

Position	Name	Duties
Director of Services Environment	Joseph Gilhooly	Oversee and assign responsibilities to staff regarding landfill
Acting Senior Engineer	Brendan McKenna	Oversee general supervision, monitoring and reporting of the site.
Landfill Operations Managers	Karina O'Grady	Responsible for general supervision, monitoring and reporting of the site.

Contact Person for 2016/ 2017:
Karina O'Grady
Executive Technician
Waste Management Section
Leitrim County Council
Carrick-On-Shannon
Leitrim

Provision will be made in Leitrim County Council Official Estimates for Charges as required under Condition 11 of Waste Licence Ref. 64-1.

23.0 ANY OTHER ITEMS AS SPECIFIED BY THE AGENCY

A risk screening and technical assessment report was completed on this landfill during 2016 in accordance with the requirements of the waste licence. This report was submitted to the EPA in August 2016.

Currently 2 groundwater boreholes are being monitored by Leitrim County Council, GW09 & GW10 with a proposal for the installation of three additional wells.

The analysis of these groundwater boreholes indicates that there is a level of groundwater contamination from the landfill and its associated activities. Monitoring results obtained also indicate that contamination issues may also be arising from surrounding agricultural activities in addition to a malfunctioning waste water treatment system at a private dwelling situated in the locality of the landfill

Leitrim County Council will be in contact with the agency upon receipt of a topographical survey

The analysis of these groundwater boreholes indicates that there is a level of groundwater contamination from the landfill and its associated activities. Monitoring results obtained also indicate that contamination issues may also be arising from surrounding agricultural activities in addition to a malfunctioning waste water treatment system at a private dwelling situated in the vicinity of the landfill.

The landfill underwent maintenance works in the form of removal of vegetation in July 2016.

Appendix A PRTR Emissions Report

Guidance to completing the PRTR workbook

PRTR Returns Workbook

Version 1.1.19

REFERENCE YEAR	2016

1. FACILITY IDENTIFICATION

Parent Company Name	Leitrim County Council
Facility Name	Carrick On Shannon Landfill
PRTR Identification Number	W0064
Licence Number	W0064-01

Classes of Activity

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

Address 1	Ballynamoney
Address 2	Carrick On Shannon
Address 3	
Address 4	
	Leitrim
Country	Ireland
Coordinates of Location	-8.07996 53.9593
River Basin District	IEGBNISH
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Brona Keating
AER Returns Contact Email Address	b.keating@boylanengineering.ie
AER Returns Contact Position	Environmental Engineer
AER Returns Contact Telephone Number	0469286000
AER Returns Contact Mobile Phone Number	0870984598
AER Returns Contact Fax Number	
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	0
User Feedback/Comments	
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	**Activity Name**
5(a)	Installations for the recovery or disposal of hazardous waste
50.1	General

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

Is it applicable?	No
Have you been granted an exemption ?	No
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	N/A
Is the reduction scheme compliance route being used ?	N/A

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) ?	No

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

Environmental Protection Agency

A survey of landfill sites to determine the quantity of methane flared and or recovered in utilisation plants for 2016

Please choose from the drop down menu the license number for your site	W0064
Please choose from the drop down menu the name of the landfill site	Carrick On Shannon Landfill
Please enter the number of flares operational at your site in 2016	0
Please enter the number of engines operational at your site in 2016	0
Total methane flared	0 kg/year
Total methane utilised in engines	0 kg/year

Please note that the closing date for reciept of completed surveys is 31/03/2017

Introduction

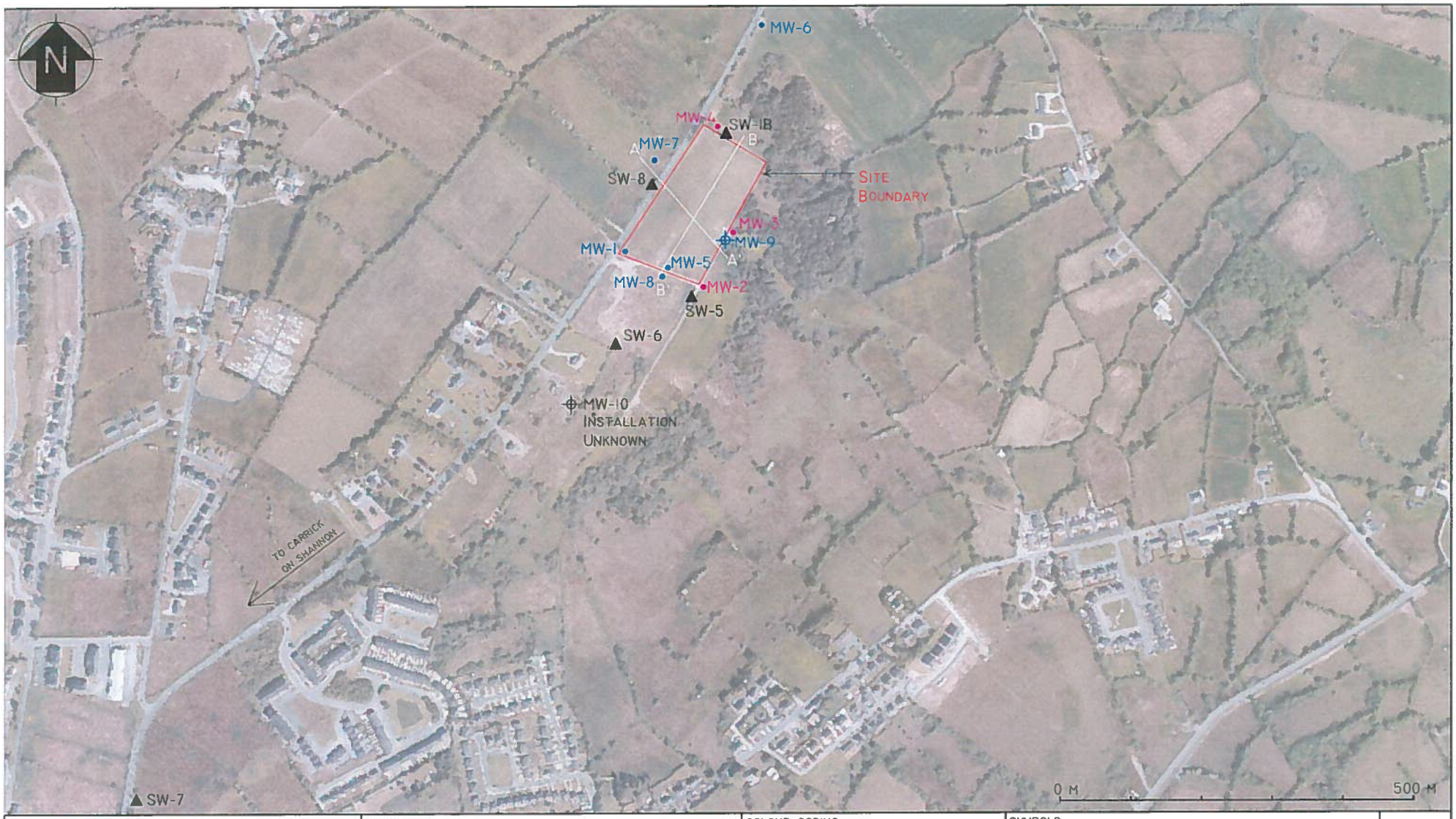
The Office of Environmental Sustainability (OES) of the Environmental Protection Agency acts as the inventory agency in Ireland with responsibility for compiling and reporting national greenhouse gas inventories to the European Commission and the United Nations Framework Convention on Climate Change. In addition to meeting international commitments Ireland's national greenhouse gas inventory informs national agencies and Government departments as they face the challenge to curb emissions and meet Ireland's emission reduction targets under the Effort Sharing Decision (No. 406/2009/EC). The national inventory also informs data suppliers, making them aware of the importance of their contributions to the inventory process and a means of identifying areas where input data may be improved.

