

Facility Information Summary	
AER Reporting Year	2018
Licence Register Number	P0648-02
Name of site	Becton Dickinson Penel Limited (Irish Branch) and Becton Dickinson Insulin Syringe Limited (Irish Branch)
Site Location	Pottery Road, Dun Laoghaire, Co. Dublin.
NACE Code	3250 Manufacture of Medical Supplies
Class/Classes of Activity	12.2.2
National Grid Reference (6E, 6 N)	323030E, 226480N
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.	<p>The site continues to make pen needle product with the main processes being moulding, assembly, packaging and sterilisation. The product is shipped to regional distribution centres by sea. The environmental performance indicators remain largely consistent from last year.</p>

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.

	20-Mar-19
Signature	Date
Group/Facility manager	
(or nominated, suitably qualified and experienced deputy)	

AIR-summary template Lic No: P0648-02 Year 2018

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** licensed emissions and **do not complete a solvent management plan** (table A4 and A5) you **do not** need to complete the tables

Yes	Additional information
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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

No	
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3 Was all monitoring carried out in accordance with EPA guidance [Basic air monitoring checklist](#) note AG2 and using the basic air monitoring checklist? [AGN2](#)

Yes	
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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
A2-1	Total Organic Carbon (as C)	quarterly	50 mg/m ³	All 1-hour averages < 1.5 x ELV	21.4	mg/Nm ³	yes	OTH	217	
A2-1	volumetric flow	quarterly	3500 m ³	No 30min mean can exceed the ELV	1278.1	Nm ³ /hour	yes	OTH		
A2-2	Total Organic Carbon (as C)	quarterly	20 mg/m ³	All 1-hour averages < 1.5 x ELV	3.6	mg/Nm ³	yes	OTH	13.5	
A2-2	volumetric flow	quarterly	3000 m ³	No 30min mean can exceed the ELV	471.5	Nm ³ /hour	yes	OTH		
A2-3	Total Organic Carbon (as C)	quarterly	30 mg/m ³	All 1-hour averages < 1.5 x ELV	16.2	mg/Nm ³	yes	OTH	169	
A2-3	volumetric flow	quarterly	5500 m ³	No 30min mean can exceed the ELV	1319	Nm ³ /hour	yes	OTH		

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

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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

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
A2-2	LICENCED	n/a	n/a	n/a	n/a	n/a	n/a	0	0	

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

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

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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

BD does not have a 'total Emission Limit Value of direct and fugitive emissions'. There are ELV for the direct (main) emissions to atmosphere (A2-1, A2-2 and A2-3), which are reported under Table A1. As BD's activity also qualifies as Activity 8 under Annex VII Part 2 of Directive 2010/75/EU a fugitive emission limit applies to the site (35% under Condition 5.5.2 of the licence). We have completed Tables A4 and A5 to fulfil the reporting requirements under Conditions 5.4 and 5.5.1.

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 therof	Compliance
2018	37442	12444	33.2	35%	Yes

Table A5: Solvent Mass Balance summary

Solvent	(I) Inputs (kg)		(O) Outputs (kg)					Total emission of Solvent to air (kg)
	(I) Inputs (kg)	Organic solvent emission in waste gases(kg)	Solvents lost in water (kg)	Collected waste solvent (kg)	Fugitive Organic Solvent (kg)	Solvent released in other ways e.g. by-passes (kg)	Solvents destroyed onsite through physical reaction	
HFE	37442	2278	0	21853	12444		867	14300
							Total	14300

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AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: P0648-02 Year 2018

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 only need to complete table W1 and or W2 for storm water analysis and visual inspections

Yes	
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	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
SW1	onsite	SELECT	pH	01/02/2018	6.6-8.3	N/A	8.3	pH units	yes
SW1	onsite	SELECT	COD	01/02/2018	51	All results < 1.2 x ELV	23	mg/L	yes
SW1	onsite	SELECT	pH	21/05/2018	6.6-8.3	N/A	7.6	pH units	yes
SW1	onsite	SELECT	COD	21/05/2018	51	All results < 1.2 x ELV	24	mg/L	yes
SW1	onsite	SELECT	pH	28/08/2018	6.6-8.3	N/A	6.7	pH units	yes
SW1	onsite	SELECT	COD	28/08/2018	51	All results < 1.2 x ELV	29	mg/L	yes
SW1	onsite	SELECT	pH	19/11/2018	6.6-8.3	N/A	7.6	pH units	yes
SW1	onsite	SELECT	COD	19/11/2018	51	All results < 1.2 x ELV	20	mg/L	yes
Intermediate	downstream	SELECT	pH	01/02/2018	7.2-8.2	N/A	7.8	pH units	yes
Intermediate	downstream	SELECT	COD	01/02/2018	45	All results < 1.2 x ELV	16	mg/L	yes
Intermediate	downstream	SELECT	pH	21/05/2018	7.2-8.2	N/A	7.4	pH units	yes
Intermediate	downstream	SELECT	COD	21/05/2018	45	All results < 1.2 x ELV	14	mg/L	yes
Intermediate	downstream	SELECT	pH	28/08/2018	7.2-8.2	N/A	6.6	pH units	yes
Intermediate	downstream	SELECT	COD	28/08/2018	45	All results < 1.2 x ELV	14	mg/L	yes
Intermediate	downstream	SELECT	pH	19/11/2018	7.2-8.2	N/A	7.5	pH units	yes
Intermediate	downstream	SELECT	COD	19/11/2018	45	All results < 1.2 x ELV	12	mg/L	yes
Downstream	downstream	SELECT	pH	01/02/2018	7.2-8.2	N/A	7.8	pH units	yes
Downstream	downstream	SELECT	COD	01/02/2018	20	All results < 1.2 x ELV	11	mg/L	yes
Downstream	downstream	SELECT	pH	21/05/2018	7.2-8.2	N/A	7.4	pH units	yes
Downstream	downstream	SELECT	COD	21/05/2018	20	All results < 1.2 x ELV	13	mg/L	yes
Downstream	downstream	SELECT	pH	28/08/2018	7.2-8.2	N/A	6.8	pH units	yes
Downstream	downstream	SELECT	COD	28/08/2018	20	All results < 1.2 x ELV	20	mg/L	yes
Downstream	downstream	SELECT	pH	19/11/2018	7.2-8.2	N/A	7.5	pH units	yes
Downstream	downstream	SELECT	COD	19/11/2018	20	All results < 1.2 x ELV	28	mg/L	yes
Upstream	upstream	SELECT	pH	01/02/2018	7.2-8.2	N/A	7.8	pH units	yes
Upstream	upstream	SELECT	COD	01/02/2018	45	All results < 1.2 x ELV	11	mg/L	yes
Upstream	upstream	SELECT	pH	21/05/2018	7.2-8.2	N/A	7.5	pH units	yes
Upstream	upstream	SELECT	COD	21/05/2018	45	All results < 1.2 x ELV	12	mg/L	yes
Upstream	upstream	SELECT	pH	28/08/2018	7.2-8.2	N/A	6.8	pH units	yes
Upstream	upstream	SELECT	COD	28/08/2018	45	All results < 1.2 x ELV	14	mg/L	yes
Upstream	upstream	SELECT	pH	19/11/2018	7.2-8.2	N/A	7.6	pH units	yes
Upstream	upstream	SELECT	COD	19/11/2018	45	All results < 1.2 x ELV	5	mg/L	yes

*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
			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

No	Additional information
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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

