

Facility Information Summary

AER Reporting Year	2016
Licence Register Number	WO 165-02
Name of site	Ballynagran Residual Landfill
Site Location	Ballynagran, Coolbeg and Kilcandra, County Wicklow
NACE Code	3821
Class/Classes of Activity	11.1, 11.5
National Grid Reference (6E, 6 N)	327024E, 191229N

A description of the activities/processes at the site for the reporting year. This should include information such as production increases or decreases on site, any infrastructural changes, environmental performance which was measured during the reporting year **and an overview of compliance with your licence listing all exceedances of licence limits (where applicable) and what they relate to e.g. air, water, noise.**

Ballynagran is an operational landfill in Co. Wicklow. It covers an area of 128 hectares approximately. It accepts residual non-hazardous, commercial and industrial waste. The facility was granted a waste License (W0165-01) by the Agency on 5th September 2003 which was reviewed with a revised license (W0165-02) issued on 23rd March 2010. Air Stack emissions are compliant with the license. There was one exceedance of the surface water emission limits for Total Suspended Solids. All noise emissions were compliant with the license limit.

Declaration:

All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

<i>Tomás Kirwan</i>	<i>25th March 2018</i>
Signature	Date
Group/Facility manager (or nominated, suitably qualified and experienced deputy)	

Answer all questions and complete all tables where relevant

Additional information

1 Does your site have licensed air emissions? If yes please complete table A1 and A2 below for the current reporting year and answer further questions. If you do not have licensed emissions and do not complete a solvent management plan (Table A4 and A5) you do not need to complete the tables

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Periodic/Non-Continuous Monitoring

2 Are there any results in breach of licence requirements? If yes please provide brief details in the comment section of TableA1 below

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3 Was all monitoring carried out in accordance with EPA guidance note AG2 and using the basic air monitoring checklist? [Basic air monitoring checklist](#) [AGN2](#)

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Table A1: Licensed Mass Emissions/Ambient data-periodic monitoring (non-continuous)

Emission reference no:	Parameter/ Substance	Frequency of Monitoring	ELV in licence or any revision thereof	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence limit	Method of analysis	Annual mass load (kg)	Comments-reason for change in % mass load from previous year if applicable
Flare 1	Carbon monoxide (CO)	Annual	50	No 30min mean can exceed the ELV	2.93	mg/m3	yes	EN 15058:2006	2.77	
Flare 1	Nitrous oxide (N2O)	Annual	150	No 30min mean can exceed the ELV	81.45	mg/m3	yes	EN 14792:2006	76.96	
Flare 1	Volatile organic compounds (as TOC)	Annual	10	No 30min mean can exceed the ELV	4.05	mg/m3	yes	EN12619:2013	3.83	
Flare 1	Hydrogen Chloride	Annual	50	No 30min mean can exceed the ELV	7.62	mg/m3	yes	EN1911:2010	7.20	
Flare 1	Hydrogen Fluoride	Annual	5	No 30min mean can exceed the ELV	4.89	mg/m3	yes	EN15713:2006	4.62	
Flare 1	Sulphur Dioxide	Annual	-	No 30min mean can exceed the ELV	3257.53	mg/m3	yes	TGN 21	3,077.76	
Engine 2	Total Particulate Matter	Annual	130	No 30min mean can exceed the ELV	2.32	mg/m3	yes	EN13284-1:2002	13.12	
Engine 2	Carbon monoxide (CO)	Annual	1400	No 30min mean can exceed the ELV	949.9	mg/m3	yes	EN 15058:2006	5,370.20	
Engine 2	Nitrous oxide (N2O)	Annual	500	No 30min mean can exceed the ELV	394.25	mg/m3	yes	EN 14792:2006	2,228.87	
Engine 2	Hydrogen Chloride	Annual	50	No 30min mean can exceed the ELV	2.33	mg/m3	yes	EN1911:2010	13.17	
Engine 2	Hydrogen Fluoride	Annual	5	No 30min mean can exceed the ELV	1.09	mg/m3	yes	EN15713:2006	6.16	
Engine 2	TA luft organics	Annual	20	No 30min mean can exceed the ELV	<0.81	mg/m3	yes	EN13649:2002	<6.23	
Engine 2	Sulphur Dioxide	Annual	-	No 30min mean can exceed the ELV	3538.77	mg/m3	yes	TGN 21	20,006.22	
Engine 2	Volumetric Flow	Annual	3000	No 30min mean can exceed the ELV	2644	m3/hr	yes	EN16911:2013	5,653,440	
Engine 3	Total Particulate Matter	Annual	130	No 30min mean can exceed the ELV	6.55	mg/m3	yes	EN13284-1:2002	50.40	
Engine 3	Carbon monoxide (CO)	Annual	1400	No 30min mean can exceed the ELV	837.1	mg/m3	yes	EN 15058:2006	6,441.79	
Engine 3	Nitrous oxide (N2O)	Annual	500	No 30min mean can exceed the ELV	480.9	mg/m3	yes	EN 14792:2006	3,700.70	
Engine 3	Hydrogen Chloride	Annual	50	No 30min mean can exceed the ELV	3.43	mg/m3	yes	EN1911:2010	26.40	
Engine 3	Hydrogen Fluoride	Annual	5	No 30min mean can exceed the ELV	8.77	mg/m3	yes	EN15713:2006	67.49	
Engine 3	TA luft organics	Annual	20	No 30min mean can exceed the ELV	<0.73	mg/m3	yes	EN13649:2002	<5.62	
Engine 3	Sulphur Dioxide	Annual	-	No 30min mean can exceed the ELV	2954.73	mg/m3	yes	TGN 21	22,737.71	
Engine 3	Volumetric Flow	Annual	3000	No 30min mean can exceed the ELV	2510	m3/hr	yes	EN16911:2013	7,695,360	
Engine 4	Total Particulate Matter	Annual	130	No 30min mean can exceed the ELV	23.08	mg/m3	yes	EN13284-1:2002	126.63	
Engine 4	Carbon monoxide (CO)	Annual	1400	No 30min mean can exceed the ELV	825.67	mg/m3	yes	EN 15058:2006	4,530.10	
Engine 4	Nitrous oxide (N2O)	Annual	500	No 30min mean can exceed the ELV	473.68	mg/m3	yes	EN 14792:2006	2,598.88	
Engine 4	Hydrogen Chloride	Annual	50	No 30min mean can exceed the ELV	4.18	mg/m3	yes	EN1911:2010	22.93	
Engine 4	Hydrogen Fluoride	Annual	5	No 30min mean can exceed the ELV	1.06	mg/m3	yes	EN15713:2006	5.82	
Engine 4	TA luft organics	Annual	20	No 30min mean can exceed the ELV	<0.76	mg/m3	yes	EN13649:2002	<4.17	
Engine 4	Sulphur Dioxide	Annual	-	No 30min mean can exceed the ELV	3011.57	mg/m3	yes	TGN 21	16,523.22	
Engine 4	Volumetric Flow	Annual	3000	No 30min mean can exceed the ELV	2107	m3/hr	yes	EN16911:2013	5,486,580	