It is on this basis that the Environmental Protection Agency is asking landfill operators to partake in this survey so that the most uptodate information on methane flaring and recovery in utilisation plants at landfills sites is used in calculating the contribution of the landfill sector to national greenhouse gas emissions

The Environmental Protection Agency wishes to thank you for partaking in this survey. If you have any questions about the survey and how to complete it please view the "Help sheet" worksheet. If however, your query is not answered by viewing the "Help sheet" worksheet please contact:
LFGProject@epa.ie

Once completed please send the completed file as an attachment clearly stating the name and or license number of the landfill site (e.g. W000 Xanadu landfill_2015) to:
LFGProject@epa.ie

Appendix B Monitoring Locations



O' Callaghan Moran & Associates.
Unit 15 Melbourne Business Park
Model Farm Road, Cork, Ireland.
Tel. (021) 4345366
email: info@ocallaghanmoran.com

CLIENT

Leitrim County Council

TITLE

Carrick Landfill, Monitoring Locations & CSM Lines of Section

COLOUR CODING

INSTALLED IN BEDROCK (BLUE)

INSTALLED IN OVERBURDEN (PINK)

SYMBOLS

- DECOMMISSIONED/DAMAGED MONITORING WELL
- EXISTING MONITORING WELL
- SURFACE WATER MONITORING

FIGURE No. 4.1

REV. A

Appendix C Quarter 4 Monitoring Results

LEITRIM COUNTY COUNCIL

ANNUAL MONITORING REPORT

CARRICK ON SHANNON LANDFILL

Landfill Licence from the EPA – W-0065

4th QUARTER 2016

For the Attention of:

Mr Sean Scott
Leitrim Co Co
Aras an Chontae
Carrick On Shannon
Co Leitrim

Prepared by: **Shane Reynolds** **City Analysts Ltd**

RESULTS:

MW9 Quarterly/Annually Results – Carrick on Shannon

Sampled Date: 05/12/2016

Sampled Time: 10:40
Depth (m): 0.05
Odour: No unusual odour
Weather/Visual Observation: Cloudy/Murky/Clean

City Analysts Ref: 341562

Analysis	Results	Units
1,1,1,2-Tetrachloroethane	µg/l	< 1.00
1,1,1-Trichloroethane	µg/l	< 1.00
1,1,2,2-Tetrachloroethane	µg/l	< 1.00
1,1,2-Trichloroethane	µg/l	< 1.00
1,1-Dichloroethane	µg/l	< 1.00
1,1-Dichloroethene	µg/l	< 1.00
1,1-Dichloropropene	µg/l	< 1.00
1,2,3-Trichlorobenzene	µg/l	< 1.00
1,2,3-Trichloropropane	µg/l	< 1.00
1,2,4-Trichlorobenzene (aq)	µg/l	< 1.00
1,2,4-Trichlorobenzene	µg/l	< 1.00
1,2,4-Trimethylbenzene	µg/l	< 1.00
1,2-Dibromo-3-chloropropane	µg/l	< 1.00
1,2-Dibromoethane	µg/l	< 1.00
1,2-Dichlorobenzene (aq)	µg/l	< 1.00
1,2-Dichlorobenzene	µg/l	< 1.00
1,2-Dichloroethane	µg/l	< 1.00
1,2-Dichloroethene Trans (E)	µg/l	< 1.00
1,2-Dichloroethene cis (Z)	µg/l	< 1.00
1,2-Dichloropropane	µg/l	< 1.00
1,3,5-Trichlorobenzene	µg/l	< 1.00
1,3,5-Trimethlybenzene	µg/l	< 1.00
1,3-Dichlorobenzene (aq)	µg/l	< 1.00
1,3-Dichlorobenzene	µg/l	< 1.00
1,3-Dichloropropane	µg/l	< 1.00
1,3-Dichloropropene Trans (E)	µg/l	< 1.00
1,3-Dichloropropene cis (Z)	µg/l	< 1.00
1,4-Dichlorobenzene (aq)	µg/l	< 1.00
1,4-Dichlorobenzene	µg/l	< 1.00
2,2-Dichloropropane	µg/l	< 1.00
2,4,5-Trichlorophenol (aq)	µg/l	< 1.00
2,4,6-Trichlorophenol (aq)	µg/l	< 1.00
2,4-Dichlorophenol (aq)	µg/l	< 1.00
2,4-Dimethylphenol (aq)	µg/l	< 1.00

2,4-Dinitrotoluene (aq)	µg/l	< 1.00
2,6-Dinitrotoluene (aq)	µg/l	< 1.00
2-Chloronaphthalene (aq)	µg/l	< 1.00
2-Chlorophenol (aq)	µg/l	< 1.00
2-Chlorotoluene	µg/l	< 1.00
2-Methylnaphthalene (aq)	µg/l	< 1.00
2-Methylphenol (aq)	µg/l	< 1.00
2-Nitroaniline (aq)	µg/l	< 1.00
2-Nitrophenol (aq)	µg/l	< 1.00
3-Nitroaniline (aq)	µg/l	< 1.00
4-Bromophenylphenylether (aq)	µg/l	< 1.00
4-Chloro-3-methylphenol (aq)	µg/l	< 1.00
4-Chloroaniline (aq)	µg/l	< 1.00
4-Chlorophenylphenylether (aq)	µg/l	< 1.00
4-Chlorotoluene	µg/l	< 1.00
4-Methylphenol (aq)	µg/l	< 1.00
4-Nitroaniline (aq)	µg/l	< 1.00
4-Nitrophenol (aq)	µg/l	< 1.00
4-iso-Propyltoluene	µg/l	< 1.00
Aldrin	µg/l	< 0.01
Alkalinity CaCO3	mg/l	443.748
Ammonia as N	mg/l	2.970
Ammoniacal Nitrogen as N	mg/l	3.160
Antimony, Dissolved	µg/l	< 0.16
Arsenic, Dissolved	µg/l	1.40
Azinphos-ethyl	µg/l	< 0.01
Azinphos-methyl	µg/l	< 0.01
Azobenzene (aq)	µg/l	< 1.00
Barium, Dissolved	µg/l	92.50
Benzene	µg/l	< 1.00
Benzo(k)fluoranthene (aq)	µg/l	< 1.00
Beryllium, Dissolved	µg/l	< 0.10
Boron, Dissolved	µg/l	124.00
Boron	µg/l	203.62
Bromobenzene	µg/l	< 1.00
Bromochloromethane	µg/l	< 1.00
Bromodichloromethane	µg/l	< 1.00
Bromoform	µg/l	< 1.00
Bromomethane	µg/l	< 1.00
Butylbenzyl phthalate (aq)	µg/l	< 1.00
Cadmium, Dissolved	µg/l	< 0.10
Cadmium	µg/l	0.86
Calcium	mg/l	90.622
Carbazole (aq)	µg/l	< 1.00
Carbon disulphide	µg/l	< 1.00
Carbontetrachloride	µg/l	< 1.00
Carbophenothion	µg/l	< 0.01
Chlorfenvinphos	µg/l	< 0.01
Chloride	mg/l	37.303
Chlorobenzene	µg/l	< 1.00