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

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AER Monitoring returns summary template-WATER/WASTEWATER(SEWER)												
		Lic No:		P0648-02		Year		2018				
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 thereof ^{Note 2}	Licence Compliance criteria	Measured value	Unit of measurement	Procedural reference standard number	Annual mass load (kg)	Comments
SE-1	Wastewater/Se wer	pH	composite	quarterly	24 hour	6-10	No pH value shall deviate from the specified range.	8.2	pH units	SOP110		
SE-1	Wastewater/Se wer	Temperature	composite	quarterly	24 hour	42	All results < 1.2 times ELV, plus 8 from ten results must be < ELV	12.5	degrees C	SOP715		
SE-1	Wastewater/Se wer	BOD	composite	quarterly	24 hour	700	All results < 1.2 times ELV, plus 8 from ten results must be < ELV	383	mg/L	17025:2005	4478	Electrometry
SE-1	Wastewater/Se wer	COD	composite	quarterly	24 hour	1400	All results < 1.2 times ELV, plus 8 from ten results must be < ELV	898	mg/L	17025:2005	10499	
SE-1	Wastewater/Se wer	Detergents (as MBAS)	composite	quarterly	24 hour	100	All results < 1.2 times ELV, plus 8 from ten results must be < ELV	1.58	mg/L	SOP116	18.5	Solvent Extraction/ Colorimetry
SE-1	Wastewater/Se wer	Fats, Oils and Greases	composite	quarterly	24 hour	100	All results < 1.2 times ELV, plus 8 from ten results must be < ELV	18.5	mg/L	SOP101	216	Solvent Extraction/ Colorimetry
SE-1	Wastewater/Se wer	Sulphate	composite	quarterly	24 hour	1000	All results < 1.2 times ELV, plus 8 from ten results must be < ELV	52	mg/L	17025:2005	608	
SE-1	Wastewater/Se wer	Suspended Solids	composite	quarterly	24 hour	700	All results < 1.2 times ELV, plus 8 from ten results must be < ELV	444	mg/L	17025:2005	5191	
SE-1	Wastewater/Se wer	Total Organic Carbon (as C)	composite	quarterly	24 hour	400	All results < 1.2 times ELV, plus 8 from ten results must be < ELV	88.6	mg/L	SOP316	942	TOC analyser
SE-1	Wastewater/Se wer	Chloride	composite	quarterly	24 hour	1000	All results < 1.2 times ELV, plus 8 from ten results must be < ELV	87.3	mg/L	17025:2005	1021	
SE-1	Wastewater/Se wer	Phosphate as P	composite	quarterly	24 hour	100	All results < 1.2 times ELV, plus 8 from ten results must be < ELV	10.03	mg/L	17025:2005	117	

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

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 SELECT

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

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

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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 **bundling 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)

Yes	
3 years	
Yes	
1	
1	
50	
Yes	
50	
0	
0	
N/A	
N/A	
N/A	

- 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 Please list any sump integrity failures in table B1
- 10 Do all sumps and chambers have high level liquid alarms?
- 11 If yes to Q11 are these failsafe systems included in a maintenance and testing programme?
- 12 Is the Fire Water Retention Pond included in your integrity test programme?

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)
	SELECT					SELECT			SELECT	SELECT		SELECT		
	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?

Yes	
N/a	
N/a	

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**

Yes	
3 years	

- 2 Please provide integrity testing frequency period
- *please note integrity testing means water tightness testing of all underground pipelines (as required under your licence)

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)
SW28-SW4	Storm	concrete	No	n/a	CCTV	Yes	Fail	1x crack, 1x open joint	2x liner required	30/06/2019	not in current year
S35-R20	Storm	pvc	No	n/a	CCTV	Yes	Fail	1x open joint	1x liner required	30/06/2019	not in current year
S33-S35	Storm	pvc	No	n/a	CCTV	Yes	Fail	1x open joint	1x liner required	30/06/2019	not in current year
SW4-SW5	Storm	pvc	No	n/a	CCTV	Yes	Fail	2x broken pipe	2x liner required	30/06/2019	not in current year
SW5.2 - SW5.3	Storm	pvc	No	n/a	CCTV	Yes	Fail	1x crack, 1x connection defective	1x cut, 1x liner required	30/06/2019	not in current year
SWMH5.3- SWMH5.6	Storm	pvc	No	n/a	CCTV	Yes	Fail	1x open joint	1x liner required	30/06/2019	not in current year
SW5-SW3	Storm	vitrified clay pipe	No	n/a	CCTV	Yes	Fail	deformed drain	cut and liner required	30/06/2019	not in current year
SW9-SW6	Storm	pvc	No	n/a	CCTV	Yes	Fail	1x crack	1x liner required	30/06/2019	not in current year
SW5-R9	Storm	pvc	No	n/a	CCTV	Yes	Fail	deformed drain	cut and liner required	30/06/2019	not in current year
SW08-SW07	Storm	pvc	No	n/a	CCTV	Yes	Fail	2x joint displaced	2x liner required	30/06/2019	not in current year

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

Groundwater/Soil monitoring template	Lic No: P0648-02	Year: 2018
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		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. Groundwater monitoring template	no
5	Is the contamination related to operations at the facility (either current and/or historic)	yes
6	Have actions been taken to address contamination issues? If yes please summarise remediation strategies proposed/undertaken for the site	yes
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?	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

During 2018 the groundwater results were largely free from contamination indicating parameters, with the exceptions of BH5(D) showing PRO in Feb and BH3(S) showing mineral oil and DRO in Sep. The continuing upward trend of PAH, mineral oil and DRO in BH3(D) is a result of detection in 2017, but there were no detection in 2018. Contamination in BH3 is likely due to surface water ingress into the sample hole.

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
02/02/2018	BH1D	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
02/02/2018	BH1D	Calcium	discrete	bi-annual	109.4	155.3	mg/l	-	200	no
02/02/2018	BH1D	Chloride	discrete	bi-annual	58	73	mg/l	24-187.5	30	no
02/02/2018	BH1D	COD	discrete	bi-annual	5	4	mg/l	-	-	no
02/02/2018	BH1D	EC	discrete	bi-annual	852	898	microS/cm	800-1875	1000	yes
02/02/2018	BH1D	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	no
02/02/2018	BH1D	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	no
02/02/2018	BH1D	Nitrate	discrete	bi-annual	0.11	0.29	mg/l	37.5	25	no
02/02/2018	BH1D	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
02/02/2018	BH1D	pH	discrete	bi-annual	7.4	7.41	units	-	>6.5<9.5	no
02/02/2018	BH1D	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	no
02/02/2018	BH1D	Potassium	discrete	bi-annual	1.2	2.25	mg/l	-	5	no
02/02/2018	BH1D	Sodium	discrete	bi-annual	45.4	55.65	mg/l	150	150	no
02/02/2018	BH1D	Sulphate	discrete	bi-annual	214	202	mg/l	187.5	200	yes
02/02/2018	BH1S	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
02/02/2018	BH1S	Calcium	discrete	bi-annual	137.9	396.8	mg/l	-	200	yes
02/02/2018	BH1S	Chloride	discrete	bi-annual	75	120.5	mg/l	24-187.5	30	yes
02/02/2018	BH1S	COD	discrete	bi-annual	5	4	mg/l	-	-	no