Note 1: Volumetric flow shall be included as a reportable parameter

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AER Monitoring returns summary template-WATER/WASTEWATER(SEWER)					Lic No:	WO 165-02	Year	2016		
					Additional information					
1	Does your site have licensed emissions direct to surface water or direct to sewer? If yes please complete table W2 and W3 below for the current reporting year and answer further questions. If you do not have licenced emissions you only need to complete table W1 and or W2 for storm water analysis and visual inspections				No					
2	Was it a requirement of your licence to carry out visual inspections on any surface water discharges or watercourses on or near your site? If yes please complete table W2 below summarising only any evidence of contamination noted during visual inspections				Yes					
Table W1 Storm water monitoring										
Location reference	Location relative to site activities	PRTR Parameter	Licenced Parameter	Monitoring date	ELV or trigger level in licence or any revision thereof*	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Comments
SW-10	onsite	SELECT	pH	10/03/2016	n/a	N/A	7.55	pH units	n/a	
SW-10	onsite	SELECT	pH	11/05/2016	n/a	N/A	7.47	pH units	n/a	
SW-10	onsite	SELECT	pH	18/08/2016	n/a	N/A	7.61	pH units	n/a	
SW-10	onsite	SELECT	pH	14/12/2016	n/a	N/A	6.97	pH units	n/a	
SW-10	onsite	SELECT	Conductivity	10/03/2016	n/a	N/A	545	µS/cm @25oC	n/a	
SW-10	onsite	SELECT	Conductivity	11/05/2016	n/a	N/A	618	µS/cm @25oC	n/a	
SW-10	onsite	SELECT	Conductivity	18/08/2016	n/a	N/A	421	µS/cm @25oC	n/a	
SW-10	onsite	SELECT	Conductivity	14/12/2016	n/a	N/A	489	µS/cm @25oC	n/a	
SW-10	onsite	SELECT	Chlorides (as Cl)	10/03/2016	n/a	N/A	37.3	mg/L	n/a	
SW-10	onsite	SELECT	Chlorides (as Cl)	11/05/2016	n/a	N/A	56.4	mg/L	n/a	
SW-10	onsite	SELECT	Chlorides (as Cl)	18/08/2016	n/a	N/A	23.2	mg/L	n/a	
SW-10	onsite	SELECT	Chlorides (as Cl)	14/12/2016	n/a	N/A	21.2	mg/L	n/a	
SW-10	onsite	SELECT	Ammoniacal Nitrogen	10/03/2016	n/a	N/A	1.38	mg/L	n/a	
SW-10	onsite	SELECT	Ammoniacal Nitrogen	11/05/2016	n/a	N/A	2.87	mg/L	n/a	
SW-10	onsite	SELECT	Ammoniacal Nitrogen	18/08/2016	n/a	N/A	0.03	mg/L	n/a	
SW-10	onsite	SELECT	Ammoniacal Nitrogen	14/12/2016	n/a	N/A	0.11	mg/L	n/a	
SW-10	onsite	SELECT	Total Suspended Solids	10/03/2016	35	All values < ELV	<10	mg/L	yes	
SW-10	onsite	SELECT	Total Suspended Solids	11/05/2016	35	All values < ELV	25	mg/L	yes	
SW-10	onsite	SELECT	Total Suspended Solids	18/08/2016	35	All values < ELV	<10	mg/L	yes	
SW-10	onsite	SELECT	Total Suspended Solids	14/12/2016	35	All values < ELV	93	mg/L	No	Adverse weather see, INCI011437
SW-10	onsite	SELECT	Dissolved Oxygen	10/03/2016	n/a	N/A	7	mg/L	n/a	
SW-10	onsite	SELECT	Dissolved Oxygen	11/05/2016	n/a	N/A	6	mg/L	n/a	
SW-10	onsite	SELECT	Dissolved Oxygen	18/08/2016	n/a	N/A	8	mg/L	n/a	
SW-10	onsite	SELECT	Dissolved Oxygen	14/12/2016	n/a	N/A	9	mg/L	n/a	
SW-10	onsite	SELECT	BOD	10/03/2016	n/a	N/A	1	mg/L	n/a	
SW-10	onsite	SELECT	BOD	11/05/2016	n/a	N/A	5	mg/L	n/a	
SW-10	onsite	SELECT	BOD	18/08/2016	n/a	N/A	2	mg/L	n/a	
SW-10	onsite	SELECT	BOD	14/12/2016	n/a	N/A	2	mg/L	n/a	
SW-10	onsite	SELECT	COD	10/03/2016	n/a	N/A	25	mg/L	n/a	
SW-10	onsite	SELECT	COD	11/05/2016	n/a	N/A	36	mg/L	n/a	
SW-10	onsite	SELECT	COD	18/08/2016	n/a	N/A	18	mg/L	n/a	
SW-10	onsite	SELECT	COD	14/12/2016	n/a	N/A	28	mg/L	n/a	
SW-10	onsite	SELECT	Chromium and compounds (as Cr)	14/12/2016	n/a	N/A	<1.5	µg/L	n/a	
SW-10	onsite	SELECT	Boron	14/12/2016	n/a	N/A	22	µg/L	n/a	
SW-10	onsite	SELECT	Cadmium and compounds (as Cd)	14/12/2016	n/a	N/A	<0.5	µg/L	n/a	
SW-10	onsite	SELECT	Calcium	14/12/2016	n/a	N/A	65.8	mg/L	n/a	
SW-10	onsite	SELECT	Copper and compounds (as Cu)	14/12/2016	n/a	N/A	<7	µg/L	n/a	
SW-10	onsite	SELECT	Iron	14/12/2016	n/a	N/A	<20	µg/L	n/a	
SW-10	onsite	SELECT	Lead and compounds (as Pb)	14/12/2016	n/a	N/A	<5	µg/L	n/a	
SW-10	onsite	SELECT	Magnesium	14/12/2016	n/a	N/A	8.9	mg/L	n/a	
SW-10	onsite	SELECT	Manganese (as Mn)	14/12/2016	n/a	N/A	3	µg/L	n/a	
SW-10	onsite	SELECT	Mercury and compounds (as Hg)	14/12/2016	n/a	N/A	<1	µg/L	n/a	
SW-10	onsite	SELECT	Nickel and compounds (as Ni)	14/12/2016	n/a	N/A	<2	µg/L	n/a	
SW-10	onsite	SELECT	Potassium	14/12/2016	n/a	N/A	4.5	mg/l	n/a	
SW-10	onsite	SELECT	Sodium	14/12/2016	n/a	N/A	13	mg/l	n/a	
SW-10	onsite	SELECT	Zinc and compounds (as Zn)	14/12/2016	n/a	N/A	<3	µg/L	n/a	
SW-10	onsite	SELECT	Sulphate	14/12/2016	n/a	N/A	95.5	mg/L	n/a	
SW-10	onsite	SELECT	Ortho-phosphate (as PO4)	14/12/2016	n/a	N/A	<0.06	mg/L	n/a	
SW-10	onsite	SELECT	Total Oxidised Nitrogen (TON)	14/12/2016	n/a	N/A	0.9	mg/L	n/a	
SW-10	onsite	SELECT	Total Alkalinity	14/12/2016	n/a	N/A	130	mg/L	n/a	

*trigger values may be agreed by the Agency outside of licence conditions

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER)		Lic No:	WO 165-02	Year	2016
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Table W2 Visual inspections-Please only enter details where contamination was observed.

Location Reference	Date of inspection	Description of contamination	Source of contamination	Corrective action	Comments
	Weekly	No contamination observed throughout 2016	SELECT		
			SELECT		

Licensed Emissions to water and /or wastewater(sewer)-periodic monitoring (non-continuous)

3 Was there any result in breach of licence requirements? If yes please provide brief details in the comment section of Table W3 below

Was all monitoring carried out in accordance with EPA guidance and checklists for Quality of Aqueous Monitoring Data Reported to the EPA? If no please detail what areas require improvement in additional information box

4

SELECT	Additional information
SELECT	

Table W3: Licensed Emissions to water and /or wastewater (sewer)-periodic monitoring (non-continuous)

Emission reference no:	Emission released to	Parameter/ Substance ^{Note 1}	Type of sample	Frequency of monitoring	Averaging period	ELV or trigger values in licence or any revision there ^{note 2}	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence

Note 1: Volumetric flow shall be included as a reportable parameter
 Note 2: Where Emission Limit Values (ELV) do not apply to your licence please compare results against EQS for Surface water or relevant receptor quality standards

Continuous monitoring

5 Does your site carry out continuous emissions to water/sewer monitoring?

If yes please summarise your continuous monitoring data below in Table W4 and compare it to its relevant Emission Limit Value (ELV)

6 Did continuous monitoring equipment experience downtime? If yes please record downtime in table W4 below

7 Do you have a proactive service contract for each piece of continuous monitoring equipment on site?

8 Did abatement system bypass occur during the reporting year? If yes please complete table W5 below

No	Additional Information
SELECT	
SELECT	
SELECT	

Table W4: Summary of average emissions -continuous monitoring

Emission reference no:	Emission released to	Parameter/ Substance	ELV or trigger values in licence or any revision thereof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission for current reporting year (kg)	% change +/- from previous reporting year	Monitoring Equipment downtime (hours)	Number of ELV exceedences in reporting year
	SELECT	SELECT		SELECT	SELECT	SELECT				
	SELECT	SELECT		SELECT	SELECT	SELECT				

note 1: Volumetric flow shall be included as a reportable parameter.

Table W5: Abatement system bypass reporting table

Date	Duration (hours)	Location	Resultant emissions	Reason for bypass	Corrective action*	Was a report submitted to the EPA?	When was this report submitted?
						SELECT	

*Measures taken or proposed to reduce or limit bypass frequency

Bund testing

dropdown menu click to see options

Additional information

- Are you required by your licence to undertake integrity testing on bunds and containment structures? If yes please fill out table B1 below listing all **new bunds and containment structures** on site, in addition to **all bunds which failed the integrity test-all bunding structures which failed including mobile bunds must be listed in the table below, please include all bunds outside the licenced testing period** (mobile bunds and chemstore included)
- 1 Please provide integrity testing frequency period
 - 2 Does the site maintain a register of bunds, underground pipelines (including stormwater and foul), Tanks, sumps and containers? (containers refers to "Chemstore" type units and mobile bunds)
 - 3 How many bunds are on site?
 - 4 How many of these bunds have been tested within the required test schedule?
 - 5 How many mobile bunds are on site?
 - 6 Are the mobile bunds included in the bund test schedule?
 - 7 How many of these mobile bunds have been tested within the required test schedule?
 - 8 How many sumps on site are included in the integrity test schedule?
 - 9 How many of these sumps are integrity tested within the test schedule?
- Please list any sump integrity failures in table B1**
- 11 Do all sumps and chambers have high level liquid alarms?
 - 12 If yes to Q11 are these failsafe systems included in a maintenance and testing programme?
 - 13 Is the Fire Water Retention Pond included in your integrity test programme?

Yes	
3 years	
Yes	
1	
1	
7	
Yes	
all	
n/a	
n/a	
N/A	
SELECT	
N/A	

Table B1: Summary details of bund /containment structure integrity test

Bund/Containment structure ID	Type	Specify Other type	Product containment	Actual capacity	Capacity required*	Type of integrity test	Other test type	Test date	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
6000L Diesel	reinforced concrete		Diesel	6600L	6000L	Hydraulic test		20/03/2015	Yes	Pass		SELECT		
mobile bund 1	prefabricated		oil	275L	250L	Hydraulic test		20/03/2015	Yes	Pass				
mobile bund 2	prefabricated		oil	275L	250L	Hydraulic test		20/03/2015	Yes	Pass				
mobile bund 3	prefabricated		oil	275L	250L	Hydraulic test		20/03/2015	Yes	Pass				
mobile bund 4	prefabricated		oil	275L	250L			from new due Y17						
mobile bund 5	prefabricated		Waste oil bund	1100L	1000L			from new due Y17						
Gas Com storage	prefabricated		Oils and Coolant	2400L	2000L			from new due Y18						
	SELECT					SELECT			SELECT	SELECT		SELECT		

* Capacity required should comply with 25% or 110% containment rule as detailed in your licence.
 Has integrity testing been carried out in accordance with licence requirements and are all structures tested in line with BS8007/EPA Guidance?

[bundings and storage guidelines](#)

- 15 Are channels/transfer systems to remote containment systems tested?
- 16 Are channels/transfer systems compliant in both integrity and available volume?