Chloroethane	µg/l	< 1.00
Chloroform	µg/l	< 1.00
Chloromethane	µg/l	< 1.00
Chlorothalonil	µg/l	< 0.01
Chlorpyriphos- methyl	µg/l	< 0.01
Chlorpyriphos	µg/l	< 0.01
Chromium, Dissolved	µg/l	< 1.20
Chromium	µg/l	1.88
Cobalt, Dissolved	µg/l	1.35
Coliforms	MPN/100ml	1732.9
Conductivity @ 20°C	uS/cm @20°C	821.0
Copper, Dissolved	µg/l	< 0.85
Copper	µg/l	4.60
Cyanide, Free	mg/l	< 0.05
Cyanide, Total	mg/l	< 0.05
Cyanide, Total	µg/l	< 1.70
Diazinon	µg/l	< 0.01
Dibenzofuran (aq)	µg/l	< 1.00
Dibromochloromethane	µg/l	< 1.00
Dibromomethane	µg/l	< 1.00
Dibutyl tin	ng/l	< 5.00
Dichlorodifluoromethane	µg/l	< 1.00
Dichloromethane	µg/l	< 3.00
Dichlorvos	µg/l	< 0.01
Dieldrin	µg/l	< 0.01
Diethyl phthalate (aq)	µg/l	< 1.00
Dimethoate	µg/l	< 0.01
Dimethyl phthalate (aq)	µg/l	< 1.00
Dissolved Oxygen Onsite	%	2.90
Dissolved Oxygen Onsite	mg/l O2	0.39
Disulfoton	µg/l	< 0.01
Endosulphan II	µg/l	< 0.01
Endosulphan I	µg/l	< 0.01
Endosulphan sulphate	µg/l	< 0.01
Endrin	µg/l	< 0.01
Ethion	µg/l	< 0.01
Ethylbenzene	µg/l	< 1.00
Etrimphos	µg/l	< 0.01
Faecal Coliforms	cfu/100ml	98
Fenitrothion	µg/l	< 0.01
Fenthion	µg/l	< 0.01
Fluoride	mg/l	0.7
Heptachlor Epoxide	µg/l	< 0.01
Heptachlor	µg/l	< 0.01
Hexachlorobenzene (aq)	µg/l	< 1.00
Hexachlorobenzene	µg/l	< 0.01
Hexachlorobutadiene (aq)	µg/l	< 1.00
Hexachlorobutadiene	µg/l	< 1.00
Hexachlorocyclopentadiene (aq)	µg/l	< 1.00
Hexachloroethane (aq)	µg/l	< 1.00

Iron	µg/l	2090.00
Isodrin	µg/l	< 0.01
Isophorone (aq)	µg/l	< 1.00
Isopropylbenzene	µg/l	< 1.00
Lead, Dissolved	µg/l	< 0.10
Lead	µg/l	4.13
M&P-Xylene	µg/l	< 1.00
Magnesium	mg/l	26.745
Malathion	µg/l	< 0.01
Manganese	µg/l	1990.00
Mercury, Dissolved	µg/l	< 0.01
Mercury	µg/l	< 0.06
Methyl parathion	µg/l	< 0.01
Methyl tertiary butyl ether (MTBE)	µg/l	< 1.00
Mevinphos	µg/l	< 0.01
Mineral oil >C10 - C40 (aq)	µg/l	< 10.00
Molybdenum, Dissolved	µg/l	2.81
Naphthalene	µg/l	< 1.00
Nickel, Dissolved	µg/l	2.15
Nitrite as N	mg/l	< 0.02
Nitrobenzene (aq)	µg/l	< 1.00
O-Xylene	µg/l	< 1.00
PH Onsite	pH Unit	7.35
PH	pH Unit	7.03
Parathion	µg/l	< 0.01
Pendimethalin	µg/l	< 0.01
Pentachlorophenol (aq)	µg/l	< 1.00
Permethrin II	µg/l	< 0.01
Permethrin I	µg/l	< 0.01
Phenol (aq)	µg/l	< 1.00
Phenolics as Phenol	mg/l	< 0.020
Phosalone	µg/l	< 0.01
Phosphate (ortho) as PO4	mg/l	< 0.05
Phosphorus, Dissolved	µg/l	17.00
Phosphorus, Total as P	mg/l	0.241
Pirimiphos-methyl	µg/l	< 0.01
Potassium	mg/l	6.266
Propetamphos	µg/l	< 0.01
Propylbenzene	µg/l	< 1.00
Quintozene (PCNB)	µg/l	< 0.01
Selenium, Dissolved	µg/l	< 1.00
Silicon, Dissolved	mg/l	4.520
Silver, Dissolved	µg/l	< 1.50
Sodium	mg/l	42.156
Styrene	µg/l	< 1.00
Sulphate	mg/l	< 20.000
TON as N	mg/l	< 2.000
Tecnazene	µg/l	< 0.01
Tellurium, Dissolved	µg/l	< 7.00
Telodrin	µg/l	< 0.01

Temperature Onsite	°C	8.00
Tetrabutyl tin	ng/l	< 2.00
Tetrachloroethene	µg/l	< 1.00
Thallium, Dissolved	µg/l	< 2.00
Tin, Dissolved	µg/l	< 0.36
Titanium, Dissolved	µg/l	9.71
Toluene	µg/l	< 1.00
Total Organic Carbon	mg/l	12.410
Trans-chlordane	µg/l	< 0.01
Triadimefon	µg/l	< 0.01
Triallate	µg/l	< 0.01
Triazophos	µg/l	< 0.01
Tributyl tin	ng/l	< 1.00
Trichloroethene	µg/l	< 1.00
Trichlorofluoromethane	µg/l	< 1.00
Trifluralin	µg/l	< 0.01
Triphenyl tin	ng/l	< 1.00
Uranium, Soluble	µg/l	< 1.50
Vanadium, Dissolved	µg/l	< 1.30
Vinyl chloride	µg/l	< 1.00
Zinc, Dissolved	µg/l	7.69
Zinc	µg/l	24.52
alpha-Hexachlorocyclohexane HCH/Lindane	µg/l	< 0.01
beta-Hexachlorocyclohexane HCH/Lindane	µg/l	< 0.01
bis(2-Chloroethoxy)methane (aq)	µg/l	< 1.00
bis(2-Chloroethyl)ether (aq)	µg/l	< 1.00
bis(2-Ethylhexyl) phthalate (aq)	µg/l	< 2.00
cis-Chlordane	µg/l	< 0.01
gamma-Hexachlorocyclohexane HCH/Lindane	µg/l	< 0.01
n-Butylbenzene	µg/l	< 1.00
n-Dibutyl phthalate (aq)	µg/l	< 1.00
n-Dioctyl phthalate (aq)	µg/l	< 5.00
n-Nitroso-n-dipropylamine (aq)	µg/l	< 1.00
o,p'-TDE (DDD)	µg/l	< 0.01
o,p-DDE	µg/l	< 0.01
o,p-DDT	µg/l	< 0.01
o,p-Methoxychlor	µg/l	< 0.01
p,p'-TDE (DDD)	µg/l	< 0.01
p,p-DDE	µg/l	< 0.01
p,p-DDT	µg/l	< 0.01
p,p-Methoxychlor	µg/l	< 0.01
sec-Butylbenzene	µg/l	< 1.00
tert-Amyl methyl ether (TAME)	µg/l	< 1.00
tert-Butylbenzene	µg/l	< 1.00

MW10 Quarterly /Annually Results – Carrick on Shannon

Sampled Date: 05/12/2016

Sampled Time: 10:55
Depth (m): 0.8
Odour: No unusual odour
Weather/Visual Observation: Cloudy/Murky/Clean

City Analysts Ref: 341563

Analysis	Results	Units
1,1,1,2-Tetrachloroethane	µg/l	< 1.00
1,1,1-Trichloroethane	µg/l	< 1.00
1,1,2,2-Tetrachloroethane	µg/l	< 1.00
1,1,2-Trichloroethane	µg/l	< 1.00
1,1-Dichloroethane	µg/l	< 1.00
1,1-Dichloroethene	µg/l	< 1.00
1,1-Dichloropropene	µg/l	< 1.00
1,2,3-Trichlorobenzene	µg/l	< 1.00
1,2,3-Trichloropropane	µg/l	< 1.00
1,2,4-Trichlorobenzene (aq)	µg/l	< 1.00
1,2,4-Trichlorobenzene	µg/l	< 1.00
1,2,4-Trimethylbenzene	µg/l	< 1.00
1,2-Dibromo-3-chloropropane	µg/l	< 1.00
1,2-Dibromoethane	µg/l	< 1.00
1,2-Dichlorobenzene (aq)	µg/l	< 1.00
1,2-Dichlorobenzene	µg/l	< 1.00
1,2-Dichloroethane	µg/l	< 1.00
1,2-Dichloroethene Trans (E)	µg/l	< 1.00
1,2-Dichloroethene cis (Z)	µg/l	< 1.00
1,2-Dichloropropane	µg/l	< 1.00
1,3,5-Trichlorobenzene	µg/l	< 1.00
1,3,5-Trimethlybenzene	µg/l	< 1.00
1,3-Dichlorobenzene (aq)	µg/l	< 1.00
1,3-Dichlorobenzene	µg/l	< 1.00
1,3-Dichloropropane	µg/l	< 1.00
1,3-Dichloropropene Trans (E)	µg/l	< 1.00
1,3-Dichloropropene cis (Z)	µg/l	< 1.00
1,4-Dichlorobenzene (aq)	µg/l	< 1.00
1,4-Dichlorobenzene	µg/l	< 1.00
2,2-Dichloropropane	µg/l	< 1.00
2,4,5-Trichlorophenol (aq)	µg/l	< 1.00
2,4,6-Trichlorophenol (aq)	µg/l	< 1.00
2,4-Dichlorophenol (aq)	µg/l	< 1.00
2,4-Dimethylphenol (aq)	µg/l	< 1.00
2,4-Dinitrotoluene (aq)	µg/l	< 1.00
2,6-Dinitrotoluene (aq)	µg/l	< 1.00