Groundwater/Soil monitoring template					Lic No:	P0648-02	Year	2018		
02/02/2018	BH1S	EC	discrete	bi-annual	957	1082	microS/cm	800-1875	1000	yes
02/02/2018	BH1S	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	no
02/02/2018	BH1S	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	no
02/02/2018	BH1S	Nitrate	discrete	bi-annual	0.11	0.29	mg/l	37.5	25	no
02/02/2018	BH1S	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
02/02/2018	BH1S	pH	discrete	bi-annual	7.2	7.24	units	-	>6.5<9.5	no
02/02/2018	BH1S	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	no
02/02/2018	BH1S	Potassium	discrete	bi-annual	0.4	1.45	mg/l	-	5	no
02/02/2018	BH1S	Sodium	discrete	bi-annual	45.8	82.85	mg/l	150	150	yes
02/02/2018	BH1S	Sulphate	discrete	bi-annual	226	215	mg/l	187.5	200	yes
02/02/2018	BH2D	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
02/02/2018	BH2D	Calcium	discrete	bi-annual	100.1	284.4	mg/l	-	200	yes
02/02/2018	BH2D	Chloride	discrete	bi-annual	49	48	mg/l	24-187.5	30	no
02/02/2018	BH2D	COD	discrete	bi-annual	5	5	mg/l	-	-	no
02/02/2018	BH2D	EC	discrete	bi-annual	733	721	microS/cm	800-1875	1000	no
02/02/2018	BH2D	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	no
02/02/2018	BH2D	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	no
02/02/2018	BH2D	Nitrate	discrete	bi-annual	0.11	0.29	mg/l	37.5	25	yes
02/02/2018	BH2D	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
02/02/2018	BH2D	pH	discrete	bi-annual	7.3	7.32	units	-	>6.5<9.5	no
02/02/2018	BH2D	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	no
02/02/2018	BH2D	Potassium	discrete	bi-annual	2.1	4	mg/l	-	5	no
02/02/2018	BH2D	Sodium	discrete	bi-annual	35.4	43.95	mg/l	150	150	no
02/02/2018	BH2D	Sulphate	discrete	bi-annual	55	56	mg/l	187.5	200	no
02/02/2018	BH2S	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
02/02/2018	BH2S	Calcium	discrete	bi-annual	109.6	188.45	mg/l	-	200	yes
02/02/2018	BH2S	Chloride	discrete	bi-annual	90	78.5	mg/l	24-187.5	30	yes
02/02/2018	BH2S	COD	discrete	bi-annual	47	26	mg/l	-	-	yes
02/02/2018	BH2S	EC	discrete	bi-annual	929	884	microS/cm	800-1875	1000	no
02/02/2018	BH2S	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	no
02/02/2018	BH2S	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	no
02/02/2018	BH2S	Nitrate	discrete	bi-annual	0.11	0.29	mg/l	37.5	25	no
02/02/2018	BH2S	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
02/02/2018	BH2S	pH	discrete	bi-annual	7.3	7.3	units	-	>6.5<9.5	no
02/02/2018	BH2S	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	no
02/02/2018	BH2S	Potassium	discrete	bi-annual	26	15.35	mg/l	-	5	yes
02/02/2018	BH2S	Sodium	discrete	bi-annual	84.9	98.3	mg/l	150	150	yes
02/02/2018	BH2S	Sulphate	discrete	bi-annual	64	67	mg/l	187.5	200	no
02/02/2018	BH3D	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
02/02/2018	BH3D	Calcium	discrete	bi-annual	40.1	124.35	mg/l	-	200	no
02/02/2018	BH3D	Chloride	discrete	bi-annual	18	13.5	mg/l	24-187.5	30	no
02/02/2018	BH3D	COD	discrete	bi-annual	5	11	mg/l	-	-	yes
02/02/2018	BH3D	EC	discrete	bi-annual	312	361	microS/cm	800-1875	1000	no
02/02/2018	BH3D	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	yes
02/02/2018	BH3D	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	yes
02/02/2018	BH3D	Nitrate	discrete	bi-annual	0.11	0.29	mg/l	37.5	25	yes
02/02/2018	BH3D	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
02/02/2018	BH3D	pH	discrete	bi-annual	7.4	7.23	units	-	>6.5<9.5	no
02/02/2018	BH3D	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	yes
02/02/2018	BH3D	Potassium	discrete	bi-annual	3.2	5.7	mg/l	-	5	yes
02/02/2018	BH3D	Sodium	discrete	bi-annual	14	16.35	mg/l	150	150	no

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02/02/2018	BH3D	Sulphate	discrete	bi-annual	7	11	mg/l	187.5	200	no
22/05/2018	BH5D	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
22/05/2018	BH5D	Calcium	discrete	bi-annual	215.9	215.9	mg/l	-	200	yes
22/05/2018	BH5D	Chloride	discrete	bi-annual	96	96	mg/l	24-187.5	30	yes
22/05/2018	BH5D	COD	discrete	bi-annual	3	3	mg/l	-	-	no
22/05/2018	BH5D	EC	discrete	bi-annual	1001	1001	microS/cm	800-1875	1000	yes
22/05/2018	BH5D	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	no
22/05/2018	BH5D	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	no
22/05/2018	BH5D	Nitrate	discrete	bi-annual	0.24	0.24	mg/l	37.5	25	no
22/05/2018	BH5D	PRO	discrete	bi-annual	0.019	0.019	mg/l	-	0.01	yes
22/05/2018	BH5D	pH	discrete	bi-annual	7.7	7.7	units	-	>6.5<9.5	no
22/05/2018	BH5D	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	no
22/05/2018	BH5D	Potassium	discrete	bi-annual	5.9	5.9	mg/l	-	5	no
22/05/2018	BH5D	Sodium	discrete	bi-annual	41.8	41.8	mg/l	150	150	no
22/05/2018	BH5D	Sulphate	discrete	bi-annual	309	309	mg/l	187.5	200	yes
02/02/2018	BH5S	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
02/02/2018	BH5S	Calcium	discrete	bi-annual	180.8	126.8	mg/l	-	200	no
02/02/2018	BH5S	Chloride	discrete	bi-annual	118	107.5	mg/l	24-187.5	30	yes
02/02/2018	BH5S	COD	discrete	bi-annual	11	9	mg/l	-	-	no
02/02/2018	BH5S	EC	discrete	bi-annual	948	902	microS/cm	800-1875	1000	no
02/02/2018	BH5S	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	no
02/02/2018	BH5S	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	no
02/02/2018	BH5S	Nitrate	discrete	bi-annual	1.13	0.935	mg/l	37.5	25	yes
02/02/2018	BH5S	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
02/02/2018	BH5S	pH	discrete	bi-annual	8.3	8.3	units	-	>6.5<9.5	no
02/02/2018	BH5S	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	no
02/02/2018	BH5S	Potassium	discrete	bi-annual	6.7	8.45	mg/l	-	5	no
02/02/2018	BH5S	Sodium	discrete	bi-annual	104.1	105.35	mg/l	150	150	yes
02/02/2018	BH5S	Sulphate	discrete	bi-annual	282	28.6	mg/l	187.5	200	yes
02/02/2018	BH7D	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
02/02/2018	BH7D	Calcium	discrete	bi-annual	46.2	107.45	mg/l	-	200	no
02/02/2018	BH7D	Chloride	discrete	bi-annual	47	48.5	mg/l	24-187.5	30	no
02/02/2018	BH7D	COD	discrete	bi-annual	5	4	mg/l	-	-	no
02/02/2018	BH7D	EC	discrete	bi-annual	637	639	microS/cm	800-1875	1000	no
02/02/2018	BH7D	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	no
02/02/2018	BH7D	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	no
02/02/2018	BH7D	Nitrate	discrete	bi-annual	0.11	0.29	mg/l	37.5	25	no
02/02/2018	BH7D	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
02/02/2018	BH7D	pH	discrete	bi-annual	7.7	7.69	units	-	>6.5<9.5	no
02/02/2018	BH7D	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	no
02/02/2018	BH7D	Potassium	discrete	bi-annual	1.1	2.4	mg/l	-	5	no
02/02/2018	BH7D	Sodium	discrete	bi-annual	42.8	68.15	mg/l	150	150	no
02/02/2018	BH7D	Sulphate	discrete	bi-annual	52	57.5	mg/l	187.5	200	no
02/02/2018	BH7S	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
02/02/2018	BH7S	Calcium	discrete	bi-annual	248.9	173	mg/l	-	200	yes
02/02/2018	BH7S	Chloride	discrete	bi-annual	51	53	mg/l	24-187.5	30	no
02/02/2018	BH7S	COD	discrete	bi-annual	51	31.5	mg/l	-	-	yes
02/02/2018	BH7S	EC	discrete	bi-annual	646	688	microS/cm	800-1875	1000	no
02/02/2018	BH7S	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	no
02/02/2018	BH7S	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	no
02/02/2018	BH7S	Nitrate	discrete	bi-annual	0.11	0.29	mg/l	37.5	25	no

