

Facility Information Summary

AER Reporting Year	2017
Licence Register Number	W0281-01
Name of site	Limerick Gasworks
Site Location	Dock Road Limerick
NACE Code	E (39.00) WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES (Remediation activities and other waste management services)
Class/Classes of Activity	Class 11.2(b) and Class 11.1
National Grid Reference (6E, 6 N)	156950E, 156650N

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.**

Phase 1 Pump & Treat works completed end of 2017. Primary activities included:

- a. Recovery of freephase DNAPL (coal tar) through pneumatic pump system. 45 wells installed in boreholes at depths of up to 10m.
- b. Extraction, treatment and reinjection of 1,450m³ groundwater using pumps. Water was treated through a series of separation tanks and granular activated carbon filters.
- c. Addition of Surfactants & Use of Flow Path Management
- d. Drilling of Additional 8 wells
- e. Heating of Ground water to increase recovery of remaining DNAPL
- f. Transport of 96.04 tons of DNAPL and hazardous waste under a TFS licence to treatment facility in the Netherlands.
- g. Exploratory trial holes excavated and samples taken within tanks to determine presence of residual contaminants.
- h. Slit trenches excavated along boundary to determine precise extents of contamination
- i. Relocation of wind sock to facilitate upcoming Phase 2 works
- j. No exceedance of the licence limits / non-compliances recorded.

Declaration:

All the data and information presented in this report has been checked and certified as being accurate. The

	<u>23 March 2018</u>
Signature Group/Facility manager <small>(or nominated, suitably qualified and experienced deputy)</small>	Date

AIR-summary template Lic No: W0281-01 Year 2017

Answer all questions and complete all tables where relevant

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 licenced emissions and do not complete a solvent management plan (table A4 and A5) you <u>do not</u> need to complete the tables	Additional information	
		Yes	Licenced schedule B1 states there shall be no emission to air of environmental significance.

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	No	All monitoring points for VOC are below limit of detection
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	Yes	

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
Environmental Monitoring points 1, 2 3 and 4	Volatile organic compounds (as TOC)	Twice Daily	1	Daily average < ELV	<1	ppm	SELECT	ESTIMATE	0	N/a
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		

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

AIR-summary template		Lic No:	W0281-01	Year	2017
Continuous Monitoring					

4 Does your site carry out continuous air emissions monitoring?
 If yes please review your continuous monitoring data and report the required fields below in Table A2 and compare it to its relevant Emission Limit Value (ELV)

5 Did continuous monitoring equipment experience downtime? If yes please record downtime in table A2 below

6 Do you have a proactive service agreement for each piece of continuous monitoring equipment?

7 Did your site experience any abatement system bypasses? If yes please detail them in table A3 below

No	
No	
No	
No	

Table A2: Summary of average emissions -continuous monitoring

Emission reference no:	Parameter/ Substance	ELV in licence or any revision thereof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission	Annual maximum	Monitoring Equipment downtime (hours)	Number of ELV exceedences in current reporting year	Comments
N/A	SELECT			SELECT	SELECT					
N/A	SELECT				SELECT					
N/A	SELECT				SELECT					
N/A	SELECT				SELECT					
N/A	SELECT				SELECT					

Table A3: Abatement system bypass reporting table [Bypass protocol](#)

Date*	Duration** (hours)	Location	Reason for bypass	Impact magnitude	Corrective action

* this should include all dates that an abatement system bypass occurred

** an accurate record of time bypass beginning and end should be logged on site and maintained for future Agency inspections please refer to bypass protocol link

Solvent use and management on site

8 Do you have a total Emission Limit Value of direct and fugitive emissions on site? if yes please fill out tables A4 and A5

No

Table A4: Solvent Management Plan Summary
Total VOC Emission limit value

[Solvent regulations](#) Please refer to linked solvent regulations to complete table 5 and 6

Reporting year	Total solvent input on site (kg)	Total VOC emissions to Air from entire site (direct and fugitive)	Total VOC emissions as %of solvent input	Total Emission Limit Value (ELV) in licence or any revision thereof	Compliance
N/A					SELECT
N/A					SELECT

Table A5: Solvent Mass Balance summary

	(I) Inputs (kg)	(O) Outputs (kg)						
Solvent	(I) Inputs (kg)	Organic solvent emission in waste	Solvents lost in water (kg)	Collected waste solvent (kg)	Fugitive Organic Solvent (kg)	Solvent released in other ways e.g. by-	Solvents destroyed onsite through	Total emission of Solvent to air (kg)