2-Chloronaphthalene (aq)	µg/l	< 1.00
2-Chlorophenol (aq)	µg/l	< 1.00
2-Chlorotoluene	µg/l	< 1.00
2-Methylnaphthalene (aq)	µg/l	< 1.00
2-Methylphenol (aq)	µg/l	< 1.00
2-Nitroaniline (aq)	µg/l	< 1.00
2-Nitrophenol (aq)	µg/l	< 1.00
3-Nitroaniline (aq)	µg/l	< 1.00
4-Bromophenylphenylether (aq)	µg/l	< 1.00
4-Chloro-3-methylphenol (aq)	µg/l	< 1.00
4-Chloroaniline (aq)	µg/l	< 1.00
4-Chlorophenylphenylether (aq)	µg/l	< 1.00
4-Chlorotoluene	µg/l	< 1.00
4-Methylphenol (aq)	µg/l	< 1.00
4-Nitroaniline (aq)	µg/l	< 1.00
4-Nitrophenol (aq)	µg/l	< 1.00
4-iso-Propyltoluene	µg/l	< 1.00
Aldrin	µg/l	< 0.01
Alkalinity CaCO3	mg/l	181.969
Ammonia as N	mg/l	4.240
Ammoniacal Nitrogen as N	mg/l	5.210
Antimony, Dissolved	µg/l	0.21
Arsenic, Dissolved	µg/l	0.80
Azinphos-ethyl	µg/l	< 0.01
Azinphos-methyl	µg/l	< 0.01
Azobenzene (aq)	µg/l	< 1.00
Barium, Dissolved	µg/l	61.10
Benzene	µg/l	< 1.00
Benzo(k)fluoranthene (aq)	µg/l	< 1.00
Beryllium, Dissolved	µg/l	< 0.10
Boron, Dissolved	µg/l	140.00
Boron	µg/l	146.38
Bromobenzene	µg/l	< 1.00
Bromochloromethane	µg/l	< 1.00
Bromodichloromethane	µg/l	< 1.00
Bromoform	µg/l	< 1.00
Bromomethane	µg/l	< 1.00
Butylbenzyl phthalate (aq)	µg/l	< 1.00
Cadmium, Dissolved	µg/l	< 0.10
Cadmium	µg/l	0.42
Calcium	mg/l	16.028
Carbazole (aq)	µg/l	< 1.00
Carbon disulphide	µg/l	< 1.00
Carbontetrachloride	µg/l	< 1.00
Carbophenothion	µg/l	< 0.01
Chlorfenvinphos	µg/l	< 0.01
Chloride	mg/l	24.529
Chlorobenzene	µg/l	< 1.00
Chloroethane	µg/l	< 1.00
Chloroform	µg/l	< 1.00

Chloromethane	µg/l	< 1.00
Chlorothalonil	µg/l	< 0.01
Chlorpyriphos- methyl	µg/l	< 0.01
Chlorpyriphos	µg/l	< 0.01
Chromium, Dissolved	µg/l	< 1.20
Chromium	µg/l	0.85
Cobalt, Dissolved	µg/l	< 0.15
Coliforms	MPN/100ml	7270.0
Conductivity @ 20°C	uS/cm @20°C	635.0
Copper, Dissolved	µg/l	< 0.85
Copper	µg/l	3.80
Cyanide, Free	mg/l	< 0.05
Cyanide, Total	mg/l	< 0.05
Cyanide, Total	µg/l	4.00
Diazinon	µg/l	< 0.01
Dibenzofuran (aq)	µg/l	< 1.00
Dibromochloromethane	µg/l	< 1.00
Dibromomethane	µg/l	< 1.00
Dibutyl tin	ng/l	< 5.00
Dichlorodifluoromethane	µg/l	< 1.00
Dichloromethane	µg/l	< 3.00
Dichlorvos	µg/l	< 0.01
Dieldrin	µg/l	< 0.01
Diethyl phthalate (aq)	µg/l	< 1.00
Dimethoate	µg/l	< 0.01
Dimethyl phthalate (aq)	µg/l	< 1.00
Dissolved Oxygen Onsite	%	3.10
Dissolved Oxygen Onsite	mg/l O2	0.36
Disulfoton	µg/l	< 0.01
Endosulphan II	µg/l	< 0.01
Endosulphan I	µg/l	< 0.01
Endosulphan sulphate	µg/l	< 0.01
Endrin	µg/l	< 0.01
Ethion	µg/l	< 0.01
Ethylbenzene	µg/l	< 1.00
Etrimphos	µg/l	< 0.01
Faecal Coliforms	cfu/100ml	< 1
Fenitrothion	µg/l	< 0.01
Fenthion	µg/l	< 0.01
Fluoride	mg/l	0.7
Heptachlor Epoxide	µg/l	< 0.01
Heptachlor	µg/l	< 0.01
Hexachlorobenzene (aq)	µg/l	< 1.00
Hexachlorobenzene	µg/l	< 0.01
Hexachlorobutadiene (aq)	µg/l	< 1.00
Hexachlorobutadiene	µg/l	< 1.00
Hexachlorocyclopentadiene (aq)	µg/l	< 1.00
Hexachloroethane (aq)	µg/l	< 1.00
Iron	µg/l	60.42
Isodrin	µg/l	< 0.01

Isophorone (aq)	µg/l	< 1.00
Isopropylbenzene	µg/l	< 1.00
Lead, Dissolved	µg/l	< 0.10
Lead	µg/l	0.91
M&P-Xylene	µg/l	< 1.00
Magnesium	mg/l	19.674
Malathion	µg/l	< 0.01
Manganese	µg/l	90.10
Mercury, Dissolved	µg/l	< 0.01
Mercury	µg/l	< 0.06
Methyl parathion	µg/l	< 0.01
Methyl tertiary butyl ether (MTBE)	µg/l	< 1.00
Mevinphos	µg/l	< 0.01
Mineral oil >C10 - C40 (aq)	µg/l	< 10.00
Molybdenum, Dissolved	µg/l	26.10
Naphthalene	µg/l	< 1.00
Nickel, Dissolved	µg/l	5.73
Nitrite as N	mg/l	3.50
Nitrobenzene (aq)	µg/l	< 1.00
O-Xylene	µg/l	< 1.00
PH Onsite	pH Unit	7.75
PH	pH Unit	7.93
Parathion	µg/l	< 0.01
Pendimethalin	µg/l	< 0.01
Pentachlorophenol (aq)	µg/l	< 1.00
Permethrin II	µg/l	< 0.01
Permethrin I	µg/l	< 0.01
Phenol (aq)	µg/l	< 1.00
Phenolics as Phenol	mg/l	< 0.020
Phosalone	µg/l	< 0.01
Phosphate (ortho) as PO4	mg/l	< 0.05
Phosphorus, Dissolved	µg/l	< 15.00
Phosphorus, Total as P	mg/l	0.093
Pirimiphos-methyl	µg/l	< 0.01
Potassium	mg/l	5.822
Propetamphos	µg/l	< 0.01
Propylbenzene	µg/l	< 1.00
Quintozene (PCNB)	µg/l	< 0.01
Selenium, Dissolved	µg/l	< 1.00
Silicon, Dissolved	mg/l	1.630
Silver, Dissolved	µg/l	< 1.50
Sodium	mg/l	33.849
Styrene	µg/l	< 1.00
Sulphate	mg/l	< 20.000
TON as N	mg/l	4.653
Tecnazene	µg/l	< 0.01
Tellurium, Dissolved	µg/l	< 7.00
Telodrin	µg/l	< 0.01
Temperature Onsite	°C	8.10
Tetrabutyl tin	ng/l	< 2.00

