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

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:**

water, noise.

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

Signature

A description of the activities/processes at

the site for the reporting year. This should

include information such as production

infrastructural changes, environmental

the reporting year and an overview of

exceedances of licence limits (where

compliance with your licence listing all

applicable) and what they relate to e.g. air.

performance which was measured during

increases or decreases on site, any

Group/Facility manager

(or nominated, suitably qualified and experienced deputy)

\_

Date

23 March 7018

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

Answer all questions and complete all tables where relevant

Additional information

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 do not need to complete the tables

Yes

Licenced schedule B1 states there shall be no emission to air of environmental significance.

Periodic,	Non-Continuous	Monitoring
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2 Are there any results in breach of licence requirements? If yes please provide brief details in the comment section of TableA1 below

Basic air

3 Was all monitoring carried out in accordance with EPA guidance note AG2 and using the basic air monitoring checklist? monitoring checklist

AGN2

All monitoring points for VOC are below limit of detection

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 therof	Licence Compliance criteria	Measured value		Compliant with licence limit		Annual mass load (kg)	Comments - reason for change in % mass load from previous year if applicable
	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		
	ote 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?		No			
	If yes please review your continuous monitoring data and report the required fields below to its relevant Emission Limit Value (ELV)	ow in Table A2 and compare it				
5	Did continuous monitoring equipment experience downtime? If yes please record down	time in table A2 below	No			
6	Do you have a proactive service agreement for each piece of continuous monitoring equ	ipment?	No			
7	Did your site experience any abatement system bypasses? If yes please detail them in tal <b>Table A2: Summary of average emissions -continuous monitoring</b>	ble A3 below	No			

Emission	Parameter/ Substance		Averaging Period	Compliance Criteria	Units of	Annual Emission	Annual maximum	Monitoring	Number of ELV	Comments
reference no:	r drumeter, Substance		/ Wer aging remod	compliance officeria	measurement	, unidai Emission			exceedences in	Comments
								downtime (hours)	current	
		ELV in licence or any							reporting year	
		revision therof								
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

Вγ	pass	pro	toc

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

<sup>\*</sup> this should include all dates that an abatement system bypass occurred

<sup>\*\*</sup> 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

AIR-summary t	emplate				Lic No:	W0281-01		Year	2017
Solvent	use and manageme	nt on site							
Do you have a total	l Emission Limit Value of d	irect and fugitive emis	sions on site? if yes	s please fill out tables A4 and A5			No		
	ent Management Pla ssion limit value	n Summary	<u>Solvent</u> <u>regulations</u>	Please refer to linked solver complete table 5					
Reporting year	Total solvent input on site (kg)	Total VOC emissions to Air from entire site (direct and fugitive)	emissions as %of solvent input	Total Emission Limit Value (ELV) in licence or any revision therof	Compliance				
N/A					SELECT				
N/A					SELECT				
Table A5:	Solvent Mass Balan	ce summary							7
	(I) Inputs (kg)			(0)	Outputs (kg)				
Solvent	(I) Inputs (kg)		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)	-
									1
							Total		