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02/02/2018	BH7S	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
02/02/2018	BH7S	pH	discrete	bi-annual	7.2	7.15	units	-	>6.5<9.5	no
02/02/2018	BH7S	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	no
02/02/2018	BH7S	Potassium	discrete	bi-annual	1.2	2.7	mg/l	-	5	no
02/02/2018	BH7S	Sodium	discrete	bi-annual	36.2	49.25	mg/l	150	150	yes
02/02/2018	BH7S	Sulphate	discrete	bi-annual	59	61.5	mg/l	187.5	200	no
02/02/2018	BH8D	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
02/02/2018	BH8D	Calcium	discrete	bi-annual	75.6	97.4	mg/l	-	200	no
02/02/2018	BH8D	Chloride	discrete	bi-annual	75.6	63.8	mg/l	24-187.5	30	yes
02/02/2018	BH8D	COD	discrete	bi-annual	5	4	mg/l	-	-	no
02/02/2018	BH8D	EC	discrete	bi-annual	656	655.5	microS/cm	800-1875	1000	no
02/02/2018	BH8D	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	no
02/02/2018	BH8D	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	no
02/02/2018	BH8D	Nitrate	discrete	bi-annual	0.11	0.29	mg/l	37.5	25	no
02/02/2018	BH8D	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
02/02/2018	BH8D	pH	discrete	bi-annual	7.5	7.54	units	-	>6.5<9.5	no
02/02/2018	BH8D	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	no
02/02/2018	BH8D	Potassium	discrete	bi-annual	2.3	3.45	mg/l	-	5	no
02/02/2018	BH8D	Sodium	discrete	bi-annual	41.2	49.3	mg/l	150	150	no
02/02/2018	BH8D	Sulphate	discrete	bi-annual	50	54.5	mg/l	187.5	200	no
02/02/2018	BH8S	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
02/02/2018	BH8S	Calcium	discrete	bi-annual	76.8	95.3	mg/l	-	200	no
02/02/2018	BH8S	Chloride	discrete	bi-annual	48	35.5	mg/l	24-187.5	30	yes
02/02/2018	BH8S	COD	discrete	bi-annual	5	4	mg/l	-	-	no
02/02/2018	BH8S	EC	discrete	bi-annual	560	493	microS/cm	800-1875	1000	no
02/02/2018	BH8S	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	no
02/02/2018	BH8S	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	no
02/02/2018	BH8S	Nitrate	discrete	bi-annual	0.11	0.445	mg/l	37.5	25	no
02/02/2018	BH8S	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
02/02/2018	BH8S	pH	discrete	bi-annual	7.7	7.69	units	-	>6.5<9.5	no
02/02/2018	BH8S	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	no
02/02/2018	BH8S	Potassium	discrete	bi-annual	2.5	8.5	mg/l	-	5	no
02/02/2018	BH8S	Sodium	discrete	bi-annual	23.7	23.75	mg/l	150	150	no
02/02/2018	BH8S	Sulphate	discrete	bi-annual	74	58	mg/l	187.5	200	no
02/02/2018	BH10D	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
02/02/2018	BH10D	Calcium	discrete	bi-annual	88.6		mg/l	-	200	no
02/02/2018	BH10D	Chloride	discrete	bi-annual	71		mg/l	24-187.5	30	no
02/02/2018	BH10D	COD	discrete	bi-annual	13		mg/l	-	-	no
02/02/2018	BH10D	EC	discrete	bi-annual	867		microS/cm	800-1875	1000	no
02/02/2018	BH10D	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	no
02/02/2018	BH10D	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	no
02/02/2018	BH10D	Nitrate	discrete	bi-annual	0.11		mg/l	37.5	25	no
02/02/2018	BH10D	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
02/02/2018	BH10D	pH	discrete	bi-annual	7		units	-	>6.5<9.5	no
02/02/2018	BH10D	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	no
02/02/2018	BH10D	Potassium	discrete	bi-annual	0.5		mg/l	-	5	no
02/02/2018	BH10D	Sodium	discrete	bi-annual	61.1		mg/l	150	150	no
02/02/2018	BH10D	Sulphate	discrete	bi-annual	98		mg/l	187.5	200	yes
18/09/2018	BH1D	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
18/09/2018	BH1D	Calcium	discrete	bi-annual	201.1	155.3	mg/l	-	200	no
18/09/2018	BH1D	Chloride	discrete	bi-annual	88	73	mg/l	24-187.5	30	no

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18/09/2018	BH1D	COD	discrete	bi-annual	3	4	mg/l	-	-	no
18/09/2018	BH1D	EC	discrete	bi-annual	944	898	microS/cm	800-1875	1000	yes
18/09/2018	BH1D	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	no
18/09/2018	BH1D	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	no
18/09/2018	BH1D	Nitrate	discrete	bi-annual	0.47	0.29	mg/l	37.5	25	no
18/09/2018	BH1D	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
18/09/2018	BH1D	pH	discrete	bi-annual	7.42	7.41	units	-	>6.5<9.5	no
18/09/2018	BH1D	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	no
18/09/2018	BH1D	Potassium	discrete	bi-annual	3.3	2.25	mg/l	-	5	no
18/09/2018	BH1D	Sodium	discrete	bi-annual	65.9	55.65	mg/l	150	150	no
18/09/2018	BH1D	Sulphate	discrete	bi-annual	190	202	mg/l	187.5	200	yes
18/09/2018	BH1S	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
18/09/2018	BH1S	Calcium	discrete	bi-annual	655.7	396.8	mg/l	-	200	yes
18/09/2018	BH1S	Chloride	discrete	bi-annual	166	120.5	mg/l	24-187.5	30	yes
18/09/2018	BH1S	COD	discrete	bi-annual	3	4	mg/l	-	-	no
18/09/2018	BH1S	EC	discrete	bi-annual	1207	1082	microS/cm	800-1875	1000	yes
18/09/2018	BH1S	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	no
18/09/2018	BH1S	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	no
18/09/2018	BH1S	Nitrate	discrete	bi-annual	0.47	0.29	mg/l	37.5	25	no
18/09/2018	BH1S	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
18/09/2018	BH1S	pH	discrete	bi-annual	7.27	7.24	units	-	>6.5<9.5	no
18/09/2018	BH1S	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	no
18/09/2018	BH1S	Potassium	discrete	bi-annual	2.5	1.45	mg/l	-	5	no
18/09/2018	BH1S	Sodium	discrete	bi-annual	119.9	82.85	mg/l	150	150	yes
18/09/2018	BH1S	Sulphate	discrete	bi-annual	204	215	mg/l	187.5	200	yes
18/09/2018	BH2D	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
18/09/2018	BH2D	Calcium	discrete	bi-annual	468.7	284.3	mg/l	-	200	yes
18/09/2018	BH2D	Chloride	discrete	bi-annual	47	48	mg/l	24-187.5	30	no
18/09/2018	BH2D	COD	discrete	bi-annual	5	6	mg/l	-	-	no
18/09/2018	BH2D	EC	discrete	bi-annual	708	721	microS/cm	800-1875	1000	no
18/09/2018	BH2D	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	no
18/09/2018	BH2D	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	no
18/09/2018	BH2D	Nitrate	discrete	bi-annual	0.47	0.29	mg/l	37.5	25	yes
18/09/2018	BH2D	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
18/09/2018	BH2D	pH	discrete	bi-annual	7.34	7.32	units	-	>6.5<9.5	no
18/09/2018	BH2D	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	no
18/09/2018	BH2D	Potassium	discrete	bi-annual	5.9	4	mg/l	-	5	no
18/09/2018	BH2D	Sodium	discrete	bi-annual	52.5	43.95	mg/l	150	150	no
18/09/2018	BH2D	Sulphate	discrete	bi-annual	57	56	mg/l	187.5	200	no
18/09/2018	BH2S	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
18/09/2018	BH2S	Calcium	discrete	bi-annual	267.3	188.45	mg/l	-	200	yes
18/09/2018	BH2S	Chloride	discrete	bi-annual	67	78.5	mg/l	24-187.5	30	yes
18/09/2018	BH2S	COD	discrete	bi-annual	5	26	mg/l	-	-	yes
18/09/2018	BH2S	EC	discrete	bi-annual	838	884	microS/cm	800-1875	1000	no
18/09/2018	BH2S	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	no
18/09/2018	BH2S	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	no
18/09/2018	BH2S	Nitrate	discrete	bi-annual	0.47	0.29	mg/l	37.5	25	no
18/09/2018	BH2S	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
18/09/2018	BH2S	pH	discrete	bi-annual	7.29	7.3	units	-	>6.5<9.5	no
18/09/2018	BH2S	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	no
18/09/2018	BH2S	Potassium	discrete	bi-annual	4.7	15.35	mg/l	-	5	yes