Tetrachloroethene	µg/l	< 1.00
Thallium, Dissolved	µg/l	< 2.00
Tin, Dissolved	µg/l	< 0.36
Titanium, Dissolved	µg/l	2.64
Toluene	µg/l	< 1.00
Total Organic Carbon	mg/l	3.750
Trans-chlordane	µg/l	< 0.01
Triadimefon	µg/l	< 0.01
Triallate	µg/l	< 0.01
Triazophos	µg/l	< 0.01
Tributyl tin	ng/l	< 1.00
Trichloroethene	µg/l	< 1.00
Trichlorofluoromethane	µg/l	< 1.00
Trifluralin	µg/l	< 0.01
Triphenyl tin	ng/l	< 1.00
Uranium, Soluble	µg/l	< 1.50
Vanadium, Dissolved	µg/l	< 1.30
Vinyl chloride	µg/l	< 1.00
Zinc, Dissolved	µg/l	4.76
Zinc	µg/l	9.33
alpha-Hexachlorocyclohexane HCH/Lindane	µg/l	< 0.01
beta-Hexachlorocyclohexane HCH/Lindane	µg/l	< 0.01
bis(2-Chloroethoxy)methane (aq)	µg/l	< 1.00
bis(2-Chloroethyl)ether (aq)	µg/l	< 1.00
bis(2-Ethylhexyl) phthalate (aq)	µg/l	< 2.00
cis-Chlordane	µg/l	< 0.01
gamma-Hexachlorocyclohexane HCH/Lindane	µg/l	< 0.01
n-Butylbenzene	µg/l	< 1.00
n-Dibutyl phthalate (aq)	µg/l	< 1.00
n-Dioctyl phthalate (aq)	µg/l	< 5.00
n-Nitroso-n-dipropylamine (aq)	µg/l	< 1.00
o,p'-TDE (DDD)	µg/l	< 0.01
o,p-DDE	µg/l	< 0.01
o,p-DDT	µg/l	< 0.01
o,p-Methoxychlor	µg/l	< 0.01
p,p'-TDE (DDD)	µg/l	< 0.01
p,p-DDE	µg/l	< 0.01
p,p-DDT	µg/l	< 0.01
p,p-Methoxychlor	µg/l	< 0.01
sec-Butylbenzene	µg/l	< 1.00
tert-Amyl methyl ether (TAME)	µg/l	< 1.00
tert-Butylbenzene	µg/l	< 1.00

SW5 Quarterly/Annually Results – Carrick on Shannon

Sampled Date: 05/12/2016

Sampled Time: 11;20
Depth (m): Not required
Odour: No unusual odour
Weather/Visual Observation: Cloudy/Murky/Clean

City Analysts Ref: 341564

Analysis	Results	Units
1,1,1,2-Tetrachloroethane	µg/l	< 1.00
1,1,1-Trichloroethane	µg/l	< 1.00
1,1,2,2-Tetrachloroethane	µg/l	< 1.00
1,1,2-Trichloroethane	µg/l	< 1.00
1,1-Dichloroethane	µg/l	< 1.00
1,1-Dichloroethene	µg/l	< 1.00
1,1-Dichloropropene	µg/l	< 1.00
1,2,3-Trichlorobenzene	µg/l	< 1.00
1,2,3-Trichloropropane	µg/l	< 1.00
1,2,4-Trichlorobenzene (aq)	µg/l	< 1.00
1,2,4-Trichlorobenzene	µg/l	< 1.00
1,2,4-Trimethylbenzene	µg/l	< 1.00
1,2-Dibromo-3-chloropropane	µg/l	< 1.00
1,2-Dibromoethane	µg/l	< 1.00
1,2-Dichlorobenzene (aq)	µg/l	< 1.00
1,2-Dichlorobenzene	µg/l	< 1.00
1,2-Dichloroethane	µg/l	< 1.00
1,2-Dichloroethene Trans (E)	µg/l	< 1.00
1,2-Dichloroethene cis (Z)	µg/l	< 1.00
1,2-Dichloropropane	µg/l	< 1.00
1,3,5-Trichlorobenzene	µg/l	< 1.00
1,3,5-Trimethlybenzene	µg/l	< 1.00
1,3-Dichlorobenzene (aq)	µg/l	< 1.00
1,3-Dichlorobenzene	µg/l	< 1.00
1,3-Dichloropropane	µg/l	< 1.00
1,3-Dichloropropene Trans (E)	µg/l	< 1.00
1,3-Dichloropropene cis (Z)	µg/l	< 1.00
1,4-Dichlorobenzene (aq)	µg/l	< 1.00
1,4-Dichlorobenzene	µg/l	< 1.00
2,2-Dichloropropane	µg/l	< 1.00
2,4,5-Trichlorophenol (aq)	µg/l	< 1.00
2,4,6-Trichlorophenol (aq)	µg/l	< 1.00
2,4-Dichlorophenol (aq)	µg/l	< 1.00
2,4-Dimethylphenol (aq)	µg/l	< 1.00
2,4-Dinitrotoluene (aq)	µg/l	< 1.00
2,6-Dinitrotoluene (aq)	µg/l	< 1.00
2-Chloronaphthalene (aq)	µg/l	< 1.00

2-Chlorophenol (aq)	µg/l	< 1.00
2-Chlorotoluene	µg/l	< 1.00
2-Methylnaphthalene (aq)	µg/l	< 1.00
2-Methylphenol (aq)	µg/l	< 1.00
2-Nitroaniline (aq)	µg/l	< 1.00
2-Nitrophenol (aq)	µg/l	< 1.00
3-Nitroaniline (aq)	µg/l	< 1.00
4-Bromophenylphenylether (aq)	µg/l	< 1.00
4-Chloro-3-methylphenol (aq)	µg/l	< 1.00
4-Chloroaniline (aq)	µg/l	< 1.00
4-Chlorophenylphenylether (aq)	µg/l	< 1.00
4-Chlorotoluene	µg/l	< 1.00
4-Methylphenol (aq)	µg/l	< 1.00
4-Nitroaniline (aq)	µg/l	< 1.00
4-Nitrophenol (aq)	µg/l	< 1.00
4-iso-Propyltoluene	µg/l	< 1.00
Aldrin	µg/l	< 0.01
Alkalinity CaCO3	mg/l	338.954
Ammonia as N	mg/l	2.234
Ammoniacal Nitrogen as N	mg/l	2.960
Antimony, Dissolved	µg/l	< 0.16
Arsenic, Dissolved	µg/l	0.93
Azinphos-ethyl	µg/l	< 0.01
Azinphos-methyl	µg/l	< 0.01
Azobenzene (aq)	µg/l	< 1.00
Barium, Dissolved	µg/l	49.60
Benzene	µg/l	< 1.00
Benzo(k)fluoranthene (aq)	µg/l	< 1.00
Beryllium, Dissolved	µg/l	< 0.10
Boron, Dissolved	µg/l	19.40
Bromobenzene	µg/l	< 1.00
Bromochloromethane	µg/l	< 1.00
Bromodichloromethane	µg/l	< 1.00
Bromoform	µg/l	< 1.00
Bromomethane	µg/l	< 1.00
Butylbenzyl phthalate (aq)	µg/l	< 1.00
CBOD5	mg/l O2	2
COD	mg/l O2	59
Cadmium, Dissolved	µg/l	< 0.10
Cadmium	µg/l	0.91
Calcium	mg/l	110.340
Carbazole (aq)	µg/l	< 1.00
Carbon disulphide	µg/l	< 1.00
Carbontetrachloride	µg/l	< 1.00
Carbophenothion	µg/l	< 0.01
Chlorfenvinphos	µg/l	< 0.01
Chloride	mg/l	40.418
Chlorobenzene	µg/l	< 1.00
Chloroethane	µg/l	< 1.00
Chloroform	µg/l	< 1.00