ALK WOULD	ring returns su	ummary template-W	ATER/WASTEW	/ATER(SEWER	)	Lic No:	W0281-01		Year	2017					
							Additional information								
please comp further question	olete table W2 a ons. If <mark>you do no</mark>	emissions direct to surface and W3 below for the cur tot have licenced emission r storm water analysis a	rent reporting yea s you <u>only</u> need to	ar and answer complete table	Yes	bunded and sewag	face Water (SW) or sewer during 20 ge from site welfare facilities remov imerick City Council Treatment Plan	ed by contractor to							
Was it a requirement of your licence to carry out visual inspections on any surface wat discharges or watercourses on or near your site? If yes please complete table W2 belo summarising only any evidence of contamination noted during visual inspections  Table W1 Storm water monitoring			table W2 below	No											
Table \	W1 Storm wa	ter 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					
N/A	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT						
N/A	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT		]				
Location	Date of		Description of cont	tamination		Source of	Corrective acti	on	Comn	nents					
Reference	Date of inspection		Description of conf	tamination		contamination	Corrective acti	on	Comn	nents					
Reference N/A			NA NA	tamination		contamination SELECT	Corrective acti	on	Comn	nents					
Reference				tamination		contamination	Corrective acti	on	Comn	nents					
Reference N/A N/A	inspection	to and for wastown	NA NA		ng (non contin	SELECT SELECT	Corrective acti	on	Comn	nents					
Reference N/A N/A Licensed Emi	inspection	ter and /or wastewa	NA NA ter(sewer)-peri	iodic monitori	ng (non-continu	SELECT SELECT	Corrective acti	on	Comn	nents					
Reference N/A N/A Licensed Emi	inspection issions to wa	of licence requirements? If y	NA NA NA ter(sewer)-peri	iodic monitori	ng (non-continu	SELECT SELECT		on	Comn	nents					
Reference N/A N/A Licensed Emi	inspection issions to wa		NA NA NA ter(sewer)-peri	iodic monitori		SELECT SELECT	Corrective acti	on	Comn	nents					
Reference N/A N/A Licensed Emi Was there any	inspection issions to wa result in breach o coi	of licence requirements? If y mment section of Table W3 in accordance with EPA	NA NA NA ter(sewer)-peri res please provide bi	iodic monitori		SELECT SELECT		on	Comn	nents					
Reference N/A N/A Licensed Emi Was there any Was all monit guidance and ct	inspection issions to wa result in breach o cor toring carried out	of licence requirements? If y mment section of Table W3 in accordance with EPA ity of Aqueous Monitoring	NA NA ter(sewer)-peri es please provide bi below  External /internal	lodic monitori		SELECT SELECT		on	Comn	nents					
Reference N/A N/A Licensed Emi Was there any Was all monit guidance and cl Data Reported	inspection issions to wa result in breach o cor toring carried out hecklists for Quali	of licence requirements? If y mment section of Table W3 in accordance with EPA	NA NA NA ter(sewer)-peri res please provide bi	iodic monitori	No	SELECT SELECT		NA NA	Comn	nents					
Reference N/A N/A Licensed Emi Was there any Was all monit guidance and cl Data Reported require imp	inspection issions to wa result in breach o cor toring carried out hecklists for Quali to the EPA? If no rovement in addir	of licence requirements? If y mment section of Table W3 in accordance with EPA ty of Aqueous Monitoring please detail what areas tional information box	NA NA NA NA NA NA NA Ler(sewer)-peri es please provide bi below  External /internal Lab Quality checklist	odic monitori rief details in the  Assessment of results checklist	No No	SELECT SELECT SOURCE  JOUS)	Additional information		Comn	nents					
Reference N/A N/A Licensed Emi Was there any Was all monit guidance and cl Data Reported require imp	inspection issions to wa result in breach o cor toring carried out hecklists for Quali to the EPA? If no rovement in addir	of licence requirements? If y mment section of Table W3 in accordance with EPA ty of Aqueous Monitoring please detail what areas	NA NA NA NA NA NA NA Ler(sewer)-peri es please provide bi below  External /internal Lab Quality checklist	odic monitori rief details in the  Assessment of results checklist	No No	SELECT SELECT SOURCE  JOUS)	Additional information		Comn	nents					
Reference N/A N/A Licensed Emi Was there any Was all monit guidance and cl Data Reported require imp	inspection issions to wa result in breach o cor toring carried out hecklists for Quali to the EPA? If no rovement in addir	of licence requirements? If y mment section of Table W3 in accordance with EPA ty of Aqueous Monitoring please detail what areas tional information box	NA NA NA NA NA NA NA Ler(sewer)-peri es please provide bi below  External /internal Lab Quality checklist	odic monitori rief details in the  Assessment of results checklist	No No	SELECT SELECT SOURCE  JOUS)	Additional information		Comn	nents					