Commentary

SELECT	
SELECT	
SELECT	

Pipeline/underground structure testing

- Are you required by your licence to undertake integrity testing* on underground structures e.g. pipelines or sumps etc? If yes please fill out table 2 below listing all underground structures and pipelines on site **which failed the integrity test and all which have not been tested withing the integrity test period as specified**
- 2 Please provide integrity testing frequency period
- *please note integrity testing means water tightness testing for process and foul pipelines (as required under your licence)

No	
Other (please specify)	Annual

Table B2: Summary details of pipeline/underground structures integrity test

Structure ID	Type system	Material of construction:	Does this structure have Secondary containment?	Type of secondary containment	Type integrity testing	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
	Process	concrete	No	Other (please specify)	SELECT	SELECT	Pass				SELECT

Please use commentary for additional details not answered by tables/ questions above

		Comments
1	Are you required to carry out groundwater monitoring as part of your licence requirements?	yes
2	Are you required to carry out soil monitoring as part of your licence requirements?	no
3	Do you extract groundwater for use on site? If yes please specify use in comment section	no
4	Do monitoring results show that groundwater generic assessment criteria such as GTVs or IGVs are exceeded or is there an upward trend in results for a substance? If yes, please complete the Groundwater Monitoring Guideline Template Report (link in cell G8) and submit separately through ALDER as a licensee return AND answer questions 5-12 below.	no
5	Is the contamination related to operations at the facility (either current and/or historic)	no
6	Have actions been taken to address contamination issues? If yes please summarise remediation strategies proposed/undertaken for the site	no
7	Please specify the proposed time frame for the remediation strategy	N/A
8	Is there a licence condition to carry out/update ELRA for the site?	yes
9	Has any type of risk assessment been carried out for the site?	yes
10	Has a Conceptual Site Model been developed for the site?	no
11	Have potential receptors been identified on and off site?	no
12	Is there evidence that contamination is migrating offsite?	no

Please provide an interpretation of groundwater monitoring data in the interpretation box below or if you require additional space please include a groundwater/contaminated land monitoring results interpretation as an additional section in this AER

Groundwater monitoring at Ballynagran is compared to Groundwater Trigger Levels approved by the Agency in December 2011. None of the results exceed the IG / GTVs and there are no upward trends.

Upgradient Groundwater monitoring results										
Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration++	Average Concentration+	unit	GTVs*	SELECT**	Upward trend in pollutant concentration over last 5 years of monitoring data
2016	MW-1D	pH	Field Probe	Quarterly	7.71	7.39	pH units	<6.5 & >9.5	IGV	No
2016	MW-1D	Electrical Conductivity	Field Probe	Quarterly	320	296.5	uS/cm	800 - 1,875	GTV	No
2016	MW-1D	Chloride	Soluble Ion Analysis Thermo Aquakem Photometric Automatic Analyser	Quarterly	20.7	20.45	mg/l	24 - 187.5	GTV	No
2016	MW-1D	Ammonia	Soluble Ion Analysis Thermo Aquakem Photometric Automatic Analyser	Quarterly	0.13	0.06	mg/l	0.065 - 0.175	GTV	No
2016	MW-1D	Potassium		Quarterly	0.7	0.65	mg/l	5	IGV	No
2016	MW-1D	Dissolved Oxygen	Hach HQ30D Oxygen Meter	Quarterly	11	9.25	mg/l	NAC	IGV	No
2016	MW-1D	TOC	TOC analyser	Quarterly	<2	<2	mg/l	37.5	GTV	No
2016	MW-1D	Total Chromium	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	<1.5	<1.5	ug/l	NAC	IGV	No
2016	MW-1D	Boron	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	<12	<12	ug/l	1,000	IGV	No
2016	MW-1D	Cadmium	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	<0.5	<0.5	ug/l	3.75	GTV	No
2016	MW-1D	Calcium	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	29.6	29.6	mg/l	200	IGV	No
2016	MW-1D	Copper	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	<7	<7	ug/l	1,500	GTV	No
2016	MW-1D	Iron	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	<20	<20	ug/l	200	IGV	No
2016	MW-1D	Lead	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	<5	<5	ug/l	18.75	GTV	No
2016	MW-1D	Magnesium	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	6	6	mg/l	50	IGV	Yes
2016	MW-1D	Manganese	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	13	13	ug/l	50	IGV	no
2016	MW-1D	Mercury	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	0.02	0.02	ug/l	0.75	GTV	no
2016	MW-1D	Nickel	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	<2	<2	ug/l	15	GTV	No
2016	MW-1D	Sodium	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	17	17	mg/l	150	GTV	No
2016	MW-1D	Zinc	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	<3	<3	ug/l	100	IGV	No
2016	MW-1D	Fluoride	Dionex (Ion-Chromatography)	Annually	<0.3	<0.3	mg/l	1	IGV	No
2016	MW-1D	Sulphate	Soluble Ion Analysis Thermo Aquakem Photometric Automatic Analyser	Annually	8.9	8.9	mg/l	187.5	GTV	No
2016	MW-1D	Ortho Phosphate	Soluble Ion Analysis Thermo Aquakem Photometric Automatic Analyser	Annually	<0.06	<0.06	mg/l	0.035	GTV	No
2016	MW-1D	TON	Soluble Ion Analysis Thermo Aquakem Photometric Automatic Analyser	Annually	7.6	7.6	mg/l	NAC	IGV	No
2016	MW-1D	Total Cyanide	Flow Injection Analyser	Annually	<0.01	<0.01	mg/l	0.0375	GTV	No
2016	MW-1D	Alkalinity	Metrohm automated titration analyser	Annually	68	68	mg/l	NAC	IGV	No
2016	MW-1D	Total Solids	Gravimetric determination of Total Dissolved Solids/Total Solids	Annually	148	148	mg/l	-	GTV	No
2016	MW-1D	VOCs	Headspace GC-MS	Annually	ND	ND	ug/l	-	GTV	No
2016	MW-1D	sVOCs	GC-MS	Annually	ND	ND	ug/l	-	GTV	No
2016	MW-1D	Pesticides	Large Volume Injection on GC Triple Quad MS	Annually	ND	ND	ug/l	0.375	GTV	No
2016	MW-1D	Total Coliforms	Membrane Filtration	Annually	<1	<1	cfu/100ml	0	IGV	No
2016	MW-1D	Faecal Coliforms	Colilert System	Annually	<1	<1	cfu/100ml	0	IGV	No

.* where average indicates arithmetic mean
 .++ maximum concentration indicates the maximum measured concentration from all monitoring results produced during the reporting year

Groundwater/Soil monitoring template Lic No: WO 165-02 Year: 2016

Downgradient Groundwater monitoring results										
Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit	GTV's*	SELECT**	Upward trend in yearly average pollutant concentration over last 5 years of monitoring data
2016	MW-5D	pH	Field Probe	Quarterly	8.02	7.64	pH units	<6.5 & >9.5	IGV	No
2016	MW-5D	Electrical Conductivity	Field Probe	Quarterly	368	300	uS/cm	800 - 1,875	GTV	No
2016	MW-5D	Chloride	Soluble Ion Analysis Thermo Aquakem Photometric Automatic Analyser	Quarterly	23.1	20.6	mg/l	24 - 187.5	GTV	No
2016	MW-5D	Ammonia	Soluble Ion Analysis Thermo Aquakem Photometric Automatic Analyser	Quarterly	0.05	0.04	mg/l	0.065 - 0.175	GTV	No
2016	MW-5D	Potassium	Inductively Coupled Plasma - Optical Emission Spectrometry	Quarterly	1.1	0.925	mg/l	5	IGV	No
2016	MW-5D	Dissolved Oxygen	Hach HQ30D Oxygen Meter	Quarterly	10	7	mg/l	NAC	IGV	No
2016	MW-5D	TOC	TOC analyser	Quarterly	<2	<2	mg/l	37.5	GTV	No
2016	MW-5D	Total Chromium	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	<1.5	<1.5	ug/l	NAC	IGV	No
2016	MW-5D	Boron	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	22	22	ug/l	1,000	IGV	No
2016	MW-5D	Cadmium	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	<0.5	<0.5	ug/l	3.75	GTV	No
2016	MW-5D	Calcium	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	29	29	mg/l	200	IGV	No
2016	MW-5D	Copper	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	<7	<7	ug/l	1,500	GTV	No
2016	MW-5D	Iron	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	<20	<20	ug/l	200	IGV	No
2016	MW-5D	Lead	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	<5	<5	ug/l	18.75	GTV	No
2016	MW-5D	Magnesium	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	7	7	mg/l	50	IGV	No
2016	MW-5D	Manganese	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	<2	<2	ug/l	50	IGV	No
2016	MW-5D	Mercury	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	0.01	0.01	ug/l	0.75	GTV	no
2016	MW-5D	Nickel	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	<2	<2	ug/l	15	GTV	No
2016	MW-5D	Sodium	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	15.2	15.2	mg/l	150	GTV	No
2016	MW-5D	Zinc	Inductively Coupled Plasma - Optical Emission Spectrometry	Annually	<3	<3	ug/l	100	IGV	No
2016	MW-5D	Fluoride	Dionex (Ion-Chromatography)	Annually	<0.3	<0.3	mg/l	1	IGV	No
2016	MW-5D	Sulphate	Soluble Ion Analysis Thermo Aquakem Photometric Automatic Analyser	Annually	7.2	7.2	mg/l	187.5	GTV	No
2016	MW-5D	Ortho Phosphate	Soluble Ion Analysis Thermo Aquakem Photometric Automatic Analyser	Annually	0.11	0.11	mg/l	0.035	GTV	No
2016	MW-5D	TON	Soluble Ion Analysis Thermo Aquakem Photometric Automatic Analyser	Annually	0.9	0.9	mg/l	NAC	IGV	No
2016	MW-5D	Total Cyanide	Flow Injection Analyser	Annually	<0.01	<0.01	mg/l	0.0375	GTV	No
2016	MW-5D	Alkalinity	Metrohm automated titration analyser	Annually	132	132	mg/l	NAC	IGV	No
2016	MW-5D	Total Solids	Gravimetric determination of Total Dissolved Solids/Total Solids	Annually	151	151	mg/l	-	GTV	No
2016	MW-5D	VOCs	Headspace GC-MS	Annually	ND	ND	ug/l	-	GTV	No
2016	MW-5D	sVOCs	GC-MS	Annually	ND	ND	ug/l	-	GTV	No
2016	MW-5D	Pesticides	Large Volume Injection on GC Triple Quad MS	Annually	ND	ND	ug/l	0.375	GTV	No
2016	MW-5D	Total Coliforms	Membrane Filtration	Annually	<1	<1	cfu/100ml	0	IGV	No
2016	MW-5D	Faecal Coliforms	Coliort System	Annually	<1	<1	cfu/100ml	0	IGV	No