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18/09/2018	BH2S	Sodium	discrete	bi-annual	111.7	98.3	mg/l	150	150	yes
18/09/2018	BH2S	Sulphate	discrete	bi-annual	70	67	mg/l	187.5	200	no
18/09/2018	BH3D	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
18/09/2018	BH3D	Calcium	discrete	bi-annual	208.6	124.35	mg/l	-	200	no
18/09/2018	BH3D	Chloride	discrete	bi-annual	9	13.5	mg/l	24-187.5	30	no
18/09/2018	BH3D	COD	discrete	bi-annual	17	11	mg/l	-	-	yes
18/09/2018	BH3D	EC	discrete	bi-annual	410	361	microS/cm	800-1875	1000	no
18/09/2018	BH3D	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	yes
18/09/2018	BH3D	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	yes
18/09/2018	BH3D	Nitrate	discrete	bi-annual	47	0.29	mg/l	37.5	25	yes
18/09/2018	BH3D	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
18/09/2018	BH3D	pH	discrete	bi-annual	7.06	7.23	units	-	>6.5<9.5	no
18/09/2018	BH3D	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	yes
18/09/2018	BH3D	Potassium	discrete	bi-annual	8.2	5.7	mg/l	-	5	yes
18/09/2018	BH3D	Sodium	discrete	bi-annual	18.7	16.35	mg/l	150	150	no
18/09/2018	BH3D	Sulphate	discrete	bi-annual	15	11	mg/l	187.5	200	no
18/09/2018	BH3S	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
18/09/2018	BH3S	Calcium	discrete	bi-annual	82.1	82.1	mg/l	-	200	no
18/09/2018	BH3S	Chloride	discrete	bi-annual	6	6	mg/l	24-187.5	30	no
18/09/2018	BH3S	COD	discrete	bi-annual	19	19	mg/l	-	-	no
18/09/2018	BH3S	EC	discrete	bi-annual	251	251	microS/cm	800-1875	1000	no
18/09/2018	BH3S	DRO	discrete	bi-annual	54	0.001	mg/l	-	0.01	yes
18/09/2018	BH3S	Mineral Oil	discrete	bi-annual	483	0.0025	mg/l	-	0.01	yes
18/09/2018	BH3S	Nitrate	discrete	bi-annual	0.5	0.5	mg/l	37.5	25	yes
18/09/2018	BH3S	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
18/09/2018	BH3S	pH	discrete	bi-annual	7.09	7.09	units	-	>6.5<9.5	no
18/09/2018	BH3S	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	no
18/09/2018	BH3S	Potassium	discrete	bi-annual	7.7	7.7	mg/l	-	5	yes
18/09/2018	BH3S	Sodium	discrete	bi-annual	14.8	14.8	mg/l	150	150	no
18/09/2018	BH3S	Sulphate	discrete	bi-annual	11	11	mg/l	187.5	200	no
18/09/2018	BH5S	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
18/09/2018	BH5S	Calcium	discrete	bi-annual	180.8	126.8	mg/l	-	200	no
18/09/2018	BH5S	Chloride	discrete	bi-annual	97	107.5	mg/l	24-187.5	30	yes
18/09/2018	BH5S	COD	discrete	bi-annual	7	9	mg/l	-	-	no
18/09/2018	BH5S	EC	discrete	bi-annual	886	902	microS/cm	800-1875	1000	no
18/09/2018	BH5S	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	no
18/09/2018	BH5S	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	no
18/09/2018	BH5S	Nitrate	discrete	bi-annual	0.74	0.935	mg/l	37.5	25	yes
18/09/2018	BH5S	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
18/09/2018	BH5S	pH	discrete	bi-annual	8.27	8.3	units	-	>6.5<9.5	no
18/09/2018	BH5S	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	no
18/09/2018	BH5S	Potassium	discrete	bi-annual	10.2	8.45	mg/l	-	5	no
18/09/2018	BH5S	Sodium	discrete	bi-annual	106.6	105.35	mg/l	150	150	yes
18/09/2018	BH5S	Sulphate	discrete	bi-annual	281	281.5	mg/l	187.5	200	yes
18/09/2018	BH7D	BTEX	discrete	bi-annual	0.001	0.001	mg/l	0.00075	0.01	no
18/09/2018	BH7D	Calcium	discrete	bi-annual	168.7	107.45	mg/l	-	200	no
18/09/2018	BH7D	Chloride	discrete	bi-annual	50	48.5	mg/l	24-187.5	30	no
18/09/2018	BH7D	COD	discrete	bi-annual	3	4	mg/l	-	-	no
18/09/2018	BH7D	EC	discrete	bi-annual	640	639	microS/cm	800-1875	1000	no
18/09/2018	BH7D	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	no
18/09/2018	BH7D	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	no