Total

		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 licensed emissions you <u>only</u> need to complete table W1 and or W2 for storm water analysis and visual inspections	Yes	No emission to Surface Water (SW) or sewer during 2017 period. SW gully banded and sewage from site welfare facilities removed by contractor to Limerick City Council Treatment Plant.	
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	No		

Table W1 Storm water monitoring

Location reference	Location relative to site activities	PRTR Parameter	Licensed 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
N/A	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	
N/A	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	

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

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
N/A		NA	SELECT		
N/A		NA	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	No	Additional information		
4	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	External /Internal Lab Quality checklist Assessment of results checklist	No	NA	

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

Emission reference no:	Emission released to	Parameter/ SubstanceNote 1	Type of sample	Frequency of monitoring	Averaging period	ELV or trigger values in licence or any revision thereof ^{Note 2}	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Method of analysis	Procedural reference source	Procedural reference standard number	Annual mass load (kg)	Comments
N/A	SELECT	SELECT	SELECT		SELECT		SELECT		SELECT	SELECT	SELECT	SELECT			

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? Additional Information

No	
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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

No	
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7 Do you have a proactive service contract for each piece of continuous monitoring equipment on site?

No	
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8 Did abatement system bypass occur during the reporting year? If yes please complete table W5 below

No	
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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	Comments
N/A	SELECT	SELECT		SELECT	SELECT	SELECT					
N/A	SELECT	SELECT		SELECT	SELECT	SELECT					
N/A											

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?
N/A						No	
N/A							
N/A							

*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
- 2 Please provide integrity testing frequency period
- 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
- 4 How many bunds are on site?
- 5 How many of these bunds have been tested within the required test schedule?
- 6 How many mobile bunds are on site?
- 7 Are the mobile bunds included in the bund test schedule?
- 8 How many of these mobile bunds have been tested within the required test schedule?
- 9 How many sumps on site are included in the integrity test schedule?
- 10 How many of these sumps are integrity tested within the test schedule?

Yes	
3 years	Bunds in use for Pump & Treat phase of remediation works only. Pump and Treat works completed end of 2017, therefore no further integrity tests required in 2018.
Yes	2017 (not required for the current phase of works)
2	
2	
0	
No	
NA	
0	
NA	

- 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
Yes
NA

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)
Bund 1	other (please specify)	Block work double lined with impermeable liners	DNAPL /abstracted water storage tank and oil/water separators	25m ³	18.7m ³	Hydraulic test		07/11/2016	Yes	Pass	NA	SELECT	Not required. Bund No longer in use	
Bund 2	other (please specify)	Block work double lined with impermeable liners	DNAPL /abstracted water storage tank and oil/water separators, water storage and filter vessels	77m ³	18.7m ³	Hydraulic test		07/11/2016	Yes	Pass	NA	SELECT	Not required. Bund No longer in use	

* 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? [bundring and storage guidelines](#)
- 16 Are channels/transfer systems to remote containment systems tested?
 - 17 Are channels/transfer systems compliant in both integrity and available volume?

Commentary

Yes
Yes
Yes

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 within the integrity test period as specified**

2 Please provide integrity testing frequency period

*please note integrity testing means water tightness testing of all underground pipelines (as required under your licence)

No	
SELECT	NA

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)
N/A	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT				SELECT

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

Groundwater/Soil monitoring template

Lic No:

W0281-01

Year

2017

		Comments	
1	Are you required to carry out groundwater monitoring as part of your licence requirements?	yes	Groundwater monitored quarterly
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	yes	Groundwater extracted for the purpose of DNAPL and LNAPL removal through a system of settlement tanks and activated carbon filtration. Groundwater of an improved quality was then reinjected back into the source location.
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	GW trends have been consistent since it commenced in 2009
5	Is the contamination related to operations at the facility (either current and/or historic)	yes	Contamination due to historic site use as a Gasworks
6	Have actions been taken to address contamination issues? If yes please summarise remediation strategies proposed/undertaken for the site	yes	Phase 1 (Pump & Treat works) completed in 2017. This is part of a two phase remediation project. Phase 2 will comprise solidification/stabilisation of remnant contamination, due to commence in 2018.
7	Please specify the proposed time frame for the remediation strategy	yes	Remediation works to be completed by 2019.
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?	yes	
11	Have potential receptors been identified on and off site?	yes	
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 has been undertaken since 2009 on a quarterly basis (and continues to take place) across approximately 24 locations across the site and is summarised annually. The remediation objective is to remove the source of potential contamination and hence there are no Groundwater Threshold Values.