Reference N/A N/A Licensed Emi Was there any Was all monit guidance and cl Data Reported require imp	inspection issions to wa result in breach o cor toring carried out hecklists for Quali to the EPA? If no rovement in addir	of licence requirements? If y mment section of Table W3 in accordance with EPA ty of Aqueous Monitoring please detail what areas tional information box	NA NA NA NA NA NA NA Ler(sewer)-peri es please provide bi below  External /internal Lab Quality checklist	odic monitori rief details in the  Assessment of results checklist	No No	SELECT SELECT SOURCE  JOUS)	Additional information		Comn	nents					
Reference N/A N/A Licensed Emi Was there any Was all monit guidance and cl Data Reported require imp	inspection issions to wa result in breach o cor toring carried out hecklists for Qualia I to the EPA? I fin o rovement in addit censed Emissi	of licence requirements? If ymment section of Table W3 in accordance with EPA ty of Aqueous Monitoring please detail what areas tional information box  ions to water and /or	NA NA NA NA NA NA NA Ler(sewer)-peri es please provide bi below  External /internal Lab Quality checklist	Assessment of results checklist	No No ic monitoring (r	contamination  SELECT  SELECT  Jous)	Additional information						Procedural		
Reference N/A N/A N/A  Licensed Emi Was there any Was all monit guidance and cl Data Reported require imp Table W3: Lice  Emission	inspection  issions to wa result in breach o coi toring carried out hecklists for Quali to the EPA? If no rovement in addii censed Emissi  Emission	of licence requirements? If ymment section of Table W3 in accordance with EPA ty of Aqueous Monitoring please detail what areas tional information box ions to water and /or	NA N	Assessment of results checklist in the Assessment of the Assessment of results checklist in the Assessment of the	No No ic monitoring (r	contamination  SELECT  SELECT  Jours)  Son-continuous	Additional information	NA NA	Unit of	Compliant with		Procedural	reference	Annual mass load	
Reference N/A N/A Licensed Emi Was there any Was all monit guidance and cl Data Reported require imp Table W3: Lie Emission reference no:	inspection  issions to wa result in breach o cor toring carried out hecklists for Quali to the EPA? to to the EPA? is conseed Emissi  Emission released to	of licence requirements? If ymment section of Table W3 in accordance with EPA ty of Aqueous Monitoring please detail what areas tional information box  tons to water and /or  Parameter/ SubstanceNote 1	NA N	Assessment of results checklist in the Assessment of the Assessment of results checklist in the Assessment of the	No  No  ic monitoring (r	contamination  SELECT  SELECT  Journal Contamination  SELECT  SELECT	Additional information  Additional information		Unit of measurement	Compliant with licence	Method of analysis	reference source		Annual mass load	Comments
Reference N/A N/A N/A  Licensed Emi Was there any Was all monit guidance and cl Data Reported require imp Table W3: Lice  Emission	inspection  issions to wa result in breach o coi toring carried out hecklists for Quali to the EPA? If no rovement in addii censed Emissi  Emission	of licence requirements? If ymment section of Table W3 in accordance with EPA ty of Aqueous Monitoring please detail what areas tional information box ions to water and /or	NA N	Assessment of results checklist in the Assessment of the Assessment of results checklist in the Assessment of the	No No ic monitoring (r	contamination  SELECT  SELECT  Journal Contamination  SELECT  SELECT	Additional information	NA NA	Unit of	Compliant with	Method of analysis SELECT		reference		
Reference N/A N/A Licensed Emi Was there any Was all monit guidance and cl Data Reported require imp Table W3: Lie Emission reference no:	inspection  issions to wa result in breach o cor toring carried out hecklists for Quali to the EPA? to to the EPA? is conseed Emissi  Emission released to	of licence requirements? If ymment section of Table W3 in accordance with EPA ty of Aqueous Monitoring please detail what areas tional information box  tons to water and /or  Parameter/ SubstanceNote 1	NA N	Assessment of results checklist in the Assessment of the Assessment of results checklist in the Assessment of the	No  No  ic monitoring (r	contamination  SELECT  SELECT  Journal Contamination  SELECT  SELECT	Additional information  Additional information	NA NA	Unit of measurement	Compliant with licence		reference source	reference		