Chloromethane	µg/l	< 1.00
Chlorothalonil	µg/l	< 0.01
Chlorpyriphos- methyl	µg/l	< 0.01
Chlorpyriphos	µg/l	< 0.01
Chromium, Dissolved	µg/l	< 1.20
Chromium	µg/l	< 0.60
Cobalt, Dissolved	µg/l	0.25
Conductivity @ 20°C	uS/cm @20°C	685.0
Copper, Dissolved	µg/l	< 0.85
Copper	µg/l	5.77
Cyanide, Free	mg/l	< 0.05
Cyanide, Total	mg/l	< 0.05
Diazinon	µg/l	< 0.01
Dibenzofuran (aq)	µg/l	< 1.00
Dibromochloromethane	µg/l	< 1.00
Dibromomethane	µg/l	< 1.00
Dibutyl tin	ng/l	< 5.00
Dichlorodifluoromethane	µg/l	< 1.00
Dichloromethane	µg/l	< 3.00
Dichlorvos	µg/l	< 0.01
Dieldrin	µg/l	< 0.01
Diethyl phthalate (aq)	µg/l	< 1.00
Dimethoate	µg/l	< 0.01
Dimethyl phthalate (aq)	µg/l	< 1.00
Dissolved Oxygen Onsite	%	3.00
Dissolved Oxygen Onsite	mg/l O2	0.34
Disulfoton	µg/l	< 0.01
Endosulphan II	µg/l	< 0.01
Endosulphan I	µg/l	< 0.01
Endosulphan sulphate	µg/l	< 0.01
Endrin	µg/l	< 0.01
Ethion	µg/l	< 0.01
Ethylbenzene	µg/l	< 1.00
Etrimphos	µg/l	< 0.01
Fenitrothion	µg/l	< 0.01
Fenthion	µg/l	< 0.01
Fluoride	mg/l	< 0.500
Heptachlor Epoxide	µg/l	< 0.01
Heptachlor	µg/l	< 0.01
Hexachlorobenzene (aq)	µg/l	< 1.00
Hexachlorobenzene	µg/l	< 0.01
Hexachlorobutadiene (aq)	µg/l	< 1.00
Hexachlorobutadiene	µg/l	< 1.00
Hexachlorocyclopentadiene (aq)	µg/l	< 1.00
Hexachloroethane (aq)	µg/l	< 1.00
Iron	µg/l	1817.00
Isodrin	µg/l	< 0.01
Isophorone (aq)	µg/l	< 1.00
Isopropylbenzene	µg/l	< 1.00
Lead, Dissolved	µg/l	< 0.10

Lead	µg/l	< 0.80
M&P-Xylene	µg/l	< 1.00
Magnesium	mg/l	6.258
Malathion	µg/l	< 0.01
Manganese	µg/l	456.47
Mercury, Dissolved	µg/l	< 0.01
Mercury	µg/l	< 0.06
Methyl parathion	µg/l	< 0.01
Methyl tertiary butyl ether (MTBE)	µg/l	< 1.00
Mevinphos	µg/l	< 0.01
Mineral oil >C10 - C40 (aq)	µg/l	< 10.00
Molybdenum, Dissolved	µg/l	1.47
Naphthalene	µg/l	< 1.00
Nickel, Dissolved	µg/l	2.42
Nitrite as N	mg/l	0.05
Nitrobenzene (aq)	µg/l	< 1.00
O-Xylene	µg/l	< 1.00
Orthophosphate as P	mg/l	0.082
PH Onsite	pH Unit	7.42
PH	pH Unit	7.20
Parathion	µg/l	< 0.01
Pendimethalin	µg/l	< 0.01
Pentachlorophenol (aq)	µg/l	< 1.00
Permethrin II	µg/l	< 0.01
Permethrin I	µg/l	< 0.01
Phenol (aq)	µg/l	< 1.00
Phosalone	µg/l	< 0.01
Phosphate (ortho) as PO4	mg/l	< 0.05
Phosphorus, Dissolved	µg/l	18.50
Phosphorus, Total as P	mg/l	0.133
Pirimiphos-methyl	µg/l	< 0.01
Potassium	mg/l	3.640
Propetamphos	µg/l	< 0.01
Propylbenzene	µg/l	< 1.00
Quintozene (PCNB)	µg/l	< 0.01
Selenium, Dissolved	µg/l	< 1.00
Silicon, Dissolved	mg/l	2.950
Silver, Dissolved	µg/l	< 1.50
Sodium	mg/l	21.899
Styrene	µg/l	< 1.00
Sulphate	mg/l	< 20.000
TON as N	mg/l	< 2.000
Tecnazene	µg/l	< 0.01
Tellurium, Dissolved	µg/l	< 7.00
Telodrin	µg/l	< 0.01
Temperature Onsite	°C	7.90
Tetrabutyl tin	ng/l	< 2.00
Tetrachloroethene	µg/l	< 1.00
Thallium, Dissolved	µg/l	< 2.00
Tin, Dissolved	µg/l	< 0.36

Titanium, Dissolved	µg/l	7.46
Toluene	µg/l	< 1.00
Total Suspended Solids	mg/l	19
Trans-chlordane	µg/l	< 0.01
Triadimefon	µg/l	< 0.01
Triallate	µg/l	< 0.01
Triazophos	µg/l	< 0.01
Tributyl tin	ng/l	< 1.00
Trichloroethene	µg/l	< 1.00
Trichlorofluoromethane	µg/l	< 1.00
Trifluralin	µg/l	< 0.01
Triphenyl tin	ng/l	< 1.00
Uranium, Soluble	µg/l	< 1.50
Vanadium, Dissolved	µg/l	< 1.30
Vinyl chloride	µg/l	< 1.00
Zinc, Dissolved	µg/l	26.10
Zinc	µg/l	56.64
alpha-Hexachlorocyclohexane HCH/Lindane	µg/l	< 0.01
beta-Hexachlorocyclohexane HCH/Lindane	µg/l	< 0.01
bis(2-Chloroethoxy)methane (aq)	µg/l	< 1.00
bis(2-Chloroethyl)ether (aq)	µg/l	< 1.00
bis(2-Ethylhexyl) phthalate (aq)	µg/l	< 2.00
cis-Chlordane	µg/l	< 0.01
gamma-Hexachlorocyclohexane HCH/Lindane	µg/l	< 0.01
n-Butylbenzene	µg/l	< 1.00
n-Dibutyl phthalate (aq)	µg/l	< 1.00
n-Dioctyl phthalate (aq)	µg/l	< 5.00
n-Nitroso-n-dipropylamine (aq)	µg/l	< 1.00
o,p'-TDE (DDD)	µg/l	< 0.01
o,p-DDE	µg/l	< 0.01
o,p-DDT	µg/l	< 0.01
o,p-Methoxychlor	µg/l	< 0.01
p,p'-TDE (DDD)	µg/l	< 0.01
p,p-DDE	µg/l	< 0.01
p,p-DDT	µg/l	< 0.01
p,p-Methoxychlor	µg/l	< 0.01
sec-Butylbenzene	µg/l	< 1.00
tert-Amyl methyl ether (TAME)	µg/l	< 1.00
tert-Butylbenzene	µg/l	< 1.00

SW6 Quarterly/Annually Results – Carrick on Shannon

Sampled Date: 05/12/2016

Sampled Time: 11:35
Depth (m): Not required
Odour: No unusual odour
Weather/Visual Observation: Cloudy/Murky/Clean