Table 1: Upgradient 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 pollutant concentration over last 5 years of monitoring data
N/A							SELECT			data not available
N/A							SELECT			data not available

.+ where average indicates arithmetic mean

++. maximum concentration indicates the maximum measured concentration from all monitoring results produced during the reporting year

Table 2: 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
N/A							SELECT			data not available
N/A							SELECT			data not available

*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 (see the link in G31). [Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites \(EPA 2013\).](#)

**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](#)
[Surface water EQS](#) [regulations](#) [\(private supply\)](#) [standards](#) [standards](#) [standards](#) [Interim Guideline Values \(IGV\)](#)

Table 3: Soil results

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

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

Environmental Liabilities template

Lic No:

W0281-01

Year

2017

[Click here to access EPA guidance on Environmental Liabilities and Financial provision](#)

Commentary

1	ELRA initial agreement status	Submitted and agreed by EPA	EDEN approval LR020803 Date: 05-Feb-16
2	ELRA review status	Review required and not completed;	GNI will undertake a review of the ELRA in 2018, prior to commencement of Phase 2 remediation works.
3	Amount of Financial Provision cover required as determined by the latest ELRA	1,085,700	EDEN approval LR020803 Date: 05-Feb-16
4	Financial Provision for ELRA status	Approved by EPA	EDEN approval LR022896 Date: 20-Jun-16
5	Financial Provision for ELRA - amount of cover	1,085,700	EDEN approval LR022896 Date: 20-Jun-16
6	Financial Provision for ELRA - type	Letter of Credit and Environmental Impairment Insurance Policy proposed and agreed by EPA	EDEN approval LR022896 Date: 20-Jun-16
7	Financial provision for ELRA expiry date	31/12/2018	Letter of Credit Expiry
8	Closure plan initial agreement status	Closure plan submitted and agreed by EPA	EDEN approval LR020755 Date: 03-Feb-16
9	Closure plan review status	Review required and not completed	GNI will undertake a review of the CRAMP in 2018, during Phase 2 remediation works.
10	Financial Provision for Closure status	Submitted and agreed by EPA	EDEN approval LR020755 Date:
11	Financial Provision for Closure - amount of cover	570,000	EDEN approval LR020755 Date:
12	Financial Provision for Closure - type	AIB Bank Letter of Credit	EDEN approval LR022896 Date: 20-Jun-16
13	Financial provision for Closure expiry date	31/12/2018	Letter of Credit Expiry

Environmental Management Programme/Continuous Improvement Programme template			Lic No:	W0281-01	Year	2017
	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	EMS for Phase 1 Pump & Treat Works initially uploaded to Eden 09-09-16 and amendments made 31-03-17			
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	<p>GNI installed a Site information board with local and low-call contact details specific to environmental information in December 2014.</p> <p>GNI retain the services of a Local Liaison Officer to liaise with local residents, businesses and any other stakeholders who make contact throughout the project.</p> <p>Local letter drop at regular intervals provide information to affected parties on upcoming works.</p>			

Environmental Management Programme (EMP) report					
Objective Category	Target	Status (% complet	How target was progressed	Responsibility	Intermediate outcomes
Reduction of emissions to Air	Vapour (VOCs) 1ppm	100	Pump and treat system closed and all tanks are covered. The boundary are monitored twice daily with the PID	Individual	Reduced emissions
	Odour (moderate)				
Noise reduction	55dB	100	Generator placed in a casing	Individual	Reduced emissions
Materials Handling/Storage/Bunding	Emission to ground	100	All bunds were tested and certified as water tight. There are high level alarms installed in the holding tanks	Individual	Increased compliance with licence conditions
Groundwater protection	Emission to ground	100	All surface drain found on site have been blocked off	Individual	Installation of infrastructure
Reduction of emissions to Water	Emission of treated water to stream	100	There was no discharge to sewer	Individual	Improved Environmental Management Practices
Reduction of emissions to Air	Emission to air	100	All plants that were utilised on site had up to date service before utilising for operation	Individual	Reduced emissions
Reduction of emissions to Air	Emission to air	100	All DNAPL tanks have lids installed to reduce vapour/VOC emissions from the remediation system	Individual	Improved Environmental Management Practices
Additional improvements	Emission of contaminated water/DNAPL to ground	100	Inspection carried out on all remediation pipework and fittings on a weekly basis	Individual	Reduced emissions

Noise monitoring summary report

Lic No:

W0281-01

Year

2017

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

Yes

If yes please fill in table N1 noise summary below

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

Yes

4 When was the noise reduction plan last updated?

09/12/2017

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)	Laeq	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)?
23/11/2017	1340 – 1410	B1 – North Boundary		56	55	57	68	No	No		Yes
23/11/2017	1621 – 1651	B1 – North Boundary		59	56	61	74	No	No	Road traffic from	Yes
23/11/2017	1830 – 1900	B1 – North Boundary		52	49	54	60	No	No	O'Curry St & Dock	Yes
23/11/2017	2208 – 2238	B1 – North Boundary		51	48	54	57	No	No	Road was dominant	Yes
24/11/2017	0040 – 0110	B1 – North Boundary		50	48	51	58	No	No	source of noise	Yes
24/11/2017	0250 – 0320	B1 – North Boundary		50	48	51	63	No	No		Yes
23/11/2017	1233 – 1303	B2 – South Boundary		53	49	55	64	No	No		Yes
23/11/2017	1446 – 1516	B2 – South Boundary		49	47	50	63	No	No	Road traffic from Dock	Yes
23/11/2017	1726 - 1756	B2 – South Boundary		49	46	51	60	No	No	Road was dominant	Yes
23/11/2017	2100 – 2130	B2 – South Boundary		43	42	44	46	No	No	source of noise during	Yes
23/11/2017	2334 – 0004	B2 – South Boundary		45	44	46	49	No	No	day and music from	Yes
24/11/2017	0145 - 0215	B2 – South Boundary		44	43	45	56	No	No	local bar at night	Yes
23/11/2017	1200 – 1230	B3 – East Boundary		57	52	57	76	No	No		Yes
23/11/2017	1413 – 1443	B3 – East Boundary		55	53	57	68	No	No		Yes
23/11/2017	1654 – 1724	B3 – East Boundary		54	52	54	69	No	No	Road traffic from	Yes
23/11/2017	1910 – 1940	B3 – East Boundary		47	44	49	51	No	No	O'Curry St & Dock	Yes
23/11/2017	2300 – 2330	B3 – East Boundary		50	47	52	68	No	No	Road was dominant	Yes
24/11/2017	0112 -- 0142	B3 – East Boundary		48	45	50	54	No	No	source of noise	Yes
23/11/2017	1306 – 1336	B4 – West Boundary		56	53	57	66	No	No		Yes
23/11/2017	1520 – 1550	B4 – West Boundary		55	51	57	78	No	No	Road traffic from Dock	Yes
23/11/2017	1758 – 1828	B4 – West Boundary		53	51	55	59	No	No	Road was dominant	Yes
23/11/2017	2133 – 2203	B4 – West Boundary		50	48	52	55	No	No	source of noise during	Yes
24/11/2017	0008 – 0038	B4 – West Boundary		52	44	53	55	No	No	day and music from	Yes
24/11/2017	0217 - 0247	B4 – West Boundary		54	41	44	60	No	No	local bar at night	Yes

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

nothing**

** Not Applicable / no action required as no exceedence of noise limits occurred.

Any additional comments? (less than 200 words)

Resource Usage/Energy efficiency summary

Lic No:

W0281-01

Year

2017

				Additional information	
1	When did the site carry out the most recent energy efficiency audit? Please list the recommendations in table 3 below			NA	Phase 1 Pump & Treat works completed in 2017. No audit required.
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		SEAI - Large Industry Energy Network (LIEN)	No	
3	Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in additional information			SELECT	undertaken in 2017 (not required for the

Energy Use	Previous year	Current year	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*
Total Energy Used (MWHrs)	239.5	573.98		
Total Energy Generated (MWHrs)		NA		
Total Renewable Energy Generated (MWHrs)		NA		
Electricity Consumption (MWHrs)				
Fossil Fuels Consumption:				
Heavy Fuel Oil (m3)	10.8	26.9		
Light Fuel Oil (m3)		NA		
Natural gas (m3)		NA		
Coal/Solid fuel (metric tonnes)	None	None	NA	NA
Peat (metric tonnes)	None	None	NA	NA
Renewable Biomass	None	None	NA	NA
Renewable energy generated on site	None	None	NA	NA

* 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

Water use	Water extracted		Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*	Water Emissions		Water Consumption	
	Previous year m3/yr.	Current year m3/yr.			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		1450			1450			
Surface water								
Public supply	145	75.4						
Recycled water								
Total	145	1525.4			1450			

* 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

	Total	Landfill	Incineration	Recycled	Other
Hazardous (Tonnes)	116.04	0	96.04	20	0
Non-Hazardous (Tonnes)	60.22	1.68	0	58.54	0

Resource Usage/Energy efficiency summary Lic No: W0281-01 Year 2017

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
			SELECT					
			SELECT					
			SELECT					

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					

WASTE SUMMARY Lic No: W0281-01 Year 2017

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

→ 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
SELECT UNIT	SELECT UNIT					

*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?

N/A

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

N/A

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

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
			SELECT	