AER Mo	nitoring retu	rns sum	nmary template-W	ATER/WASTEW	ATER(SEWER)	1	Lic No:	W0281-01		Year	2017	
	ous monitori	•	emissions to water/sew	er monitoring?		No		Additional Information		]		
	se summarise yo t Emission Limit \		nuous monitoring data b .V)	elow in Table W4 an	d compare it to					-		
6 table W4 b	elow		nt experience downtime			No						
site?			during the reporting yea	_	olete table W5	No No						
Table W	4: Summary	of aver	rage emissions -cor	ntinuous monito	ring							
Emission reference r	Emission	o Pi	Parameter/ Substance			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

SELECT

SELECT

Emission reference no: released to Parameter/ Substance thereof N/A SELECT SELECT N/A SELECT SELECT N/A SELECT SELECT N/A note 1: Volumetric flow shall be included as a reportable parameter.

#### Table W5: Abatement system bypass reporting table

D	ate	Duration (hours)	Location	Resultant	Reason for	Corrective	Was a report	When was this report
				emissions	bypass	action*	submitted to the	submitted?
							EPA?	
N	I/A						No	
N	I/A							
N	I/A							

SELECT

SELECT

SELECT

SELECT

\*Measures taken or proposed to reduce or limit bypass frequency

Bund/Pipeline tes	sting template				Lic No:	W0281-01		Year	201	1				
Bund testing	I	dropdown menu cli	ck to see options				Additional information	-						
and containment struc	tures on site, in addition	ntegrity testing on bunds and con to all bunds which failed the inte ds outside the licenced testing pe	grity test-all bunding structu	res which failed including		Yes								
2 Please provide integrity	y testing frequency perior	d	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.										
Does the site maintain 3 "Chemstore" type units		erground pipelines (including stor	rmwater and foul), Tanks, sur	mps and containers? (conta	ainers refers to	Yes	2017 (not required for the current phase of works)							
4 How many bunds are o	on site?					2	phase of works)	<u> </u>						
5 How many of these but 6 How many mobile bund		hin the required test schedule?				0		+						
7 Are the mobile bunds in		schedule?				No		t						
		ted within the required test sche	dule?			NA								
9 How many sumps on si 10 How many of these sur						0 NA		+						
Please list any sump in	tegrity failures in table B	1				IVA	1	1						
11 Do all sumps and cham	bers have high level liqui	d alarms?				Yes		I						
		in a maintenance and testing pro ur integrity test programme?	ogramme?		-	Yes NA		+						
						100		1						
Tabl	le B1: Summary details of	bund /containment structure int	egrity test											
									Integrity reports					Results of retest(if in
Bund/Containment	T	Cif. Oth t	Dan doort on atalana and	A -t1it	Consideration and the	Town of interests and	O4h 4 4 +	Total data	maintained on	Dla	Integrity test failure	Constitution and the Anti-	Scheduled date	current
structure ID	Туре	Specify Other type	Product containment  DNAPL /abstracted water	Actual capacity	Capacity required*	Type of integrity test	Other test type	Test date	site?	Results of test	explanation <50 words	Corrective action taken	for retest Not required.	reporting ye
		Block work double lined with	storage tank and oil/water										Bund No longer	
Bund 1	other (please specify)	impermeable liners	separators	25m <sup>3</sup>	18.7m <sup>3</sup>	Hydraulic test		07/11/2016	Yes	Pass	NA	SELECT	in use	
		Block work double lined with	DNAPL /abstracted water storage tank and oil/water separators, water storage										Not required. Bund No longer	
Bund 2	other (please specify)	impermeable liners	and filter vessels	77m <sup>3</sup>	18.7m <sup>3</sup>	Hydraulic test		07/11/2016	Yes	Pass	NA	SELECT	in use	
* Capacity required should compl Has integrity testing be	ely with 25% or 110% containment ru	ale as detailed in your licence Ince with licence requirements ar	nd are all structures tested				Commentary	Т						
15 in line with BS8007/EPA	A Guidance?			bunding and storage guidel	lines	Yes								
16 Are channels/transfer s						Yes		1						
1/ Are channels/transfer	systems compliant in bot	h integrity and available volume?				Yes		1						
		7												
Pipeline/undergro	ound structure testing	1						ī						
		ntegrity testing* on underground												
1 all underground structu 2 Please provide integrity		which failed the integrity test ar	na all which have not been to	estea within the integrity t	est period as specified	No SELECT	NA NA	†						
		ness testing of all underground p	pipelines (as required under y	your licence)				1						
Table	R2: Summany details of si	ipeline/underground structures in	ntagrity test	1										
Table	Dz. Summary details of p	ipenne, unuergrounu structures ii	integrity test									I		
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	reporting year)			
N/A	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT				SELECT	t		
												1		
												1		

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

Groundwater/Soil monitoring template Lic No: W0281-01 Year 2017

		Comments	
Are you required to carry out groundwater monitoring as part of your licence requirements?	yes	Groundwater monitored quarterly	Please provide an interpretation of groundwater monitoring data in the interpretation box below or if you require additional space please
2 Are you required to carry out soil monitoring as part of your licence requirements?	no		include a groundwater/contaminated land monitoring results interpretaion as an additional section in this AER
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.	
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	Groundwater monitoring has been undertaken since 2009 on a quarterly basis (and continues to take place) across approximately 24
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	locations across the site and is summarised annually. The remediation objective is to remove the source of potential contamamination and hence there are no Groundwater Threshold Values.
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 assesment 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		

	-	nonitoring t	•	na roculto	Lic No:	W0281-01	Year 2017			
Date of sampling	Sample location reference	Parameter/ Substance	ter monitori  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 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 yea  Table 2: Downgradient Groundwater monitoring results  Upward trend in yearly average pollutant									yearly average	
Date of sampling	location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit	GTV's*	SELECT**	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.										oring template
assessment	More information on the use of soil and groundwater standards/ generic ssessment criteria (GAC) and risk assessment tools is available in the EPA <u>Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites (EPA 2013)</u> , ublished guidance (see the link in G31)									(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