*please note exceedance of generic assessment criteria (GAC) such as a Groundwater Threshold Value (GTV) or an Interim Guideline Value (IGV) or an upward trend in results for a substance indicates that further interpretation of monitoring results is required. In addition to completing the above table, please complete the Groundwater Monitoring Guideline Template Report at the link provided and submit separately through ALDER as a licensee return or as otherwise instructed by the EPA. [Groundwater monitoring template](#)

More information on the use of soil and groundwater standards/ generic assessment criteria (GAC) and risk assessment tools is available in the EPA published guidance [Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites \(EPA 2013\)](#). (see the link in G31)

**Depending on location of the site and proximity to other sensitive receptors alternative Receptor based Water Quality standards should be used in addition to the GTV e.g. if the site is close to surface water compare to Surface Water Environmental Quality Standards (SWEQS), if the site is close to a drinking water supply compare results to the Drinking Water Standards (DWS)

[Groundwater](#) [Drinking water](#) [Interim](#)
[Surface water](#) [regulations](#) [\(private supply\)](#) [\(public supply\)](#) [Guideline](#)
[EQS](#) [GTV's](#) [standards](#) [standards](#) [\(IGV\)](#)

Table 3: Soil results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit
							SELECT
							SELECT

Where additional detail is required please enter it here in 200 words or less

Environmental Liabilities template	Lic No:W0165-02	2016
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[Click here to access EPA guidance on Environmental Liabilities and Financial provision](#)

		Commentary	
1	ELRA initial agreement status	Agreed	
2	ELRA review status	As part of Condition 12.2.2, the Licensee completed a fully costed Environmental Liabilities Risk Assessment for the site. This document outlines the potential unknown environmental liabilities associated with the landfill and estimates the possible cost of these liabilities. An environmental liability insurance policy has been taken out for €10M.	
3	Amount of Financial Provision cover required as determined by the latest ELRA		
4	Financial Provision for ELRA status		Submitted and not agreed by EPA;
5	Financial Provision for ELRA - amount of cover		
6	Financial Provision for ELRA - type		Public Liability Insurance with Environmental Impairment Liability cover,
7	Financial provision for ELRA expiry date		
8	Closure plan initial agreement status	Closure plan submitted and agreed by EPA	
9	Closure plan review status	Review required and completed	
10	Financial Provision for Closure status	Submitted and agreed by EPA	
11	Financial Provision for Closure - amount of cover	Under condition 12.2.3 of the licence Ballynagran Landfill Ltd is required to maintain a financial provision that is sufficient to cover all liabilities incurred whilst carrying on the activities to which this licence relates. As part of the licence transfer in 2014 the CRAMP liability was recalculated and agreed with the Office for Environmental Enforcement and a financial provision mechanism, to the satisfaction of the Board of the EPA, was put in place.	
12	Financial Provision for Closure - type		Other please specify
13	Financial provision for Closure expiry date		N/A

Environmental Management Programme/Continuous Improvement Programme template				Lic No:	WO 165-02
Highlighted cells contain dropdown menu click to view				Additional Information	
1	Do you maintain an Environmental Management System (EMS) for the site. If yes, please detail in additional information	Yes		In accordance with the requirements of Occupational Health and Safety Assessment Series	
2	Does the EMS reference the most significant environmental aspects and associated impacts on-site	Yes			
3	Does the EMS maintain an Environmental Management Programme (EMP) as required in accordance with the licence requirements	Yes			
4	Do you maintain an environmental documentation/communication system to inform the public on environmental performance of the facility, as required by the licence	Yes			
Environmental Management Programme (EMP) report					
Objective Category	Target	Status (% completed)	How target was progressed	Responsibility	Intermediate outcomes
Reduction of emissions to Air	Ensure delivery of high gas quality above 39% methane suitable for use engine.	This was achieved		Section Head	Reduced emissions
Reduction of emissions to Air	Target 95% Gas utilisation of all landfill gas generated by the facility, 5% flaring.	95.7% recorded		Section Head	Reduced emissions
Reduction of emissions to Air	Install additional drilled wells when final heights achieved in cell locations	12 vertical wells installed pre final liner installation		Section Head	Reduced emissions
Reduction of emissions to Air	Install additional built wells in new phase of cell back wall	Completed		Section Head	Reduced emissions
Reduction of emissions to Air	Maintain FID surveys on quarterly.	achieved		Section Head	Increased compliance with licence conditions
Reduction of emissions to Water	Maintain the buffer capacity within the leachate lagoon level aim for below 2.3m level.	From mid-February onwards maintained		Section Head	Improved Environmental Management Practices
Reduction of emissions to Water	Review hardstand area for leachate filling and improve where necessary.	Completed		Section Head	Improved Environmental Management Practices
Reduction of emissions to Water	Progress intermediate cap for areas above liner height in cell 6, 7 and 10	Installed final capping		Section Head	Improved Environmental Management Practices
Reduction of emissions to Air	Complete topsoil and grass seeding of bowl cap may 2016,	60% completed, new road install commenced in area.		Section Head	Improved Environmental Management Practices
Reduction of emissions to Air	Minimise dust from construction and minimise areas of soil disturbance	Continuous dust suppression spraying of surface during operations and construction as required.		Section Head	Reduced emissions
Reduction of emissions to Air	Investigate automatic water spray for newly constructed road	To be undertaken		Section Head	Reduced emissions
Groundwater protection	Continue to carry out spillage and emergency response training	Completed and ongoing		Section Head	Improved Environmental Management Practices
Additional improvements	Install new litter netting outside of cell back wall area when completed	Completed and ongoing		Section Head	Improved Environmental Management Practices
Additional improvements	Repair existing netting on cell 9 side of site pre entering back wall area with waste	Completed –shorting of litter netting to open cells area only		Section Head	Improved Environmental Management Practices
Additional improvements	To maintain separation of landfill operations from construction activities	Ongoing		Section Head	Improved Environmental Management Practices
Additional improvements	Improve the separation of plant and personnel and entry and control of personnel	Cross over traffic eliminated shortly into construction works commencement.		Section Head	Improved Environmental Management Practices
Additional improvements	Continually review and assess all nuisance control procedures to ensure minimal impact on surrounding area.	Sign in sign out procedure strictly enforced.		Section Head	Increased compliance with licence conditions
Additional improvements	Improve use of bird scaring devices and update internal bird control plan and implement June 2016.	Updating BNG landfill Procedures		Section Head	Improved Environmental Management Practices
Noise reduction	Ensure noise, dust, odour from vehicle movements are minimised by correct implementation of relevant operational protocols	Existing bird control system working but completion of revised plan to be completed, as part of new procedures.		Section Head	Improved Environmental Management Practices
Additional improvements	Ensure new signage and front gate road access installed	In operation		Section Head	Improved Environmental Management Practices
Additional improvements	Achieve a reduced level in the number and source complaints from previous.	Completed signage update		Section Head	Less complaints

Environmental Management Programme/Continuous Improvement Programme template			Lic No:	WO 165-02	
Additional improvements	Continue to promote and facilitate the community develop group meeting and contribution	Complaints increased slightly on previous year		Section Head	Less complaints
Additional improvements	complainants during the year. In addition after complaint lodgement, respond to queries as quickly as reasonably practicable, ensuring that any complaints are	Yes ongoing		Section Head	Less complaints
Additional improvements	Ensure monitoring results comply with Licence limits and investigate any exceedances of emission limit value.	A number of visits to complainants during the year		Section Head	Less complaints
Additional improvements	Continue to maintain & improve access to monitoring locations	Completed and ongoing		Section Head	Improved Environmental Management Practices
Additional improvements	Adoption of Improvement driven Safety Observation system for continual improvement. Audit Reports are to be undertaken bi-monthly focussing on swiftly resolving problems as they occur.	Ongoing		Section Head	Improved Environmental Management Practices
Additional improvements	Continue to Develop H&S - develop the trained safety representative on site.	Regular H&S site audits following appoint of new H&S manager, covering site and construction operations		Section Head	Improved Environmental Management Practices
Additional improvements	Develop an additional health and safety trained personnel onsite.	Ongoing,		Section Head	Improved Environmental Management Practices
Additional improvements	Look to develop staff interaction enabling keen spotting of potential problem or hazards through training and communication.			Section Head	Improved Environmental Management Practices
Additional improvements	Ensure toolbox talks are conducted on a monthly bases minimum.	Appointed of New Group Health and Safety Manager		Section Head	Improved Environmental Management Practices
Additional improvements	Prepare system and procedures for the new OH&S system due in 2016	Appointed of new Group Health and Safety Manager		Section Head	Improved Environmental Management Practices
Additional improvements	Encourage feedback on equipment and resources including adequacy of PPE in protective properties, wear ability and durability and look at alternatives, where appropriate.	Ongoing , site audits regularly undertaken in operations and constructions phases		Section Head	Improved Environmental Management Practices
Additional improvements	Continue to engage with all stakeholder and operate the site in an open and inclusive manner, feeding information into the Community fund community visiting neighbours meeting local groups and operating an open door policy.	Ongoing		Section Head	Less complaints

Noise monitoring summary report

Lic No: WO 165-02 Year 2016

1 Was noise monitoring a licence requirement for the AER period?

If yes please fill in table N1 noise summary below

Yes

2 Was noise monitoring carried out using the EPA Guidance note, including completion of the "Checklist for noise measurement report" included in the guidance note as table 6?

[Noise Guidance note NG4](#)

Yes

3 Does your site have a noise reduction plan

No

4 When was the noise reduction plan last updated?

Enter date

5 Have there been changes relevant to site noise emissions (e.g. plant or operational changes) since the last noise survey?