Groundwater/Soil monitoring template					Lic No:	P0648-02	Year	2018	
18/09/2018	BH7D	Nitrate	discrete	bi-annual	0.47	0.29 mg/l	37.5	25	no
18/09/2018	BH7D	PRO	discrete	bi-annual	0.005	0.005 mg/l	-	0.01	no
18/09/2018	BH7D	pH	discrete	bi-annual	7.67	7.69 units	-	>6.5<9.5	no
18/09/2018	BH7D	PAHs	discrete	bi-annual	0.00001	0.00001 mg/l	0.000075	0.0001	no
18/09/2018	BH7D	Potassium	discrete	bi-annual	3.7	2.4 mg/l	-	5	no
18/09/2018	BH7D	Sodium	discrete	bi-annual	93.5	68.15 mg/l	150	150	no
18/09/2018	BH7D	Sulphate	discrete	bi-annual	63	57.5 mg/l	187.5	200	no
18/09/2018	BH7S	BTEX	discrete	bi-annual	0.001	0.001 mg/l	0.00075	0.01	no
18/09/2018	BH7S	Calcium	discrete	bi-annual	248.9	173 mg/l	-	200	yes
18/09/2018	BH7S	Chloride	discrete	bi-annual	55	53 mg/l	24-187.5	30	no
18/09/2018	BH7S	COD	discrete	bi-annual	12	31.5 mg/l	-	-	yes
18/09/2018	BH7S	EC	discrete	bi-annual	730	688 microS/cm	800-1875	1000	no
18/09/2018	BH7S	DRO	discrete	bi-annual	0.001	0.001 mg/l	-	0.01	no
18/09/2018	BH7S	Mineral Oil	discrete	bi-annual	0.0025	0.0025 mg/l	-	0.01	no
18/09/2018	BH7S	Nitrate	discrete	bi-annual	0.47	0.29 mg/l	37.5	25	no
18/09/2018	BH7S	PRO	discrete	bi-annual	0.005	0.005 mg/l	-	0.01	no
18/09/2018	BH7S	pH	discrete	bi-annual	7.1	7.15 units	-	>6.5<9.5	no
18/09/2018	BH7S	PAHs	discrete	bi-annual	0.00001	0.00001 mg/l	0.000075	0.0001	no
18/09/2018	BH7S	Potassium	discrete	bi-annual	4.2	2.7 mg/l	-	5	no
18/09/2018	BH7S	Sodium	discrete	bi-annual	62.3	49.25 mg/l	150	150	yes
18/09/2018	BH7S	Sulphate	discrete	bi-annual	64	61.5 mg/l	187.5	200	no
18/09/2018	BH8D	BTEX	discrete	bi-annual	0.001	0.001 mg/l	0.00075	0.01	no
18/09/2018	BH8D	Calcium	discrete	bi-annual	119.2	97.4 mg/l	-	200	no
18/09/2018	BH8D	Chloride	discrete	bi-annual	52	63.8 mg/l	24-187.5	30	yes
18/09/2018	BH8D	COD	discrete	bi-annual	3	4 mg/l	-	-	no
18/09/2018	BH8D	EC	discrete	bi-annual	655	655.5 microS/cm	800-1875	1000	no
18/09/2018	BH8D	DRO	discrete	bi-annual	0.001	0.001 mg/l	-	0.01	no
18/09/2018	BH8D	Mineral Oil	discrete	bi-annual	0.0025	0.0025 mg/l	-	0.01	no
18/09/2018	BH8D	Nitrate	discrete	bi-annual	0.47	0.29 mg/l	37.5	25	no
18/09/2018	BH8D	PRO	discrete	bi-annual	0.005	0.005 mg/l	-	0.01	no
18/09/2018	BH8D	pH	discrete	bi-annual	7.57	7.54 units	-	>6.5<9.5	no
18/09/2018	BH8D	PAHs	discrete	bi-annual	0.00001	0.00001 mg/l	0.000075	0.0001	no
18/09/2018	BH8D	Potassium	discrete	bi-annual	4.6	3.45 mg/l	-	5	no
18/09/2018	BH8D	Sodium	discrete	bi-annual	57.4	49.3 mg/l	150	150	no
18/09/2018	BH8D	Sulphate	discrete	bi-annual	49	54.5 mg/l	187.5	200	no
18/09/2018	BH8S	BTEX	discrete	bi-annual	0.001	0.001 mg/l	0.00075	0.01	no
18/09/2018	BH8S	Calcium	discrete	bi-annual	113.8	95.3 mg/l	-	200	no
18/09/2018	BH8S	Chloride	discrete	bi-annual	23	35.5 mg/l	24-187.5	30	yes
18/09/2018	BH8S	COD	discrete	bi-annual	3	4 mg/l	-	-	no
18/09/2018	BH8S	EC	discrete	bi-annual	425	493 microS/cm	800-1875	1000	no
18/09/2018	BH8S	DRO	discrete	bi-annual	0.001	0.001 mg/l	-	0.01	no
18/09/2018	BH8S	Mineral Oil	discrete	bi-annual	0.0025	0.0025 mg/l	-	0.01	no
18/09/2018	BH8S	Nitrate	discrete	bi-annual	0.78	0.445 mg/l	37.5	25	no
18/09/2018	BH8S	PRO	discrete	bi-annual	0.005	0.005 mg/l	-	0.01	no
18/09/2018	BH8S	pH	discrete	bi-annual	7.68	7.69 units	-	>6.5<9.5	no
18/09/2018	BH8S	PAHs	discrete	bi-annual	0.00001	0.00001 mg/l	0.000075	0.0001	no
18/09/2018	BH8S	Potassium	discrete	bi-annual	14.5	8.5 mg/l	-	5	no
18/09/2018	BH8S	Sodium	discrete	bi-annual	23.8	23.75 mg/l	150	150	no
18/09/2018	BH8S	Sulphate	discrete	bi-annual	42	58 mg/l	187.5	200	no
18/09/2018	BH10D	BTEX	discrete	bi-annual	0.001	0.001 mg/l	0.00075	0.01	no
18/09/2018	BH10D	Calcium	discrete	bi-annual	176.5	132.55 mg/l	-	200	no

Groundwater/Soil monitoring template					Lic No:	P0648-02	Year	2018		
18/09/2018	BH10D	Chloride	discrete	bi-annual	71	71	mg/l	24-187.5	30	no
18/09/2018	BH10D	COD	discrete	bi-annual	9	11	mg/l	-	-	no
18/09/2018	BH10D	EC	discrete	bi-annual	846	857	microS/cm	800-1875	1000	no
18/09/2018	BH10D	DRO	discrete	bi-annual	0.001	0.001	mg/l	-	0.01	no
18/09/2018	BH10D	Mineral Oil	discrete	bi-annual	0.0025	0.0025	mg/l	-	0.01	no
18/09/2018	BH10D	Nitrate	discrete	bi-annual	0.47	0.29	mg/l	37.5	25	no
18/09/2018	BH10D	PRO	discrete	bi-annual	0.005	0.005	mg/l	-	0.01	no
18/09/2018	BH10D	pH	discrete	bi-annual	7	7	units	-	>6.5<9.5	no
18/09/2018	BH10D	PAHs	discrete	bi-annual	0.00001	0.00001	mg/l	0.000075	0.0001	no
18/09/2018	BH10D	Potassium	discrete	bi-annual	2.1	1.3	mg/l	-	5	no
18/09/2018	BH10D	Sodium	discrete	bi-annual	103.8	82.45	mg/l	150	150	no
18/09/2018	BH10D	Sulphate	discrete	bi-annual	94	96	mg/l	187.5	200	yes

.+ 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
							SELECT			SELECT
							SELECT			SELECT

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

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

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Environmental Liabilities template

Lic No:

P0648-02

Year

2018

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

		Commentary	
1	ELRA initial agreement status	Submitted and not agreed by EPA;	The initial ELRA submission from 20 Jul 2005 was not to the satisfaction of the agency as per EPA reference M648/GC05PK from 11 Oct 2005.
2	ELRA review status	Review required and completed	The ELRA was last reviewed in Februray 2013 following EPA Guidance on Environmental Liability Risk Assessment (2006) and is held on site.
3	Amount of Financial Provision cover required as determined by the latest ELRA	To be covered from operational budgets.	
4	Financial Provision for ELRA status	Required but not submitted	No submissions have been made to the EPA.
5	Financial Provision for ELRA - amount of cover	To be covered from operational budgets.	
6	Financial Provision for ELRA - type	Other please specify	Operational budgets and parent company guarantee.
7	Financial provision for ELRA expiry date	not applicable	
8	Closure plan initial agreement status	Closure plan submitted and not agreed by EPA	In response to EPA reference M648/GC05PK from 11 Oct 2005 BD submitted a CRAMP on 24 Jan 2006. No decision on the status of this was taken by the Agency.
9	Closure plan review status	Review required and completed	Revisions available on site.
10	Financial Provision for Closure status	Required but not submitted	No submissions have been made to the EPA.
11	Financial Provision for Closure - amount of cover	500,000	
12	Financial Provision for Closure - type	Other please specify	Operational budgets and parent company guarantee.
13	Financial provision for Closure expiry date	not applicable	

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Resource Usage/Energy efficiency summary

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- 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

Additional information	
13/01/2016	
Yes	
Not applicable	

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)	26,244	31,106	+7.3%	10.00%
Total Energy Generated (MWHrs)				
Total Renewable Energy Generated (MWHrs)				
Electricity Consumption (MWHrs)	24,274	28,576		9.60%
Fossil Fuels Consumption:				
Heavy Fuel Oil (m3)				
Light Fuel Oil (m3)	1	1		
Natural gas (m3)	159,288	204,579		
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							
Public supply	23,466	28,666					
Recycled water							
Total	23,466	28,666	+7.3%	13.7%	12,094	16,572	

* 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)	40.65		3.42	37.23	0
Non-Hazardous (Tonnes)	1305.17			1305.17	0

Resource Usage/Energy efficiency summary	Lic No: P0648-02	Year	2018
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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
13/01/2016	Vacuumer blower system	Replace vacuum pumps with blowers	capacity increase	28% of vacuum load	02-Mar-16	Sustainability Leader	31-Dec-18	Complete
13/01/2016	LED retrofit in Production Area	Replace light fittings	energy audit	1% of site electricity	01-Jan-17	Sustainability Leader	31-Dec-19	In progress
13/01/2016	Air change rate review	Review system design	energy audit	2% of site electricity	01-Jul-17	Sustainability Leader	31-Dec-18	Complete