GTV's

(private supply)

standards

<u>Drinking water (public</u> <u>Interim Guideline</u>

supply) standards

Values (IGV)

Surface

water EQS

Groundwater/Soil monitoring template	Lic No:	W0281-01	Year 2017	
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## Table 3: Soil results

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

 $\frac{\text{Click here to access EPA guidance on Environmental Liabilities and Financial}}{\text{\underline{provision}}}$ 

Commentary

Submitted and agreed by EPA  Review required and not completed;  Believe required and not completed;  Believe required and not completed;  Believe required and not completed;  Commencement of Phase remediation works.  Amount of Financial Provision cover required as determined by the latest ELRA  Approved by EPA  Approved by EPA  Believe required and not completed;  Commencement of Phase remediation works.  Approved by EPA  Approved by EPA  Believe required and not completed;  Commencement of Phase remediation works.  Believe required and not completed;  Commencement of Phase remediation works.  Believe required and not completed;  Commencement of Phase remediation works.  Approved by EPA  Approved by EPA  Believe required and not completed;  Commencement of Phase remediation works.  Believe required and not completed;  Commencement of Phase remediation works.  Believe required and not completed;  Commencement of Phase remediation works.  Believe required and not completed;  Commencement of Phase remediation works.  Believe required and not completed;  Commencement of Phase remediation works.  Believe required and not completed;  Commencement of Phase remediation works.  Believe required and not completed;  Commencement of Phase remediation works.  Believe required and not completed;  Commencement of Phase remediation works.  Believe required and not completed;  Commencement of Phase remediation works.  Believe required and not completed;  Commencement of Phase remediation works.  Believe remediation works.  Believe remediation works.  Commencement of Phase r				Commentary
Review required and not completed; the ELRA in 2018, prior to commencement of Phase remediation works.  3 Amount of Financial Provision cover required as determined by the latest ELRA  4 Financial Provision for ELRA status  Review required and not completed; the ELRA in 2018, prior to commencement of Phase remediation works.  EDEN approval LR0208  Approved by EPA  Approved by EPA  EDEN approval LR022896 20-Jun-16	1	ELRA initial agreement status	Submitted and agreed by EPA	EDEN approval LR020803 Date: 05-Feb-16
3 Amount of Financial Provision cover required as determined by the latest ELRA  Approved by EPA  4 Financial Provision for ELRA status  EDEN approval LR022896 20-Jun-16	2	ELRA review status	Review required and not completed;	commencement of Phase 2
4 Financial Provision for ELRA status 20-Jun-16  FDEN approval LR022896	3	Amount of Financial Provision cover required as determined by the latest ELRA	1,085,700	EDEN approval LR020803 Date: 05-Feb-16
EDEN approval LR022896	4	Financial Provision for ELRA status	Approved by EPA	EDEN approval LR022896 Date: 20-Jun-16
Financial Provision for ELRA - amount of cover 20-Jun-16	5	Financial Provision for ELRA - amount of cover	1,085,700	EDEN approval LR022896 Date: 20-Jun-16
6 Letter of Credit and Environmental Impairment Insurance Policy proposed and agreed by EPA  EDEN approval LR022896 20-Jun-16	6	Financial Provision for ELRA - type	Impairment Insurance Policy	EDEN approval LR022896 Date: 20-Jun-16
7 Financial provision for ELRA expiry date 31/12/2018 Letter of Credit Expir	7	Financial provision for ELRA expiry date	31/12/2018	Letter of Credit Expiry
Closure plan submitted and agreed by EDEN approval LR020755  Closure plan initial agreement status EPA 03-Feb-16	8	Closure plan initial agreement status		EDEN approval LR020755 Date: 03-Feb-16
Review required and not completed the CRAMP in 2018, during	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	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	11	Financial Provision for Closure - amount of cover	570,000	EDEN approval LR020755 Date:
AIB Bank Letter of Credit  Financial Provision for Closure - type  EDEN approval LR022896 20-Jun-16	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 Expir	13	Financial provision for Closure expiry date	31/12/2018	Letter of Credit Expiry

	<b>Environmental Management Programme/Continuous Improvement Programme</b>	ogramme template	Lic No:	W0281-01	Year	2017
	Highlighted cells contain dropdown menu click to view		Additional Information			
1	Do you maintain an Environmental Mangement System (EMS) for the site. If yes, please detail in additional information	Yes	'	orks initially uploaded to Eden 09- nents 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	contact details specific to enviro 20 GNI retain the services of a Loca residents, businesses and any contact throug	n board with local and low-call nmental information in December 114. I Liaison Officer to liaise with local other stakeholders who make nout the project. Itervals provide information to a upcoming works.		