No

Table N1: Noise monitoring summary

Date of monitoring	Time period	Noise location (on site)	Noise sensitive location -NSL (if applicable)	LA _{eq}	LA ₉₀	LA ₁₀	LA _{max}	Tonal or Impulsive noise* (Y/N)	If tonal /impulsive noise was identified was 5dB penalty applied?	Comments (ex. main noise sources on site, & extraneous noise ex. road traffic)	Is site compliant with noise limits (day/evening/night)?
07/03/2016	15:22-15:37	NL1		36	38	32		No	SELECT	Facility: Mobile plant in cell area faintly audible. Extraneous: Distant road traffic to E and NE slightly audible continuously. No other noise audible apart from bird song/calls, aircraft and lightly rustling vegetation.	Yes
07/03/2016	14:37-14:52	NL2		51	55	38		No		Facility: Tracked excavator on mound continuously audible at low level. Compactor flat spectrum reversing alarm also repeatedly audible. Sporadic truck and crew vehicle movements audible on adjacent haul road. Extraneous: Distant road traffic to NE continuously slightly audible. Sporadic traffic outside boundary quite audible. Bird song/calls and aircraft. Lightly rustling vegetation.	Yes
07/03/2016	15:01-15:16	NL3		45	47	42		No		Facility: Mobile plant in active cell area continuously quite audible. Occasional truck movements on cell access road clearly audible when present. Extraneous: M11 road traffic to E continuously audible at low level. Aircraft, bird song/calls and lightly rustling vegetation.	Yes
07/03/2016	14:08-14:23	NL4		49	48	36		No		Facility: Excavator bucket noise occasionally slightly audible. Several ejector trailer donkey engines also slightly audible during interval. Extraneous: Distant road traffic audible to NE and E continuously in background. Bird song/calls, aircraft and lightly rustling vegetation. Distant dog barking.	Yes
07/03/2016	13:47-14:02	NSL1		48	45	39		No		Facility: No emissions audible, apart from occasional slightly audible excavator bucket noise. Extraneous: Road traffic to NE continuously slightly audible. Sporadic passing local traffic dominant when present. Bird song/calls, aircraft and lightly rustling vegetation. Occasional dog barking at nearby dwelling.	Yes
07/03/2016	15:55-16:10	NSL2		58	57	43		No		Facility: No cell area emissions audible, apart from one ejector trailer operation. Sporadic truck movements through weighbridge area quite audible. Leachate tanker truck operation audible at low level throughout most of interval. Gas plant emissions slightly discernible. Extraneous: M11 traffic to NE and E continuously audible at low level. Occasional passing road traffic dominant when present. Crow calls significant. Aircraft.	Yes
07/03/2016	16:17-16:32	NSL3		59	63	48		No		Facility: None audible. Extraneous: Intermittent passing traffic dominant. During lulls, M11 traffic continuously clearly audible. No other noise audible apart from local birdsong.	Yes
08/06/2016	14:41-14:56	NL1		39	41	36		No		Facility: None audible. Extraneous: M11 traffic to E and NE continuously quite audible, masking all sources other than local bird song/calls.	Yes
08/06/2016	13:56-14:11	NL2		41	42	36		No		Facility: Dozer operating at SW corner of site continuously audible at low level. Leachate tanker pump also continuously audible at low level. Mobile plant on mound slightly audible regularly from 1400. Sporadic truck and crew vehicle movements audible on adjacent haul road. Leq considered reasonably representative of site emissions. Extraneous: Distant road traffic to NE continuously slightly audible. Sporadic traffic outside boundary quite audible. Bird song/calls and aircraft.	Yes
08/06/2016	14:21-14:36	NL3		43	45	41		No		Facility: Mobile plant on cell floor slightly audible. No other noise audible apart from several crew vehicle movements on nearest site road. Extraneous: M11 road traffic to E continuously audible at low level. Aircraft, bird song/calls. Breeze through nearby trees continuously quite audible, partially masking other sources.	Yes
08/06/2016	15:54-16:09	NL4		46	44	36		No		Facility: Dozer and excavator operations almost continuously slightly audible. Extraneous: Distant road traffic audible to NE and E continuously in background. Bird song/calls and aircraft. One local car pass, dominant when present. Measurement position temporarily relocated 360 m S due to inaccessibility.	Yes
08/06/2016	15:35-15:50	NSL1		55	45	38		No		Facility: Dozer operating near SW corner audible continuously, with audibility varying from slight to low level. No other emissions audible. Extraneous: Road traffic to NE continuously slightly audible. Sporadic passing local traffic dominant when present. Bird song/calls, aircraft and lightly rustling vegetation. Occasional dog barking at nearby dwelling.	Yes
08/06/2016	15:10-15:25	NSL2		59	57	41		No		Facility: No emissions audible apart from leachate tanker continuously dominant until 1517. Extraneous: No emissions audible until 1517 apart from intermittent passing traffic. Thereafter, M11 traffic to NE and E continuously audible at low level. Mini-excavator regularly audible at low level, operating 200 m E. Bird song/calls and aircraft.	Yes
08/06/2016	16:16-16:31	NSL3		57	61	42		No		Facility: None audible. Extraneous: Intermittent passing traffic dominant. During lulls, M11 traffic continuously quite audible. No other noise audible apart from local birdsong and aircraft.	Yes

09/08/2016	09:45-10:00	NL1		40	42	36		No	Facility:Excavator bucket at borrow pit N of cell occasionally slightly audible.Extraneous: Breeze through nearby trees audible at low level continuously.Bird song/calls.Aircraft.Distant traffic slightly audible continuously with traffic to SW more clearly audible.Excavator bucket offsite occasionally audible at low level to SW.	Yes
09/08/2016	08:56-09:11	NL2		49	51	34		No	Facility:Occasional truck and crew vehicles on adjacent haul road dominant when present.Excavator bucket on mound occasionally audible at low level.Extraneous: Road traffic on local road occasionally clearly audible.Rustling vegetation,bridsong and aircraft.	Yes
09/08/2016	09:21-09:36	NL3		51	54	46		No	Facility: Compactors in cell continuously quite audible,dominating L90 Excavator in borrow pit also almost continuously audible at low level.Intermittent 6x6 dump truck movemnts on nearest haul road clearly audible when present.Extraneous: Rustling vegetation and birdsong	Yes
09/08/2016	10:56-11:11	NL4		54	57	40		No	Facility:No emissions audible.Extraneous:Rustling vegetation significant,masking all other noise apart from local birdsong,cattle and aircraft	Yes
09/08/2016	10:30-10:45	NSL1		43	46	36		No	Facility:Plant emissions continuously slightly audible.Several truck movements on nearest haul road slightly audible. Extraneous: Vehicle movemnt x1 on adjacent road dominant when present.Lightly rustling vegetation,bird song/calls and aircraft.Distnat agri machinery slightly audible on occaion.	Yes
09/08/2016	10:10-10:25	NSL2		61	56	41		No	Facility: Sporadic truck movemnts on haul road near weighbridge quite audible when present.Distant plant emissions slightly audible on breeze. Extraneous: Intermittent passing road traffic dominat when present.	Yes
09/08/2016	11:24-11:39	NSL3		56	60	45		No	Facility: No emissions audible.Extraneous:Intermittent traffic on adjacent road and through nearby intersection dominant when present.M11 traffic continuously clearly audible. Bird song/calls and aircraft.Continuous plant emissions audible at low level to W most likely shredder at composting facility.	Yes
23/11/2016	10:14-10:29	NL1		44	46	42		No	Facility: Vibro-roller operating in new cell area occasionally slightly audible, with low frequency rumble. No other emissions audible, apart from well drilling truck audible at low level from during last 3 min. Extraneous: M11 traffic to E continuously clearly audible, dominating soundscape. Bird song and aircraft. Specific LAeq determination: Roller insufficient to influence L90, thus <L90	Yes
23/11/2016	11:04-11:19	NL2		52	51	45		No	Facility: Various plant operating on mound and in active cell area almost continuously audible at low level. Reversing alarms also audible. Occasional truck and crew vehicle movements on adjacent haul road dominant when present. Extraneous: M11 traffic continuously audible at low level to E. Birdsong. Specific LAeq determination: LAeq representative.	Yes
23/11/2016	10:40-10:55	NL3		71	72	69		No	Facility: Well drilling crew operating at 30 m continuously dominant. No other noise audible. Extraneous: All sources masked by well drilling crew. Specific LAeq determination: LAeq representative	Yes
23/11/2016	09:33:00-09:48	NL4		45	46	43		No	Facility: Plant operations slightly audible from time to time on breeze, including excavator bucket and reversing alarms. Extraneous: M11 traffic to NE continuously clearly audible, dominating soundscape. Birdsong and aircraft. Specific LAeq determination: Site emissions <L90.	Yes
23/11/2016	09:11-09:26	NSL1		50	49	43		No	Facility: Dozer audible at low level from time to time. Plant reversing alarms repeatedly audible at low level. Truck movements on nearest haul road slightly audible on occasion. Ejector trailer donkey engine audible at low level from 0922. Extraneous: Sporadic local traffic intrusive when present. M11 traffic to NE continuously quite audible,dominating background. Birdsong. Dog barking audible at low level at nearby dwelling to 0914. Aircraft. Specific LAeq determination: Plant noise sufficiently audible and frequent to influence measured data, although LAeq and L90 dominated by traffic noise. Possible only to conclude <LAeq	Yes
23/11/2016	08:48-09:03	NSL2		60	61	48		No	Facility: Sporadic truck movements through weighbridge area and on haul road audible at low level. Ejector trailer donkey engine audible at low level for a time. Reversing alarms in cell area slightly audible.Extraneous: Intermittent passing road traffic intrusive when present. M11 traffic continuously clearly audibleto NE, dominating background. Aircraft, bird song/calls. Specific LAeq determination: Site emissions not sufficiently frequent or audible to influence measured data due to traffic noise, thus <L90	Yes
23/11/2016	11:27-11:42	NSL3		59	64	48		No	Facility: No emissions audible. Extraneous: Intermittent passing traffic intrusive when present. M11 traffic otherwise dominant. Birdsong, dog barking 200 m N, and aircraft. Specific LAeq determination: Site inaudible, thus <<L90	Yes

*Please ensure that a tonal analysis has been carried out as per guidance note NG4. These records must be maintained onsite for future inspection

If noise limits exceeded as a result of noise attributed to site activities, please choose the corrective action from the following options?