City Analysts Ref: 341565

Analysis	Results	Units
Alkalinity CaCO3	mg/l	446.059
Ammonia as N	mg/l	2.156
CBOD5	mg/l O2	39
COD	mg/l O2	230
Cadmium	µg/l	1.33
Calcium	mg/l	151.277
Chloride	mg/l	34.960
Chromium	µg/l	< 0.60
Conductivity @ 20°C	uS/cm @20°C	834.0
Copper	µg/l	5.14
Dissolved Oxygen Onsite	%	1.40
Dissolved Oxygen Onsite	mg/l O2	0.16
Iron	µg/l	9940.00
Lead	µg/l	6.23
Magnesium	mg/l	9.954
Manganese	µg/l	900.00
Mercury	µg/l	< 0.06
Orthophosphate as P	mg/l	0.157
PH Onsite	pH Unit	6.95
PH	pH Unit	6.69
Phosphorus, Total as P	mg/l	0.126
Potassium	mg/l	3.905
Sodium	mg/l	19.391
Sulphate	mg/l	21.606
TON as N	mg/l	< 2.000
Temperature Onsite	°C	7.90
Total Suspended Solids	mg/l	1365
Zinc	µg/l	54.05

SW7 Quarterly/Annually Results – Carrick on Shannon

Sampled Date: 05/12/2016

Sampled Time: 11:55
Depth (m): Not required
Odour: No unusual odour
Weather/Visual Observation: Cloudy/Murky/Clean

City Analysts Ref: 341566

Analysis	Results	Units
Alkalinity CaCO3	mg/l	213.491
Ammonia as N	mg/l	0.089
CBOD5	mg/l O2	< 2
COD	mg/l O2	44
Cadmium	µg/l	0.39
Calcium	mg/l	78.779
Chloride	mg/l	27.850
Chromium	µg/l	0.81
Conductivity @ 20°C	uS/cm @20°C	479.0
Copper	µg/l	3.98
Dissolved Oxygen Onsite	%	3.20
Dissolved Oxygen Onsite	mg/l O2	0.36
Iron	µg/l	215.18
Lead	µg/l	< 0.80
Magnesium	mg/l	4.766
Manganese	µg/l	53.73
Mercury	µg/l	< 0.06
Orthophosphate as P	mg/l	< 0.025
PH Onsite	pH Unit	7.48
PH	pH Unit	7.32
Phosphorus, Total as P	mg/l	0.052
Potassium	mg/l	1.830
Sodium	mg/l	17.631
Sulphate	mg/l	28.434
TON as N	mg/l	< 2.000
Temperature Onsite	°C	7.90
Total Suspended Solids	mg/l	5
Zinc	µg/l	106.09

SW8 Quarterly/Annually Results – Carrick on Shannon

Sampled Date: 05/12/2016

Sampled Time: 12.10
Depth (m): Not required
Odour: No unusual odour
Weather/Visual Observation: Cloudy/Murky/Clean

City Analysts Ref: 341567

Analysis	Results	Units
Alkalinity CaCO3	mg/l	329.394
Ammonia as N	mg/l	< 0.010
CBOD5	mg/l O2	8
COD	mg/l O2	415
Cadmium	µg/l	1.06
Calcium	mg/l	133.437
Chloride	mg/l	14.888
Chromium	µg/l	0.91
Conductivity @ 20°C	uS/cm @20°C	595.0
Copper	µg/l	9.35
Dissolved Oxygen Onsite	%	3.50
Dissolved Oxygen Onsite	mg/l O2	0.40
Iron	µg/l	4780.00
Lead	µg/l	4.89
Magnesium	mg/l	6.552
Manganese	µg/l	150.00
Mercury	µg/l	< 0.06
Orthophosphate as P	mg/l	0.188
PH Onsite	pH Unit	7.94
PH	pH Unit	7.69
Phosphorus, Total as P	mg/l	0.145
Potassium	mg/l	1.136
Sodium	mg/l	7.477
Sulphate	mg/l	< 20.000
TON as N	mg/l	< 2.000
Temperature Onsite	°C	7.80
Total Suspended Solids	mg/l	600
Zinc	µg/l	49.46

Leachate Quarterly /Annually Results – Carrick on Shannon

Sampled Date: 05/12/2016

Sampled Time: 12:45
Depth (m): Not acquired
Odour: No unusual odour
Weather/Visual Observation: Cloudy/Murky/Clean

City Analysts Ref: 341568

Analysis	Results	Units
1,1,1,2-Tetrachloroethane	µg/l	< 1.00
1,1,1-Trichloroethane	µg/l	< 1.00
1,1,2,2-Tetrachloroethane	µg/l	< 1.00
1,1,2-Trichloroethane	µg/l	< 1.00
1,1-Dichloroethane	µg/l	< 1.00
1,1-Dichloroethene	µg/l	< 1.00
1,1-Dichloropropene	µg/l	< 1.00
1,2,3-Trichlorobenzene	µg/l	< 1.00
1,2,3-Trichloropropane	µg/l	< 1.00
1,2,4-Trichlorobenzene (aq)	µg/l	< 1.00
1,2,4-Trichlorobenzene	µg/l	< 1.00
1,2,4-Trimethylbenzene	µg/l	< 1.00
1,2-Dibromo-3-chloropropane	µg/l	< 1.00
1,2-Dibromoethane	µg/l	< 1.00
1,2-Dichlorobenzene (aq)	µg/l	< 1.00
1,2-Dichlorobenzene	µg/l	< 1.00
1,2-Dichloroethane	µg/l	< 1.00
1,2-Dichloroethene Trans (E)	µg/l	< 1.00
1,2-Dichloroethene cis (Z)	µg/l	< 1.00
1,2-Dichloropropane	µg/l	< 1.00
1,3,5-Trichlorobenzene	µg/l	< 1.00
1,3,5-Trimethlybenzene	µg/l	< 1.00
1,3-Dichlorobenzene (aq)	µg/l	< 1.00
1,3-Dichlorobenzene	µg/l	< 1.00
1,3-Dichloropropane	µg/l	< 1.00
1,3-Dichloropropene Trans (E)	µg/l	< 1.00
1,3-Dichloropropene cis (Z)	µg/l	< 1.00
1,4-Dichlorobenzene (aq)	µg/l	< 1.00
1,4-Dichlorobenzene	µg/l	< 1.00
2,2-Dichloropropane	µg/l	< 1.00
2,4,5-Trichlorophenol (aq)	µg/l	< 1.00
2,4,6-Trichlorophenol (aq)	µg/l	< 1.00
2,4-Dichlorophenol (aq)	µg/l	< 1.00
2,4-Dimethylphenol (aq)	µg/l	< 1.00
2,4-Dinitrotoluene (aq)	µg/l	< 1.00
2,6-Dinitrotoluene (aq)	µg/l	< 1.00

2-Chloronaphthalene (aq)	µg/l	< 1.00
2-Chlorophenol (aq)	µg/l	< 1.00
2-Chlorotoluene	µg/l	< 1.00
2-Methylnaphthalene (aq)	µg/l	< 1.00
2-Methylphenol (aq)	µg/l	< 1.00
2-Nitroaniline (aq)	µg/l	< 1.00
2-Nitrophenol (aq)	µg/l	< 1.00
3-Nitroaniline (aq)	µg/l	< 1.00
4-Bromophenylphenylether (aq)	µg/l	< 1.00
4-Chloro-3-methylphenol (aq)	µg/l	< 1.00
4-Chloroaniline (aq)	µg/l	< 1.00
4-Chlorophenylphenylether (aq)	µg/l	< 1.00
4-Chlorotoluene	µg/l	< 1.00
4-Methylphenol (aq)	µg/l	< 1.00
4-Nitroaniline (aq)	µg/l	< 1.00
4-Nitrophenol (aq)	µg/l	< 1.00
4-iso-Propyltoluene	µg/l	< 1.00
Aldrin	µg/l	< 0.01
Ammonia as N	mg/l	15.515
Ammoniacal Nitrogen as N	mg/l	17.000
Antimony, Dissolved	µg/l	0.31
Arsenic, Dissolved	µg/l	0.75
Azinphos-ethyl	µg/l	< 0.01
Azinphos-methyl	µg/l	< 0.01
Azobenzene (aq)	µg/l	< 1.00
Barium, Dissolved	µg/l	103.00
Benzene	µg/l	< 1.00
Benzo(k)fluoranthene (aq)	µg/l	< 1.00
Beryllium, Dissolved	µg/l	< 0.10
Boron, Dissolved	µg/l	61.50
Boron	µg/l	202.86
Bromobenzene	µg/l	< 1.00
Bromochloromethane	µg/l	< 1.00
Bromodichloromethane	µg/l	< 1.00
Bromoform	µg/l	< 1.00
Bromomethane	µg/l	< 1.00
Butylbenzyl phthalate (aq)	µg/l	< 1.00
CBOD5	mg/l O2	< 2
COD	mg/l O2	42
Cadmium, Dissolved	µg/l	< 0.10
Cadmium	mg/l	< 0.200
Calcium	mg/l	119.457
Carbazole (aq)	µg/l	< 1.00
Carbon disulphide	µg/l	< 1.00
Carbontetrachloride	µg/l	< 1.00
Carbophenothion	µg/l	< 0.01
Chlorfenvinphos	µg/l	< 0.01
Chloride	mg/l	82.235
Chlorobenzene	µg/l	< 1.00
Chloroethane	µg/l	< 1.00