<b>Environmental Management Programm</b>	e (EMP) report				
Objective Category	Target	Status (% complet	How target was progressed	Responsibility	Intermediate outcomes
Reduction of emissions to Air	Vapour (VOCs) 1ppm Odour (moderate)	100	Pump and treat system closed and all tanks are covered. The boundary are monitored twice daily with the PID	Individual	Reduced emissions
Noise reduction	55dB		Generator placed in a casing	Individual	Reduced emissions
Materials Handling/Storage/Bunding	Emission to ground		All bunds were tested and certified	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		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		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		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? If yes please fill in table N1 noise summary below
- 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 note as table 6?
- 3 Does your site have a noise reduction plan
- 4 When was the noise reduction plan last updated?
- Have there been changes relevant to site noise emissions (e.g. plant or operational changes) since the last noise survey?

Yes Yes 09/12/2017 No

Yes

Table N1: Noi	se monitoring s	summary									
Date of monitoring	Time period	Noise location (on site)	Noise sensitive location -NSL (if applicable)	Laeq	LA <sub>90</sub>	LA <sub>10</sub>	LA <sub>max</sub>	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 <u>site</u> 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
	1200 – 1230	B3 – East Boundary		57	52	57	76	No	No		Yes
	1413 – 1443	B3 – East Boundary		55	53	57	68	No	No		Yes
		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
-, , -	1520 – 1550	B4 – West Boundary		55	51	57	78	No	No	Road traffic from Dock	Yes
	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 l	sage/	Energy ef	ficiency summary	I	Lic No:	W0281-01	Year	2017
resource c	Jage	Liicigy Ci	niciency summary		LIC INO.	VVUZ01-U1	i Cai	2017

				Additional information
				Phase 1 Pump &
			NA	Treat works
		NA	completed in 2017.	
1	When did the site carry out the most recent energy efficiency audit? Please list the recommendations in t	table 3 below		No audit required.
2	such as the SFAI programme linked to the right? If yes please list them in additional information	SEAI - Large ndustry Energy Network (LIEN)	No	
3	Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state in additional information	ate percentage	SELECT	undertaken in 2017 (not required for the

Table R1 Energy usag	e on site			
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

<sup>\*</sup> 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 usag	e on site	]	·	. ,	Water Emissions	Water Consumption	
	Water extracted		compared to	consumption if it	Volume Discharged	Volume used i.e not discharged to environment e.g. released as steam	
Water use	Previous year m3/yr.	Current year m3/yr.	reporting year**	production*	environment(m <sup>3</sup> yr):	m3/yr	Unaccounted for Water:
Groundwater		1450			1450		
Surface water							
Public supply	145	75.4					
Recycled water							
Total	145	1525.4			1450		

<sup>\*</sup> 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.

<sup>\*\*</sup> where site production information is available please enter percentage increase or decrease compared to previous year

Table R3 Waste Stream					
	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	e Usage/Energy efficiency sur	nmary			Lic No:	W0281-01		Year	2017
	Table R4: Energy Au								
	Date of audit		Description of Measures proposed	Origin of measures	Predicted energy savings %	Implementation date	Responsibility		Status and comments
				SELECT					
				SELECT					
				SELECT					

Table R5: Power Generation: Where	power is generated onsi	te (e.g. power generat	ion facilities/food ar	nd drink industry)plea	ise complete the follow
	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 or	n Site				

Complaints and Incidents summary template		Lic No:	W0281-01	Year	2017
Complaints					
		Additional inform	ation		
Have you received any environmental complaints in the current reporting year? If yes please complete	No				

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
					SELECT		
					SELECT		
					SELECT		
					SELECT		
					SELECT		
Total complaints open at start of reporting year Total new complaints received during reporting year	(	2					
Total complaints closed during reporting year							
Balance of complaints end of reporting year							