SELECT

** please explain the reason for not taking action/resolution of noise issues?

Any additional comments? (less than 200 words)

Resource Usage/Energy efficiency summary

Lic No:

WO 165-02

Year

2016

Additional information

- 1 When did the site carry out the most recent energy efficiency audit? Please list the recommendations in table 3 below
- 2 Is the site a member of any accredited programmes for reducing energy usage/water conservation such as the SEAI programme linked to the right? If yes please list them in additional information
- 3 Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in additional information

Enter date of audit	9th March 2010
No	
No	

Table R1 Energy usage on site				
Energy Use	Previous year	Current year	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*
Total Energy Used (MWHrs)				
Total Energy Generated (MWHrs)				
Total Renewable Energy Generated (MWHrs)	18,231	21105	16%	
Electricity Consumption (MWHrs)	13	4.142	-68%	
Fossil Fuels Consumption:				
Heavy Fuel Oil (m3)				
Light Fuel Oil (m3)	191.784	412.143	47%	
Natural gas (m3)				
Coal/Solid fuel (metric tonnes)				
Peat (metric tonnes)				
Renewable Biomass				
Renewable energy generated on site				

* where consumption of energy can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

Table R2 Water usage on site					Water Emissions	Water Consumption	
Water use	Water extracted Previous year m3/yr.	Water extracted Current year m3/yr.	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*	Volume Discharged back to environment(m ³ /yr):	Volume used i.e not discharged to environment e.g. released as steam m3/yr	Unaccounted for Water:
Groundwater							
Surface water	600m3 estimate	600m3 estimate		0	600m3 estimate		
Public supply				0			
On site well	52m3 estimate	52m3 estimate		0	25m2 estimate	25m2 estimate	
Recycled water							
Total							

* where consumption of water can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

Table R3 Waste Stream Summary					
	Total	Landfill	Incineration	Recycled	Other
Hazardous (Tonnes)					
Non-Hazardous (Tonnes)					

Resource Usage/Energy efficiency summary	Lic No: WO 165-02	Year	2016
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Table R4: Energy Audit finding recommendations								
Date of audit	Recommendations	Description of Measures proposed	Origin of measures	Predicted energy savings %	Implementation date	Responsibility	Completion date	Status and comments
23rd February 2009	Prepare Energy Policy Statement		energy audit					
	Appoint responsible person		energy audit					
	Provide appropriate training		energy audit					
	Prepare targets and objectives		energy audit					
	Annual summary on performance in AER		energy audit					
	Assessment of energy efficiency of future plant and equipment		energy audit					
	Communicate policy objectives to staff		energy audit					
	Provide sub meters for gas utilisation plants		energy audit					
	Bi-Monthly data analyses and identification of efficiency opportunities		energy audit					
	Annual summary report in AER		energy audit					
	Provide awareness training to staff		energy audit					
	Provide feed back to staff		energy audit					
	Provide time sensors for office		energy audit					
	Consider introducing bio-diesel		energy audit					
	Benchmark gas utilisation plant against KTK and IPS systems		energy audit					

Table R5: Power Generation: Where power is generated onsite (e.g. power generation facilities/food and drink industry) please complete the following information

	Unit ID	Unit ID	Unit ID	Unit ID	Station Total
Technology					
Primary Fuel					
Thermal Efficiency					
Unit Date of Commission					
Total Starts for year					
Total Running Time					
Total Electricity Generated (GWH)					
House Load (GWH)					
KWH per Litre of Process Water					
KWH per Litre of Total Water used on Site					

Complaints and Incidents summary template

Lic No:

WO 165-02

Year

2016

Complaints

Additional information

Have you received any environmental complaints in the current reporting year? If yes please complete summary details of complaints received on site in table 1 below

Yes

All complaints were investigated and findings and correspondence forwarded to the agency

Table 1 Complaints summary

Date	Category	Other type (please specify)	Brief description of complaint (Free txt <20 words)	Corrective action< 20 words	Resolution status	Resolution date	Further information
01.12.2015	Odour	-	Landfill Gas		Complete		
02.01.2016	Odour	-	Waste		Complete		
02.01.2016	Odour	-	Landfill Gas		Complete		
03.01.2016	Odour	-	Landfill Gas		Complete		
03.01.2016	Odour	-	Landfill Gas		Complete		COM004291
04.01.2016	Odour	-	Landfill Gas		Complete		
04.01.2016	Odour	-	Landfill Gas		Complete		
04.01.2016	Odour	-	Landfill Gas		Complete		
05.01.2016	Odour	-	Landfill Gas		Complete		
08.01.2016	Odour	-	Landfill Gas		Complete		
09.01.2016	Odour	-	Landfill Gas		Complete		
09.01.2016	Odour	-	Waste		Complete		
11.01.2016	Odour	-	Landfill Gas		Complete		
16.01.2016	Odour	-	Landfill Gas		Complete		
16.01.2016	Odour	-	Landfill Gas		Complete		
19.01.2016	Odour	-	Landfill Gas		Complete		
19.01.2016	Odour	-	Landfill Gas		Complete		COM004354
19.01.2016	Odour	-	Landfill Gas		Complete		
21.01.2016	Odour	-	Landfill Gas		Complete		
22.01.2016	Odour	-	Landfill Gas		Complete		
25.01.2016	Odour	-	Landfill Gas		Complete		
08.02.2016	Odour	-	Landfill Gas		Complete		
11.02.2016	Odour	-	Landfill Gas		Complete		
11.02.2016	Odour	-	Landfill Gas		Complete		
12.02.2016	Odour	-	Landfill Gas / Waste		Complete		
15.02.2016	Odour	-	Landfill Gas		Complete		
15.02.2016	Odour	-	Landfill Gas		Complete		
15.02.2016	Odour	-	Landfill Gas		Complete		
17.02.2016	Odour	-	Landfill Gas		Complete		
24.02.2016	Odour	-	Landfill Gas		Complete		
24.02.2016	Odour	-	Landfill Gas		Complete		
04.03.2016	Odour	-	Landfill Gas / Waste		Complete		
04.03.2016	Odour	-	Landfill Gas		Complete		
07.03.2016	Odour	-	Landfill Gas		Complete		
16.03.2016	Odour	-	Landfill Gas		Complete		
16.03.2016	Odour	-	Landfill Gas		Complete		
11.04.2016	Odour	-	Landfill Gas		Complete		COM004630
11.04.2016	Odour	-	Landfill Gas		Complete		
13.04.2016	Odour	-	Landfill Gas		Complete		
14.04.2016	Odour	-	Landfill Gas		Complete		
15.04.2016	Odour	-			Complete		
15.04.2016	Odour	-	Landfill Gas		Complete		
16.04.2016	Odour	-	Landfill Gas		Complete		
22.04.2016	Odour	-	Landfill Gas		Complete		COM004684
25.04.2016	Odour	-	Landfill Gas		Complete		COM004692
25.04.2016	Odour	-	Landfill Gas		Complete		COM004705
25.04.2016	Odour	-	Landfill Gas		Complete		COM004691
25.04.2016	Odour	-	Landfill Gas		Complete		COM004693
25.04.2017	Odour	-	Landfill Gas		Complete		Direct
26.04.2016	Odour	-	Landfill Gas		Complete		COM004701
26.04.2017	Odour	-	Landfill Gas		Complete		COM004695
27.04.2016	Odour	-	Landfill Gas		Complete		COM004706
06.05.2016	Odour	-	Landfill Gas		Complete		COM004730

Complaints and Incidents summary template			Lic No:	WO 165-02	Year	2016
06.05.2016	Odour	-	Landfill Gas	Complete		COM004726
06.05.2016	Odour	-	Landfill Gas	Complete		COM004729
11.05.2016	Odour	-	Landfill Gas	Complete		COM004763
11.05.2016	Odour	-	Waste	Complete		COM004765
11.05.2016	Odour	Vermin	Vermins	Complete		COM004774
23.05.2016	Odour	-	Landfill Gas / Waste	Complete		COM004810
24.05.2016	Odour	-	Waste	Complete		COM004814
27.05.2016	Odour	-	Landfill Gas	Complete		COM004837
27.05.2016	Odour	-	Landfill Gas	Complete		COM004836
29.05.2016	Odour	-	Landfill Gas / Waste	Complete		COM004844
01.06.2016	Odour	-	Waste	Complete		COM004862
01.06.2016	Odour	-	Landfill Gas / Waste	Complete		COM004861
01.06.2016	Odour	-	Landfill Gas / Waste	Complete		COM004857
16.06.2016	Odour	-	Landfill Gas	Complete		COM004959
17.06.2016	Odour	-	Landfill Gas	Complete		COM004970
28.06.2016	Odour	-	Waste	Complete		COM005010
05.07.2016	Odour	-	Landfill Gas	Complete		COM005051
14.07.2016	Odour	-	Landfill Gas	Complete		COM005094
14.07.2016	Odour	-	Landfill Gas / Waste	Complete		COM005095
14.07.2016	Odour	-	Landfill Gas	Complete		COM005090
18.07.2016	Odour	-	Waste	Complete		COM005100
29.07.2016	Odour	-	Landfill Gas	Complete		COM005143
29.07.2016	Odour	-	Waste	Complete		COM005142
29.07.2016	Odour	-	Waste	Complete		COM005149
29.07.2016	Odour	-	Waste	Complete		COM005150
30.07.2016	Odour	-	Waste	Complete		COM005153
02.08.2016	Odour	-	Waste	Complete		COM005152
15.08.2016	Odour	-	Waste	Complete		COM005198
15.08.2016	Odour	-	Landfill Gas	Complete		COM005209
17.08.2016	Odour	-	Waste	Complete		COM005220
17.08.2016	Odour	-	Landfill Gas	Complete		COM005224
18.08.2016	Odour	-	Waste	Complete		COM005227
23.08.2016	Odour	-	Waste	Complete		COM005254
24.08.2016	Odour	-	Waste	Complete		COM005257
25.08.2016	Odour	-	Waste	Complete		COM005264
29.08.2016	Odour	-	Waste	Complete		COM005276
29.08.2016	Odour	-	Landfill Gas	Complete		COM005268
07.09.2016	Odour	-	Waste	Complete		COM005309
12.09.2016	Odour	-	Waste	Complete		COM005337
13.09.2016	Odour	-	Landfill Gas	Complete		COM005348
17.09.2016	Odour	-	Landfill Gas	Complete		COM005376
19.09.2016	Odour	-	Waste	Complete		COM005375
21.09.2016	Odour	-	Waste	Complete		COM005399
22.09.2016	Odour	-	Landfill Gas	Complete		COM005409
25.09.2016	Odour	-	Landfill Gas	Complete		COM005422
26.09.2016	Odour	-	Landfill Gas	Complete		COM005414
10.10.2016	Odour	-	Waste	Complete		N/A
12.10.2016	Odour	-	Landfill Gas	Complete		N/A
12.10.2016	Odour	-	Landfill Gas	Complete		COM005483
20.10.2016	Odour	-	waste	Complete		
04.11.2016	Odour	-	Landfill gas	Complete		Com005563
6.11.2016	Odour	-	Landfill gas	Complete		Com005565
11.11.2016	Odour	-	Waste	Complete		Com005574
15.11.2017	Odour	-	Landfill gas	Complete		Com005577
20.11.2016	Odour	-	Landfill gas	Complete		Com005588
22.11.2016	Odour	-	Waste	Complete		Com005589
23.11.2016	Odour	-	Waste	Complete		Com005590
23.11.2016	Odour	-	Waste	Complete		Com005591
26.11.2016	Odour	-	Landfill Gas	Complete		Com005592
13.12.2016	Odour	-	Landfill Gas / Waste	Complete		Com005540
19.12.2016	Odour	-	Landfill Gas	Complete		Com005565
27.12.2016	Odour	-	Landfill Gas	Complete		Com005669
25.12.2016	Noise	-	Noise	Complete		Com005678
25.12.2016	Odour	-	Waste	Complete		Com005679
31.12.2016	Odour	-	Landfill Gas	Complete		Com005672