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					

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Environmental Management Programme/Continuous Improvement Programme template		Lic No:	P0648-02	Year	2018
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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	
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
Energy Efficiency/Utility conservation	Reduce compressed air consumption	70	Compressed air shut off to non critical equipment during idle times completed on 5 lines.	Section Head	Reduced emissions
Energy Efficiency/Utility conservation	Increase number of electricity submeters for site extension	50	Install metering on sub-boards for new building extension.	Section Head	Installation of infrastructure
Reduction of emissions to Water	Automate water meter reading high alarm	30	Identify suitable transmission technology for data readings.	Section Head	Installation of infrastructure
Waste reduction/Raw material usage efficiency	Reduce waste adhesive drums	40	Introduce adhesive which allows drums to be fully emptied.	Section Head	Reduced emissions
Waste reduction/Raw material usage efficiency	Mould waste reduction	100	Data display board in place for on-going tracking	Section Head	Improved Environmental Management Practices
Reduction of emissions to Air	Manage solvent consumption of all site processes to achieve 35% fugitive emissions.	70	Rework cascade design for NextGen lines and trial; improvements to lube process control	Section Head	Increased compliance with licence conditions
Waste reduction/Raw material usage efficiency	Identify waste streams from new product.	70	Separate partially assembled waste	Section Head	Improved Environmental Management Practices
Energy Efficiency/Utility conservation	Increase energy awareness	80	Conduct OSS contractor induction on energy targets	Section Head	Improved Environmental Management Practices

Noise monitoring summary report

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- 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?

not applicable

- 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)?
24/07/2018	Day	NL1		60	49	64	73	No	No	Pottery Road traffic & site traffic	n/a
24/07/2018	Day	NL1		58	47	62	74	No	No	Pottery Road traffic & site traffic	n/a
24/07/2018	Day	NL1		58	50	62	70	No	No	Pottery Road traffic & site traffic	n/a
11/08/2018	Evening	NL1		56	43	60	71	No	No	Pottery Road traffic & transformer	n/a
18/08/2018	Night	NL1		51	49	53	65	No	No	Pottery Road traffic & transformer	n/a
19/08/2018	Night	NL1		48	47	49	61	No	No	Pottery Road traffic & transformer	n/a
24/07/2018	Day	NL2	NSL	57	49	60	82	No	No	Site & Pottery Road traffic	No
24/07/2018	Day	NL2	NSL	51	44	52	73	No	No	Site & Pottery Road traffic	Yes
24/07/2018	Day	NL2	NSL	52	46	53	75	No	No	Site & Pottery Road traffic	Yes
11/08/2018	Evening	NL2	NSL	51	46	53	67	No	No	Site & Pottery Road traffic	Yes
18/08/2018	Night	NL2	NSL	46	43	48	65	No	No	Site & Pottery Road traffic	Yes
19/08/2018	Night	NL2	NSL	43	41	45	64	No	No	Distant road traffic	Yes
24/07/2018	Day	NL3	NSL	54	48	55	76	No	No	Site traffic	Yes
24/07/2018	Day	NL3	NSL	58	52	58	84	No	No	Truck hitching trailer and departing	No
24/07/2018	Day	NL3	NSL	56	48	60	82	No	No	Site traffic	Yes
11/08/2018	Evening	NL3	NSL	48	47	49	66	No	No	Plant noise audible & distant road traffic	Yes
18/08/2018	Night	NL3	NSL	47	45	48	64	No	No	Plant noise audible & distant road traffic	Yes
19/08/2018	Night	NL3	NSL	45	43	47	65	No	No	Plant noise audible & distant road traffic	Yes

24/07/2018	Day	NL4		66	52	64	90	No	No	Site traffic, dumper loading skip	n/a
24/07/2018	Day	NL4		66	51	67	88	No	No	Truck arrival, skip loading	n/a
24/07/2018	Day	NL4		56	50	56	79	No	No	Truck movements, plant noise audible	n/a
11/08/2018	Evening	NL4		52	50	53	75	No	No	Silo feed system noise, plant noise audible	n/a
18/08/2018	Night	NL4		50	48	51	59	No	No	Silo feed system noise, plant noise audible	n/a
19/08/2018	Night	NL4		48	47	51	58	No	No	Plant noise audible & distant road traffic	n/a
24/07/2018	Day	NL5		67	61	67	90	No	No	Site traffic, noise from dust filter shaker	n/a
24/07/2018	Day	NL5		62	61	62	81	No	No	Plant noise, car park traffic	n/a
24/07/2018	Day	NL5		62	61	62	70	No	No	Plant noise, car park traffic	n/a
11/08/2018	Evening	NL5		61	60	61	67	No	No	Plant noise	n/a
19/08/2018	Night	NL5		58	52	54	88	No	No	Plant noise	n/a
19/08/2018	Night	NL5		54	53	54	68	No	No	Plant noise	n/a
24/07/2018	Day	NL6	NSL	47	46	48	68	No	No	Local road traffic, plant noise just audible	Yes
24/07/2018	Day	NL6	NSL	47	45	48	70	No	No	Local road traffic, plant noise just audible	Yes
24/07/2018	Day	NL6	NSL	50	47	52	77	No	No	Road traffic, plant noise just audible	Yes
11/08/2018	Evening	NL6	NSL	46	44	47	55	No	No	Road traffic, plant noise just audible	Yes
19/08/2018	Night	NL6	NSL	44	42	46	60	No	No	Road traffic, plant noise just audible	Yes
19/08/2018	Night	NL6	NSL	44	41	45	56	No	No	Road traffic, plant noise just audible	Yes

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

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

nothing**

**There are extraneous noise contributions to NSL2, NSL3 and NSL6 from local and distant road traffic.
Any additional comments? (less than 200 words)

Please insert a copy of your Waste Management Record for waste transferred off site

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

	Additional information
Yes	

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
11/07/2018	Noise		Noise from construction	Communication with complainant.	Complete	11/07/2018	
Total complaints open at start of reporting year		0					
Total new complaints received during reporting year		1					
Total complaints closed during reporting year		1					
Balance of complaints end of reporting year		0					

SECTION C-TO BE COMPLETED BY ALL WASTE FACILITIES (waste transfer stations, Composters, Material recovery facilities etc) EXCEPT LANDFILL SITES

Incidents	
	Additional information
Have any incidents occurred on site in the current reporting year? Please list all incidents for current reporting year in Table 2 below	No

*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
Total number of incidents current year		0												
SECTION D-TO BE COMPLETED BY LANDFILL SITES ONLY		0												
% reduction/increase		0												

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WASTE SUMMARY	Lic No:	P0648-02	Year	2018
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SECTION A- WASTE MANAGEMENT RECORD FOR WASTE TRANSFERRED OFF SITE

Please insert details of waste transferred off site in the adjoining Waste Management Record tab.

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 through PRTR reporting)

Additional Information	
N/A	

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

Additional Information	
N/A	

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

Additional Information	
N/A	

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)	EWC code	Source of waste accepted	Description of waste accepted Please enter an accurate and detailed description - which applies to relevant EWC code European Waste Catalogue EWC 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 -

SECTION C-TO BE COMPLETED BY ALL WASTE FACILITIES (waste transfer stations, Composters, Material recovery facilities etc) EXCEPT LANDFILL SITES

4 Is all waste processing infrastructure as required by your licence and approved by the Agency in place? If no please list waste processing infrastructure required on site

N/A	

5 Is all waste storage infrastructure as required by your licence and approved by the Agency in place? If no please list waste storage infrastructure required on site

N/A	

6 Does your facility have relevant nuisance controls in place?

N/A	

7 Do you have an odour management system in place for your facility? If no why?

N/A	

8 Do you maintain a sludge register on site?

N/A	

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

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	Unlined area	Comments on liner type
										SELECT UNIT	SELECT UNIT	SELECT UNIT	
Cell 8													

WASTE SUMMARY Lic No: P0648-02 Year 2018

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 SS3(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?