	Incidents		
			Additional information
Have any incidents occurred on site in the current repo	rting year? Please list all in	cidents for current reporting	
year in Tal	ole 2 below	No	
*For information on how to report and what	What is an incident		

incidents previous year % reduction/ increase

Table 2 Incidents sur	mmary		1											
			Incident			Other	Activity in				Preventative			
			category*please refer to			cause(please	progress at time			Corrective action<20	action <20		Resolution	Likelihood of
Date of occurrence	Incident nature	Location of occurrence	guidance	Receptor	Cause of incident	specify)	of incident	Communication	Occurrence	words	words	Resolution status	date	reoccurence
	SELECT	SELECT	SELECT	SELECT	SELECT		SELECT	SELECT	SELECT			SELECT		SELECT
	SELECT	SELECT	SELECT	SELECT	SELECT		SELECT	SELECT	SELECT			SELECT		SELECT
	SELECT	SELECT	SELECT	SELECT	SELECT		SELECT	SELECT	SELECT			SELECT		SELECT
	SELECT	SELECT	SELECT	SELECT	SELECT		SELECT	SELECT	SELECT			SELECT		SELECT
	SELECT	SELECT	SELECT	SELECT	SELECT		SELECT	SELECT	SELECT			SELECT		SELECT
Total number of														
incidents current														
year														
Total number of														
	1	1												

Area ID Date anothing commenced Date anothing commenced Date anothing ceased Currently anothing Operated Mert of non-mazaroous cease landfilling asbestos for asbestos? year SELECT UNIT SELECT UNIT SELECT UNIT	SECTION A-PRTR C	ON SITE WASTE TREATMENT AND	WASTE TRANSFERS TA	B- TO BE COMPLETE	D BY ALL IPPC AND	WASTE FACILITIES	PRTR facility logor	<u>n</u>	dropdown li	st click to see options				
Additional financials to the properties of the contract of of							_							
Table 2 Decision of two care and an accepted onto your size from exception the page of the second of the page of the pag	SECTION B- WASTI	E ACCEPTED ONTO SITE-TO BE CO	OMPLETED BY ALL IPPC	AND WASTE FACILITI	ES					equired for the current phase of v	works)			
Table 1 Details of many registered on the count importing year? By place goe a liver of specified or more than the count importing year? By place goe a liver of specified or more than the count importing the place goe a liver of specified or more than the count of specified or more			or treatment prior to recovery	or disposal within the bou	ndaries of your facility ?; (	(waste generated within your	No							
Table 1 Details of waste accepted onto your site for recovery, ollspose and seasons of the seaso	If yes please enter detai	ils in table 1 below							<del>-</del> T					
Table 1 Details of the sequence designed to expect the development of the sequence of the sequ	Did your site have any re	ejected consignments of waste in the curr	ent reporting year? If yes please	e give a brief explanation in	the additional information	ion			1					
Concept and many terminal protection of te							-							
Enter of the process wheth Celebrate DVC codes    CVC code		of waste accepted onto you	r site for recovery, dis		nt (do not includ	e wastes generated at yo	ur site, as the	se will have b	een reported in y	our PRTR workbook)			1	
European Wate Cristage PXC codes Catalogue XX codes	tonnage limit for your site (total	EWC code	Source of waste accepted	accepted Please enter an accurate and detailed description - which applies to relevant EWC	accepted in current		Increase over previous year +/ -	reduction/ increase from previous	only applies if the waste has a packaging	treatment operation carried out at your site and the	waste remaining on site at the end of reporting	Comments -		
Is all waste processing infrastructure as required by your licence and approved by the Agency in place? If no please list waste storage infrastructure required on site    Ves		European Waste Catalogue EWC codes									year (tonnes)			
Is all waste processing infrastructure as required by your licence and approved by the Agency in place? If no please list waste storage infrastructure required on site  Ves    Ves														
Is all waste processing infrastructure as required by your licence and approved by the Agency in place? If no please list waste storage infrastructure required on site  Ves    Ves													1	
Is all waste processing infrastructure as required by your licence and approved by the Agency in place? If no please list waste storage infrastructure required on site    Ves	<u> </u>													
Section D-To Be Completed by Landfill only  Table 2 Waste type and tonnage-landfill only  Waste types permitted Authorised/licenced annual intake for disposal in reporting year (tpa)  Table 3 General information-Landfill only  Area ID Date landfilling commenced Date landfilling ceased Currently landfilling Private or Public Operated Inter or non-hazardous Predicted date to cease landfilling lashestos I separate cell for ashestos? I sthere a separate cell for ashestos? I sthere a separate cell for ashestos in reporting waste waste Comment lander by waste waste Comment liner to c	Is all waste storage infra Does your facility have r Do you have an odour m	astructure as required by your licence and relevant nuisance controls in place?	approved by the Agency in plac				Yes Yes Yes							