Complaints and Incidents summary template

Lic No:

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Year

2016

Total complaints open at start of reporting year	0
Total new complaints received during reporting year	98
Total complaints closed during reporting year	98
Balance of complaints end of reporting year	0

Incidents

Have any incidents occurred on site in the current reporting year? Please list all incidents for current reporting year in Table 2 below

Additional information

SELECT All incidents were lodged with the Agency

*For information on how to report and what constitutes an incident

[What is an incident](#)

Table 2 Incidents summary

Date of occurrence	Incident nature	Location of occurrence	Incident category*please refer to guidance	Receptor	Cause of incident	Other cause(please specify)	Activity in progress at time of incident	Communication	Occurrence	Corrective action<20 words	Preventative action <20 words	Resolution status	Resolution date	Likelihood of reoccurrence
04/01/16	Odour	Other location (On site)	1. Minor	Air	Adverse weather	-	Normal activities	EPA	New	Closed a gas collection line to prevent rainwater/leachate ingress.	continue landfill capping programme			Low
29/01/16	Trigger level reached	Other - Perimeter Gas wells	1. Minor	No Uncontrolled release	Other (add details)	Report lodged with Agency Jan/Feb 2016	Normal activities	EPA	New	Continue to monitor levels closely in the next round of perimeter gas well monitoring	The landfill gas migration assessment report was completed at the end of January 2016 lodged with the agency			possible
29/02/16	Trigger level reached	Other - Perimeter Gas wells	1. Minor	No Uncontrolled release	Other (add details)	Report lodged with Agency Jan/Feb 2016	Normal activities	EPA	Recurring	Continue to monitor levels closely in the next round of perimeter gas well monitoring	The landfill gas migration assessment report was completed at the end of January 2016 lodged with the agency			possible
27/03/16	Trigger level reached	Other - (Leachate Level in Cell 7 exceeded 1m mark)	1. Minor	No Uncontrolled release	Plant or equipment issues	Report lodged with Agency Jan/Feb 2016	Normal activities	EPA	Recurring	Replacement pump will be used	continue to maintain spare pumps on site to replace when faulty			possible
25/03/16	Trigger level reached	Other - Perimeter Gas wells	1. Minor	No Uncontrolled release	Other (add details)	Report lodged with Agency Jan/Feb 2016	Normal activities	EPA	Recurring	Continue to monitor levels closely in the next round of perimeter gas well monitoring	The landfill gas migration assessment report was completed at the end of January 2016 lodged with the agency			possible
21/04/16	Trigger level reached	Other - Perimeter Gas wells	1. Minor	No Uncontrolled release	Other (add details)	Report lodged with Agency Jan/Feb 2016	Normal activities	EPA	Recurring	Continue to monitor levels closely in the next round of perimeter gas well monitoring	The landfill gas migration assessment report was completed at the end of January 2016 lodged with the agency			possible
19/05/16	Trigger level reached	Other - Perimeter Gas wells	1. Minor	No Uncontrolled release	Other (add details)	Report lodged with Agency Jan/Feb 2016	Normal activities	EPA	Recurring	Continue to monitor levels closely in the next round of perimeter gas well monitoring	The landfill gas migration assessment report was completed at the end of January 2016 lodged with the agency			possible
22/06/16	Trigger level reached	Other - Perimeter Gas wells	1. Minor	No Uncontrolled release	Other (add details)	Report lodged with Agency Jan/Feb 2016	Normal activities	EPA	Recurring	Continue to monitor levels closely in the next round of perimeter gas well monitoring	The landfill gas migration assessment report was completed at the end of January 2016 lodged with the agency			possible
28/07/16	Trigger level reached	Other - Perimeter Gas wells	1. Minor	No Uncontrolled release	Other (add details)	Report lodged with Agency Jan/Feb 2016	Normal activities	EPA	Recurring	Continue to monitor levels closely in the next round of perimeter gas well monitoring	The landfill gas migration assessment report was completed at the end of January 2016 lodged with the agency			possible
15/08/16	Trigger level reached	Other - Perimeter Gas wells	1. Minor	No Uncontrolled release	Other (add details)	Report lodged with Agency Jan/Feb 2016	Normal activities	EPA	Recurring	Continue to monitor levels closely in the next round of perimeter gas well monitoring	The landfill gas migration assessment report was completed at the end of January 2016 lodged with the agency			possible
21/09/16	Trigger level reached	Other - Perimeter Gas wells	1. Minor	No Uncontrolled release	Other (add details)	Report lodged with Agency Jan/Feb 2016	Normal activities	EPA	Recurring	Continue to monitor levels closely in the next round of perimeter gas well monitoring	The landfill gas migration assessment report was completed at the end of January 2016 lodged with the agency			possible

WASTE SUMMARY		Lic No:	WO 165-02	Year	2016
SECTION A-PRTR ON SITE WASTE TREATMENT AND WASTE TRANSFERS TAB- TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES			PRTR facility logon	dropdown list click to see options	

SECTION B- WASTE ACCEPTED ONTO SITE-TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES

Were any wastes accepted onto your site for recovery or disposal or treatment prior to recovery or disposal within the boundaries of your facility?; (waste generated within your boundaries is to be captured 1 through PRTR reporting)

Yes Additional Information

If yes please enter details in table 1 below

2 Did your site have any rejected consignments of waste in the current reporting year? If yes please give a brief explanation in the additional information

No Additional Information

3 Was waste accepted onto your site that was generated outside the Republic of Ireland? If yes please state the quantity in tonnes in additional information

No Additional Information

Table 1 Details of waste accepted onto your site for recovery, disposal or treatment (do not include wastes generated at your site, as these will have been reported in your PRTR workbook)

Licensed annual tonnage limit for your site (total tonnes/annum)	EWG code European Waste Catalogue EWG codes	Source of waste accepted	Description of waste accepted Please enter an accurate and detailed description - which applies to relevant EWG code European Waste Catalogue EWG codes	Quantity of waste accepted in current reporting year (tonnes)	Quantity of waste accepted in previous reporting year (tonnes)	Reduction/ Increase over previous year +/ - %	Reason for reduction/ increase from previous reporting year	Packaging Content (%) - only applies if the waste has a packaging component	Disposal/Recovery or treatment operation carried out at your site and the description of this operation	Quantity of waste remaining on site at the end of reporting year (tonnes)	Comments -
	200307	20- MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS	Bulky waste	5,392.70	2450.82	120%			D5- Specially engineered landfill		
	200303	20- MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS	Treated Street cleanings	11,243.82	8478.20	33%			D5- Specially engineered landfill		
	200301	20- MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS	MSW Mixed	120235.41	38108.77	216%			D5- Specially engineered landfill		
	191212	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	MSW Mixed	225.58	11042.72	-98%			D5- Specially engineered landfill		
	191212	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	C&D Mixed	1,102.26	1695.74	-35%			D5- Specially engineered landfill		
	191212	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	C&I Mixed	19,514.54	25494.57	-23%			D5- Specially engineered landfill		
	191204	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	PVC	133.20	0	100%			D5- Specially engineered landfill		
	190802	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	Grit (WWTP)	404.24	708.66	-43%			D5- Specially engineered landfill		
	190801	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	SCREENINGS (WWTP)	1,454.20	1465.56	-1%			D5- Specially engineered landfill		
	190501	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	Biostabilised Waste D	1,898.28		100%			D5- Specially engineered landfill		
	170506	17- CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)	Dredge Spoil		37141.79	-100%			D5- Specially engineered landfill		

WASTE SUMMARY	Lic No:	WO 165-02	Year	2016
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SECTION D-TO BE COMPLETED BY LANDFILL SITES ONLY
Table 2 Waste type and tonnage-landfill only

Waste types permitted for disposal	Authorised/licenced annual intake for disposal (tpa)	Actual intake for disposal in reporting year (tpa)	Remaining licensed capacity at end of reporting year (m3)	Comments
Household	62500 tonnes	227,219		In Nov 2016 license was technically amended to allow acceptance of an additional 55000 tonnes of waste up to 31st December 2016
Commercial	67500 tonnes			
Industrial	45000 tonnes			
Recovery	28000 tonnes			In addition to the waste recovered 50,703.19 tonnes of green field soils were received for construction and restoration works.