Chloroform	µg/l	< 1.00
Chloromethane	µg/l	< 1.00
Chlorothalonil	µg/l	< 0.01
Chlorpyriphos- methyl	µg/l	< 0.01
Chlorpyriphos	µg/l	< 0.01
Chromium, Dissolved	µg/l	< 1.20
Chromium	mg/l	< 0.200
Cobalt, Dissolved	µg/l	0.86
Coliforms	MPN/100ml	410.6
Conductivity @ 20°C	uS/cm @20°C	966.0
Copper, Dissolved	µg/l	1.54
Copper	mg/l	< 0.200
Cyanide, Free	mg/l	< 0.05
Cyanide, Total	mg/l	< 0.020
Diazinon	µg/l	< 0.01
Dibenzofuran (aq)	µg/l	< 1.00
Dibromochloromethane	µg/l	< 1.00
Dibromomethane	µg/l	< 1.00
Dibutyl tin	ng/l	< 5.00
Dichlorodifluoromethane	µg/l	< 1.00
Dichloromethane	µg/l	< 3.00
Dichlorvos	µg/l	< 0.01
Dieldrin	µg/l	< 0.01
Diethyl phthalate (aq)	µg/l	< 1.00
Dimethoate	µg/l	< 0.01
Dimethyl phthalate (aq)	µg/l	< 1.00
Disulfoton	µg/l	< 0.01
Endosulphan II	µg/l	< 0.01
Endosulphan I	µg/l	< 0.01
Endosulphan sulphate	µg/l	< 0.01
Endrin	µg/l	< 0.01
Ethion	µg/l	< 0.01
Ethylbenzene	µg/l	< 1.00
Etrimphos	µg/l	< 0.01
Faecal Coliforms	cfu/100ml	12
Fenitrothion	µg/l	< 0.01
Fenthion	µg/l	< 0.01
Fluoride	mg/l	0.2
Heptachlor Epoxide	µg/l	< 0.01
Heptachlor	µg/l	< 0.01
Hexachlorobenzene (aq)	µg/l	< 1.00
Hexachlorobenzene	µg/l	< 0.01
Hexachlorobutadiene (aq)	µg/l	< 1.00
Hexachlorobutadiene	µg/l	< 1.00
Hexachlorocyclopentadiene (aq)	µg/l	< 1.00
Hexachloroethane (aq)	µg/l	< 1.00
Iron	mg/l	< 0.200
Isodrin	µg/l	< 0.01
Isophorone (aq)	µg/l	< 1.00
Isopropylbenzene	µg/l	< 1.00

Lead, Dissolved	µg/l	1.55
Lead	mg/l	< 0.200
M&P-Xylene	µg/l	< 1.00
Magnesium	mg/l	10.261
Malathion	µg/l	< 0.01
Manganese	mg/l	0.245
Mercury, Dissolved	µg/l	< 0.01
Mercury	mg/l	< 0.001
Methyl parathion	µg/l	< 0.01
Methyl tertiary butyl ether (MTBE)	µg/l	< 1.00
Mevinphos	µg/l	< 0.01
Mineral oil >C10 - C40 (aq)	µg/l	< 10.00
Molybdenum, Dissolved	µg/l	1.18
Naphthalene	µg/l	< 1.00
Nickel, Dissolved	µg/l	3.80
Nitrite as N	mg/l	0.03
Nitrobenzene (aq)	µg/l	< 1.00
O-Xylene	µg/l	< 1.00
Orthophosphate as P	mg/l	< 0.025
PH Onsite	pH Unit	7.30
PH	pH Unit	7.13
Parathion	µg/l	< 0.01
Pendimethalin	µg/l	< 0.01
Pentachlorophenol (aq)	µg/l	< 1.00
Permethrin II	µg/l	< 0.01
Permethrin I	µg/l	< 0.01
Phenol (aq)	µg/l	< 1.00
Phosalone	µg/l	< 0.01
Phosphate (ortho) as PO4	mg/l	< 0.05
Phosphorus, Dissolved	µg/l	< 15.00
Phosphorus, Total as P	mg/l	< 2.000
Pirimiphos-methyl	µg/l	< 0.01
Potassium	mg/l	10.215
Propetamphos	µg/l	< 0.01
Propylbenzene	µg/l	< 1.00
Quintozene (PCNB)	µg/l	< 0.01
Selenium, Dissolved	µg/l	< 1.00
Silicon, Dissolved	mg/l	3.990
Silver, Dissolved	µg/l	< 1.50
Sodium	mg/l	47.886
Styrene	µg/l	< 1.00
Sulphate	mg/l	< 20.000
TON as N	mg/l	< 5.000
Tecnazene	µg/l	< 0.01
Tellurium, Dissolved	µg/l	< 7.00
Telodrin	µg/l	< 0.01
Temperature Onsite	°C	7.90
Tetrabutyl tin	ng/l	< 2.00
Tetrachloroethene	µg/l	< 1.00
Thallium, Dissolved	µg/l	< 2.00

Tin, Dissolved	µg/l	1.48
Titanium, Dissolved	µg/l	7.02
Toluene	µg/l	< 1.00
Trans-chlordane	µg/l	< 0.01
Triadimefon	µg/l	< 0.01
Triallate	µg/l	< 0.01
Triazophos	µg/l	< 0.01
Tributyl tin	ng/l	< 1.00
Trichloroethene	µg/l	< 1.00
Trichlorofluoromethane	µg/l	< 1.00
Trifluralin	µg/l	< 0.01
Triphenyl tin	ng/l	< 1.00
Uranium, Soluble	µg/l	< 1.50
Vanadium, Dissolved	µg/l	< 1.30
Vinyl chloride	µg/l	< 1.00
Zinc, Dissolved	µg/l	99.50
Zinc	mg/l	< 0.200
alpha-Hexachlorocyclohexane HCH/Lindane	µg/l	< 0.01
beta-Hexachlorocyclohexane HCH/Lindane	µg/l	< 0.01
bis(2-Chloroethoxy)methane (aq)	µg/l	< 1.00
bis(2-Chloroethyl)ether (aq)	µg/l	< 1.00
bis(2-Ethylhexyl) phthalate (aq)	µg/l	< 2.00
cis-Chlordane	µg/l	< 0.01
gamma-Hexachlorocyclohexane HCH/Lindane	µg/l	< 0.01
n-Butylbenzene	µg/l	< 1.00
n-Dibutyl phthalate (aq)	µg/l	< 1.00
n-Dioctyl phthalate (aq)	µg/l	< 5.00
n-Nitroso-n-dipropylamine (aq)	µg/l	< 1.00
o,p'-TDE (DDD)	µg/l	< 0.01
o,p-DDE	µg/l	< 0.01
o,p-DDT	µg/l	< 0.01
o,p-Methoxychlor	µg/l	< 0.01
p,p'-TDE (DDD)	µg/l	< 0.01
p,p-DDE	µg/l	< 0.01
p,p-DDT	µg/l	< 0.01
p,p-Methoxychlor	µg/l	< 0.01
sec-Butylbenzene	µg/l	< 1.00
tert-Amyl methyl ether (TAME)	µg/l	< 1.00
tert-Butylbenzene	µg/l	< 1.00