Table 2 Waste type and tonnage-landfill only  Waste types permitted for disposal (pa)  N/A  Area ID  Date landfilling commenced  Date landfilling commenced  Date landfilling ceased  Date landfilling ceased  Currently landfilling before the cease landfilling ceased of permitted of poperated of permitted and the capacity at end of reporting year (m.) comments  Tonnaments  Predicted date to cease landfilling laces as bestows?  Is there a separate cell for asbestows?  Is there a separate cell for asbestows?  Accepted asbestos in reporting year  Waste types permitted capacity at end of reporting year (m.) comments  Comments  Line disposal area occupied by waste  Valined area occupied by waste				<b>T</b>			NO				J			
Waste types permitted for disposal mual intake for disposal in reporting year (tpa)  N/A  Area ID  Date landfilling commenced  Date landfilling commenced  Date landfilling commenced  Date landfilling ceased  Currently landfilling  Private or Public Operated  Inert or non-hazardous  Predicted date to cease landfilling  Licence permits asbestos?  Licence permits lander to separate cell for asbestos?  Accepted asbestos in reporting was coupled by waste  Value of the proving year (m3)  Comments  Lined disposal area occupied by waste  Value of the proving year (m3)  Comments  Licence permits asbestos?  Accepted asbestos in reporting year  SELECT UNIT  SELECT UNIT  SELECT UNIT  SELECT UNIT			ONLY	l										
Table 3 General information-Landfill only  Area ID Date landfilling commenced Date landfilling ceased Currently landfilling Ceased Currently landfilling Deersted Private or Public Operated Inert or non-hazardous Predicted date to cease landfilling asbestos Is there a separate cell for asbestos? Accepted asbestos in reporting year Total disposal area occupied by waste waste Unlined area liner ty waste Wast	for disposal			capacity at end of	Comments									
Area ID  Date landfilling commenced  Date landfilling commenced  Date landfilling cased  Currently landfilling  Private or Public Operated  Inert or non-hazardous  Predicted date to case landfilling  case landfilling  Licence permits asbestos?  Licence permits asbestos?  Is there a separate cell for asbestos?  Accepted asbestos in reporting by waste  Unlined area occupied by waste  Unlined area landfilling transporting by waste  SELECT UNIT  SELECT UNIT  SELECT UNIT	N/A													
Area ID  Date landfilling commenced  Date landfilling commenced  Date landfilling cased  Currently landfilling  Private or Public Operated  Inert or non-hazardous  Predicted date to case landfilling  case landfilling  Licence permits asbestos?  Licence permits asbestos?  Is there a separate cell for asbestos?  Accepted asbestos in reporting by waste  Unlined area occupied by waste  Unlined area landfilling transporting by waste  SELECT UNIT  SELECT UNIT  SELECT UNIT														
Area ID Date landfilling commenced Date landfilling ceased Date landfilling ceased Currently landfilling Departed Depart	Table 3 General in	formation-Landfill only												
	Area ID	Date landfilling commenced	Date landfilling ceased	Currently landfilling		Inert or non-hazardous					area occupied		Unlined area	Commen liner ty
N/A											SELECT UNIT	SELECT UNIT	SELECT UNIT	
	N/A													

Lic No:

W0281-01

Year

2017

WASTE SUMMARY

WASTE SUMMARY	1				Lic No:	W0281-01		Year	2017
	ental monitoring-landfill only	Landfill Manual-Monitoring Star	ndards				•	•	
	Was leachate monitored in compliance with LD standard in reporting year	Was Landfill Gas monitored in compliance with LD standard	Was SW monitored in compliance with LD standard in reporting year		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 Landfil Table 5 Capping-La	l Manual linked above for relevant Landfi andfill only	Il Directive monitoring standards					-	1	_
**	Area with temporary cap SELECT UNIT	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			
		Standard III2 IIa, a	Area capped other	neciee	What materials are used in the cap	Comments			
*please note this include	es daily cover area			•	•	*	_		
Table 6 Leachate-L	andfill only								
	e treated in a Waste Water Treatment Pla surface water? If yes please complete lead		ow I			N/A N/A			
Volume of leachate in reporting year(m3)	Leachate (BOD) 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		
								1	

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

				Was surface emissions	
Gas				monitoring performed	
Captured&Treate	ed by			during the reporting	
LFG System n	n3	Power generated (MW / KWh)	Used on-site or to national grid	year?	Comments
				SELECT	