Table 3 General information-Landfill only

Area ID	Date landfilling commenced	Date landfilling ceased	Currently landfilling	Private or Public Operated	Inert or non-hazardous	Predicted date to cease landfilling	Licence permits asbestos	Is there a separate cell for asbestos?	Accepted asbestos in reporting year	Total disposal area occupied by waste	Lined disposal area occupied by waste
										SELECT UNIT	SELECT UNIT
Cell 1-5		2013	No	Private	Non Hazardous		No	No	No		
Cell 6 & 7	2009 & 2010	2015	No	Private	Non Hazardous		No	No	No		
Cell 9 & 10	2012		Yes	Private	Non Hazardous		No	No	No		
Cell 9 & 10 backwall	2016		Yes	Private	Non Hazardous		No	No	No		

Table 4 Environmental monitoring-landfill only [Landfill Manual-Monitoring Standards](#)

Was meteorological monitoring in compliance with Landfill Directive (LD) standard in reporting year +	Was leachate monitored in compliance with LD standard in reporting year	Was Landfill Gas monitored in compliance with LD standard in reporting year	Was SW monitored in compliance with LD standard in reporting year	Have GW trigger levels been established	Were emission limit values agreed with the Agency (ELVs)	Was topography of the site surveyed in reporting year	Has the statement under S53(A)(5) of WMA been submitted in reporting year	Comments
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

+ please refer to Landfill Manual linked above for relevant Landfill Directive monitoring standards

Table 5 Capping-Landfill only

Area uncapped*	Area with temporary cap	Area with final cap to LD Standard m2 ha, a	Area capped other	Area with waste that should be permanently capped to date under licence	What materials are used in the cap	Comments
m2	SELECT UNIT					
32,000	25000	63,500		none	As per EPA design manual and SEW	Please note there was significant movement of areas during 2016 due to capping works and opening of new cell areas during the year, and best estimate is being applied

*please note this includes daily cover area

Table 6 Leachate-Landfill only

9 Is leachate from your site treated in a Waste Water Treatment Plant?

Yes off site

10 Is leachate released to surface water? If yes please complete leachate mass load information below

No

Volume of leachate in reporting year(m3)	Leachate (BOD) mass load (kg/annum)	Leachate (COD) mass load (kg/annum)	Leachate (NH4) mass load (kg/annum)	Leachate (Chloride) mass load kg/annum	Leachate treatment on-site	Specify type of leachate treatment	Comments
29,350.29						WWTP off site	

Please ensure that all information reported in the landfill gas section is consistent with the Landfill Gas Survey submitted in conjunction with PRTR returns

Table 7 Landfill Gas-Landfill only

Gas Captured&Treated by LFG System m3	Power generated (MW / KWh)	Used on-site or to national grid	Was surface emissions monitoring performed during the reporting year?	Comments
8401778.385 Kg/Metha	18,231,000KWh	National Grid mainly with some on site use	Yes	

PRTR Returns Workbook

REFERENCE YEAR	2016
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1. FACILITY IDENTIFICATION

Parent Company Name	Ballynagran Landfill Limited
Facility Name	Ballynagran Residual Landfill
PRTR Identification Number	W0165
Licence Number	W0165-02

Classes of Activity

No.	class name
-	Refer to PRTR class activities below

Address 1	Ballynagran
Address 2	Coolbeg and Kilcandra
Address 3	
Address 4	
	Wicklow
Country	Ireland
Coordinates of Location	-8.41098 51.914
River Basin District	IEEA
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Tomas Fingleton
AER Returns Contact Email Address	tomas.fingleton@landfills.ie
AER Returns Contact Position	Landfill Manager
AER Returns Contact Telephone Number	0867741813
AER Returns Contact Mobile Phone Number	0867741813
AER Returns Contact Fax Number	045 482629
Production Volume	
Production Volume Units	
Number of Installations	
Number of Operating Hours in Year	
Number of Employees	
User Feedback/Comments	Engine 1 not in operation at the time of the Air Emission Survey therefore no data is available.
Web Address	

2. PRTR CLASS ACTIVITIES

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

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

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

4. WASTE IMPORTED/ACCEPTED ONTO SITE

[Guidance on waste imported/accep](#)

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

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

4.1 RELEASES TO AIR

[Link to previous years emissions data](#)

| PRTR# : W0165 | Facility Name : Ballynagrán Residual Landfill | Filename : W0165_2016 PRTR amended March 2018.xls | Return Year : 2016 |

28/03/2018 12:46

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR		Please enter all quantities in this section in KGs										QUANTITY		
No. Annex II	POLLUTANT Name	M/C/E	METHOD Method Used		Flare 1	Engine 2	Engine 3	Engine 4	Engine 1			T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	Emission Point 4	Emission Point 5	Emission Point 6	Emission Point 7			
02	Carbon monoxide (CO)	M	EN 15058:2004	NCIR By Horiba PG-250	2.77	5370.20	6441.79	4530.10	0.00	0.00	0.00	16344.86	0.0	0.0
05	Nitrous oxide (N2O)	M	EN 14792:2005	Chemiluminescence	76.96	2228.87	3700.70	2598.88	0.00	0.00	0.00	8605.41	0.0	0.0
11	Sulphur oxides (SOx/SO2)	C	OTH	NDIR Absorption	3077.76	20006.22	22737.71	16523.22	0.00	0.00	0.00	62344.91	0.0	0.0
01	Methane (CH4)	C	OTH	Gassim Model	0	0.00	0.00	0.00	0.00	0.00	0.00	664334.0	0.0	664334.0
07	Non-methane volatile organic compounds (NMVOC)	M	ALT	FID	3.83	0.00	0.00	0.00	0.00	0.00	0.00	3.83	0.0	0.0

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

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO AIR		Please enter all quantities in this section in KGs										QUANTITY		
No. Annex II	POLLUTANT Name	M/C/E	METHOD Method Used		Flare 1	Engine 2	Engine 3	Engine 4	T (Total) KG/Year		A (Accidental)	F (Fugitive)		
			Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	Emission Point 4	KG/Year	KG/Year	KG/Year	KG/Year		
80	Chlorine and inorganic compounds (as HCl)	M	ALT	Ion Chromatography	7.2	13.17	26.4	22.93	69.7	0.0	0.0	0.0		
84	Fluorine and inorganic compounds (as HF)	M	ALT	Ion Chromatography	4.62	6.16	67.49	5.82	84.09	0.0	0.0	0.0		

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

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

RELEASES TO AIR		Please enter all quantities in this section in KGs										QUANTITY		
Pollutant No.	POLLUTANT Name	M/C/E	METHOD Method Used		Flare 1	Engine 2	Engine 3	Engine 4	T (Total) KG/Year		A (Accidental)	F (Fugitive)		
			Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	Emission Point 4	KG/Year	KG/Year	KG/Year	KG/Year		
224	TA Luft carcinogenic substances Class 1	M	ALT	Thermal Desorption	0.0	6.23	5.62	4.17	16.02	0.0	0.0	0.0		
244	Total Particulates	M	ALT	Gravimetric	0.0	13.12	50.4	126.63	190.15	0.0	0.0	0.0		

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

Additional Data Requested from Landfill operators

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

Landfill: Please enter summary data on the quantities of methane flared and / or utilised	Ballynagrán Residual Landfill				
	T (Total) kg/Year	M/C/E	Method Used		Facility Total Capacity m3 per hour
			Method Code	Designation or Description	
Total estimated methane generation (as per site model)	5779320.0	C	Oth	Gassim 2.5	N/A
Methane flared	219739.0	M	Oth	On-site monitoring	5000.0 (Total Flaring Capacity)
Methane utilised in engine/s	4894187.0	M	Oth	On-site monitoring	3520.0 (Total Utilising Capacity)
Net methane emission (as reported in Section A above)	664334.0	C	Oth	Model and monitoring data	N/A

4.2 RELEASES TO WATERS

[Link to previous years emissions data](#)

| PRTR# : W0165 | Facility Name : Ballynagran Residual Landfill | Filename : W0165_2016 PRTR amended March 2018.xls | Return Year : 2016 |

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SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

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

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

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

SECTION B : REMAINING PRTR POLLUTANTS

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

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

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

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

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

4.3 RELEASES TO WASTEWATER OR SEWER

[Link to previous years emissions data](#)

| PRTR# : W0165 | Facility Name : Ballynagran Residual Landfill | Filename : W0165_2016 PRTR a

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SECTION A : PRTR POLLUTANTS

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

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

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

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

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

4.4 RELEASES TO LAND

[Link to previous years emissions data](#)

| PRTR# : W0165 | Facility Name : Ballynagran Residual Landfill | Filename : W0165_2016 PRTR amended March 2018.xls | Return Year : 2016 |

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SECTION A : PRTR POLLUTANTS

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

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

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

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

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

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

| PRTR# : W0165 | Facility Name : Ballynagran Residual Landfill | Filename : W0165_2016 PRTR amended March 2018.xls | Return Year : 2016 |

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Please enter all quantities on this sheet in Tonnes

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Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non-Haz Waste : Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non-Haz Waste : Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	19 07 03	No	942.44	landfill leachate other than those mentioned in 19 07 02	D9	M	Weighed	Offsite in Ireland	Rilta Environmental Ltd,W0192-01	Block 402 ,Grant?s Drive ,Greenogue Business Park. Rathcoole ,Dublin,Ireland		
Within the Country	19 07 03	No	27396.29	landfill leachate other than those mentioned in 19 07 02	D9	M	Weighed	Offsite in Ireland	Ringsend WWTP,D00-34-01	Ringsend ,Dublin,-,,-,ireland Brownstown,Kilcullen		
Within the Country	19 07 03	No	1011.56	landfill leachate other than those mentioned in 19 07 02	D9	M	Weighed	Offsite in Ireland	Kilcullen Landfill Ltd.,W0081-04	Landfill Ltd.,County Kildare,-,ireland		
Within the Country	13 02 05	Yes	105.4	mineral-based non-chlorinated engine, gear and lubricating oils	R13	E	Volume Calculation	Offsite in Ireland	Rilta Environmental Ltd,W0192-01	Block 402 ,Grant?s Drive ,Greenogue Business Park. Rathcoole ,Dublin,Ireland	Rilta Environmental Ltd,W0192-01,Block 402,Grants Drive,Greenogue Business Park,Rathcoole Co. Dublin,Ireland	Block 402,Grants Drive,Greenogue Business Park,Rathcoole Co. Dublin,Ireland

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

[Link to previous years waste data](#)

[Link to previous years waste summary data & percentage change](#)

[Link to Waste Guidance](#)