SELECT
SELECT

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

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	

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Waste Summary Continued

Please insert a copy of your Waste Management Record for waste transferred off site

List of Waste (LoW)				Next Destination		Final Destination	
LoW Code	LoW Description	Classification	Quantity of waste Tonnes / year	Organisation	Waste Treatment Operation	Organisation	Waste Treatment Operation
20 03 01 B	Municipal mixed residual non-household	-	429.12	Indaver Ireland Limited (Duleek), Carranstown, Duleek, Meath, Ireland. - W0167	R01 - Use principally as a fuel or other means to generate energy	-	
16 03 06	organic wastes other than those mentioned in 16 03 05	-	201.08	Guinan Waste Recovery Ltd., Syngefield Industrial Estate, Syngefield, Birr, Offaly, Ireland. - WFP-OY-13-194-01	R03 - Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)	-	
07 02 13	waste plastic	-	233.46	Lenviron, Clermont Park, Haggardstown, Dundalk, Louth, Ireland. - WFP-LH-11-0002-02	R03 - Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)	-	
15 01 02	plastic packaging	-	16.09	Guinan Waste Recovery Ltd., Syngefield Industrial Estate, Syngefield, Birr, Offaly, Ireland. - WFP-OY-13-194-01	R03 - Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)	-	

15 01 02	plastic packaging	-	19.67	Lenviron, Clermont Park, Haggardstown, Dundalk, Louth, Ireland.- WFP-LH-11-0002-02	R03 - Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)	-	
15 01 06	mixed packaging	-	66.16	Guinan Waste Recovery Ltd., Syngefield Industrial Estate, Syngefield, Birr, Offaly, Ireland. - WFP-OY-13-194-01	R03 - Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)	-	
15 01 06	mixed packaging	-	75.24	Lenviron, Clermont Park, Haggardstown, Dundalk, Louth, Ireland - WFP-LH-11-0002-02	R03 - Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)	-	
15 01 06	mixed packaging	-	6.9	Irish Packaging Recycling, Ballymount Road, Walkinstown, Dublin 12, Ireland. - W0263	R03 - Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)	-	
15 01 01	paper and cardboard packaging	-	27.65	Guinan Waste Recovery Ltd., Syngefield Industrial Estate, Syngefield, Birr, Offaly, Ireland. - WFP-OY-13-194-01	R03 - Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)	-	

15 01 01	paper and cardboard packaging	-	27.93	Lenviron, Clermont Park, Haggardstown, Dundalk, Louth, Ireland. - WFP-LH-11-0002-02	R03 - Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)	-	
20 01 08 B	Non-household biodegradable kitchen & canteen waste	-	8.7	Ballymount MRF, Merrywell Industrial Estate, Ballymount Road, Dublin, Ireland. - W0238-01	R03 - Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)	-	
15 01 03	wooden packaging	-	170.16	C.J. Sheeran Limited, Mountrath Sawmills, Shannon Street, Mountrath, Laois, Ireland. - P0337-01	R03 - Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)	-	
20 01 40 C	Mixed metals	-	15.1	A1 Metal Recycling, Acragar, Mountrillick, Laois, Ireland. - WFP-LS-14-0003-01	R04 - Recycling/reclamation of metals and metal compounds	-	
16 02 14 D	Non-household other waste electrical and electronic equipment, non-hazardous	-	2.07	Guinan Waste Recovery Ltd., Syngesfield Industrial Estate, Syngesfield, Birr, Offaly, Ireland - WFP-OY-13-194-01	R04 - Recycling/reclamation of metals and metal compounds	-	

11 01 14	degreasing wastes other than those mentioned in 11 01 13	-	0.24	Safety Kleen Ireland Ltd, Unit 5, Airton Road, Tallaght, Dublin 24, Ireland - W0099	pending any of the operations numbered R 1 to R 12 (excluding temporary storage, pending collection, on the site where the waste is produced)	-	
20 01 01	paper and cardboard	-	5.6	Shred-It ROI Ltd., 5 Parkwest Industrial Estate, Dublin 12, Ireland. - WFP-DC-09-0011-02	R03 - Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)	-	
14 06 02*	other halogenated solvents and solvent mixtures	Hazardous	25.91	Soltec (Ireland) Limited, Zone A, Mullingar Business Park, Mullingar, Westmeath, Ireland - W0115	R02 - Solvent reclamation/regeneration	-	
08 04 09*	adhesives and sealants containing organic solvents or other	Hazardous	0.12	Indaver Ireland Limited (Tolka Quay Road), Dublin Port, Dublin 1, Ireland. - W0036	R12 - Exchange of waste for submission to any of the operations numbered R 1 to R 11	ATM BV, Vlasweg 12, Moerdijk, Netherlands. - 1538449	R01 - Use principally as a fuel or other means to generate energy
15 01 10*	packaging containing residues of or contaminated by hazardous substances	Hazardous	3.97	Indaver Ireland Limited (Duleek), Carranstown, Duleek, Meath, Ireland. - W0167	R01 - Use principally as a fuel or other means to generate energy	-	

15 02 02*	filter materials (including oil filters not otherwise specified), wiping cloths,	Hazardous	2.93	Indaver Ireland Limited (Tolka Quay Road), Dublin Port, Dublin 1, Ireland. - W0036	D15 - Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage, pending collection, on the site where the waste is produced)	AVG mbH, Borsigstrasse 2, Hamburg, Germany, D-22113 - IB 2234/AVG-GENB-2	D10 - Incineration on land
15 02 02*	filter materials (including oil filters not otherwise specified), wiping cloths, protective	Hazardous	0.26	Enva Ireland Limited (Portlaoise), Clonminam Industrial Estate, Portlaoise, Laois, Ireland - W0184	R13 - Storage of waste pending any of the operations numbered R 1 to R 12 (excluding temporary storage, pending collection, on the site where the waste is produced)	-	
13 02 08*	other engine, gear and lubricating oils	Hazardous	5.65	Enva Ireland Limited (Portlaoise), Clonminam Industrial Estate, Portlaoise, Laois, Ireland - W0184	R09 - Oil re-refining or other reuses of oil	-	
20 01 33*	accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted	Hazardous	0.11	Irish Lamp Recycling, Woodstock Industrial Estate, Kilkenny Road, Athy, Kildare, Ireland. - WFP=KE-14-0072-01	R05 - Recycling/reclamation of other inorganic materials	-	
13 02 08*	other engine, gear and lubricating oils	Hazardous	0.2	Indaver Ireland Limited (Tolka Quay Road), Dublin Port, Dublin 1, Ireland. - W0036	D15 - Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage, pending collection, on the site where the waste is produced)	AVG mbH, Borsigstrasse 2, Hamburg, Germany, D-22113 - IB 2234/AVG-GENB-2	D10 - Incineration on land

13 02 08*	other engine, gear and lubricating oils	Hazardous	0.23	Indaver Ireland Limited (Tolka Quay Road), Dublin Port, Dublin 1, Ireland. - W0036	D15 - Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage, pending collection, on the site where the waste is produced)	Indaver Antwerpen NV, Poldervlietweg, 2030 Antwerp, Belgium. - MLAVI/9800000485	D10 - Incineration on land
16 02 13*	Non-household other waste electrical and electronic equipment, hazardous	Hazardous	1	Recycling Limited, Cappincur Industrial Estate, Daingean Road, Tullamore, Offaly, Ireland - W0113	R04 - Recycling/reclamation of metals and metal compounds	-	
16 05 06*	chemicals, consisting of or containing hazardous substances, including	Hazardous	0.04	Indaver Ireland Limited (Tolka Quay Road), Dublin Port, Dublin 1, Ireland. - W0036	D15 - Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage, pending collection, on the site where the waste is produced)	Indaver Antwerpen NV, Poldervlietweg, 2030 Antwerp, Belgium. - MLAVI/9800000485	D10 - Incineration on land
16 03 05*	organic wastes containing hazardous substances	Hazardous	0.02	Indaver Ireland Limited (Tolka Quay Road), Dublin Port, Dublin 1, Ireland. - W0036	D15 - Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage, pending collection, on the site where the waste is produced)	Indaver Antwerpen NV, Poldervlietweg, 2030 Antwerp, Belgium. - MLAVI/9800000485	D10 - Incineration on land
20 01 21*	waste fluorescent lamps and other mercury containing waste	Hazardous	0.21	Irish Lamp Recycling, Woodstock Industrial Estate, Kilkenny Road, Athy, Kildare, Ireland. - WFP=KE-14-0072-01	R05 - Recycling/reclamation of other inorganic materials	-	