

Facility Information Summary

AER Reporting Year	2016
Licence Register Number	W0146-02
Name of site	Knockharley Landfill
Site Location	Knockharley, Navan, Co, Meath
NACE Code	3821
Class/Classes of Activity	11.1, 11.5
National Grid Reference (6E, 6 N)	297532E, 267363N

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.

Knockharley Landfill is an operational landfill facility. It has seen an increase in waste acceptance from 2015 to 2016. Air stack emissions are compliant with the licence limits. There are no discharges of process effluent to water or sewer. There were no exceedances of the surface water discharge limit (35 mg/l of suspended solids) or the continuous monitoring trigger levels. Noise monitoring determined that there were no noise emissions from landfilling activities above the licence limit. There was 1 exceedance of the dust deposition limit at sampling point D6 during the Q4 monitoring as a result of pine cones and a replacement sample was contaminated with bird droppings. Details of these were discussed in the Q3-Q4 2016 report. For the surface emissions monitoring, 15 zones of surface emissions were identified within the landfill facility that exceeded recommended trigger levels (reported to the agency under INCI009649 (8 exceedances) and INCI009879 (7 exceedances)).

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.

<p><i>Thomas Finlayson</i></p> <p>Signature</p> <p>Group/Facility manager <small>(or nominated, suitably qualified and experienced deputy)</small></p>	<p>31-3-17</p> <p>Date</p>
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Answer all questions and complete all tables where relevant

Additional information

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

Yes	
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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 note AG2 and using the basic [air monitoring checklist](#) [AGN2](#)

Yes	
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Table A1: Licenced 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	Unit of measurement	Compliant with licence limit	Method of analysis	Annual mass load (kg)	Comments - reason for change in % mass load from previous year if applicable
Flare 1	Carbon monoxide (CO)	annual	50	SELECT	4.69	mg/m3	yes	NCIR by Horiba PG-250	5.5476	
Flare 1	Nitrogen Oxides (Nox/NO2)	annual	150	SELECT	48.41	mg/m3	yes	Chemiluminescence	26.2963	
Flare 1	Volatile organic compounds (as TOC)	annual	10	SELECT	3.49	mg/m3	yes	FID	1.8958	
Flare 1	Chlorine and inorganic compounds (as HCl)	annual	50	SELECT	1.28	mg/m3	yes	Ion chromatopography	0.6953	
Flare 1	Fluorine and inorganic compounds (s HF)	annual	5	SELECT	3.82	mg/m3	yes	Ion chromatopography	2.075	
Flare 1	Sulphur oxides (Sox/SO2)	annual		SELECT	4208.53	mg/m3		NDIR Adsorption	2,286.07	
Flare 2	Carbon monoxide (CO)	annual	50	SELECT	2.71	mg/m3	yes	NCIR by Horiba PG-250	10.7082	
Flare 2	Nitrogen Oxides (Nox/NO2)	annual	150	SELECT	47.96	mg/m3	yes	Chemiluminescence	189.5072	
Flare 2	Volatile organic compounds (as TOC)	annual	10	SELECT	3.49	mg/m3	yes	FID	13.7902	
Flare 2	Chlorine and inorganic compounds (as HCl)	annual	50	SELECT	1.25	mg/m3	yes	Ion chromatopography	4.9392	
Flare 2	Fluorine and inorganic compounds (s HF)	annual	5	SELECT	2.75	mg/m3	yes	Ion chromatopography	10.86624	
Flare 2	Sulphur oxides (Sox/SO2)	annual		SELECT	4773	mg/m3		NDIR Adsorption	18,859.84	
KHO1 Engine	Total Particulates	annual	130	SELECT	1.68	mg/m3	yes	Gravimetric	3.9057	
KHO1 Engine	Carbon monoxide (CO)	annual	1400	SELECT	1207.76	mg/m3	yes	NCIR by Horiba PG-250	2,807.86	
KHO1 Engine	Nitrogen Oxides (Nox/NO2)	annual	500	SELECT	194.37	mg/m3	yes	Chemiluminescence	451.88	
KHO1 Engine	Chlorine and inorganic compounds (as HCl)	annual	50	at mass flows >0.05kg/h	1.05	mg/m3	yes	Ion chromatopography	2.44	
KHO1 Engine	Fluorine and inorganic compounds (s HF)	annual	5	at mass flows >0.3kg/h	3.85	mg/m3	yes	Ion chromatopography	8.95	
KHO1 Engine	TA Luft orgaic substances class 1	annual	20	at mass flows >0.1kg/h	<0.63	mg/m3	yes	Thermal desorption	<1.4647	
KHO1 Engine	Sulphur oxides (Sox/SO2)	annual		SELECT	1008.53	mg/m3		NDIR Adsorption	2,344.68	
KHO4 Engine	Total Particulates	annual	130	SELECT	1.68	mg/m3	yes	Gravimetric	12.452076	
KHO4 Engine	Carbon monoxide (CO)	annual	1400	SELECT	1289.54	mg/m3	yes	NCIR by Horiba PG-250	9558.006003	
KHO4 Engine	Nitrogen Oxides (Nox/NO2)	annual	500	SELECT	389.46	mg/m3	yes	Chemiluminescence	2886.658047	
KHO4 Engine	Chlorine and inorganic compounds (as HCl)	annual	50	at mass flows >0.05kg/h	1.29	mg/m3	yes	Ion chromatopography	9.5614155	
KHO4 Engine	Fluorine and inorganic compounds (s HF)	annual	5	at mass flows >0.3kg/h	3.87	mg/m3	yes	Ion chromatopography	28.6842465	
KHO4 Engine	TA Luft orgaic substances class 1	annual	20	at mass flows >0.1kg/h	<0.64	mg/m3	yes	Thermal desorption	<4.7436	
KHO4 Engine	Sulphur oxides (Sox/SO2)	annual		SELECT	982.57	mg/m3		NDIR Adsorption	7282.759712	
4 KHO1 Engine	Volumetric flow	annual	3000	SELECT	2907	mg/m3	yes	Pitot		
KHO4 Engine	volumetric flow	annual	3000	SELECT	2940	mg/m3	yes	Pitot		

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

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Continuous Monitoring				

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
 Did continuous monitoring equipment experience downtime? If yes please record downtime in table A2 below
 Do you have a proactive service agreement for each piece of continuous monitoring equipment?
 Did your site experience any abatement system bypasses? If yes please detail them in table A3 below

Yes	
No	
Yes	
No	

Table A2: Summary of average emissions -continuous monitoring

Emission reference no:	Parameter/ Substance	ELV in licence or any revision thereof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission	Annual maximum	Monitoring Equipment downtime (hours)	Number of ELV exceedences in current reporting year	Comments
Flare 1	Carbon monoxide (CO)	500	Annual	All 30-minutes averages < 2 x ELV	mg/m3	4.99				
Flare 2	Carbon monoxide (CO)	1400	Annual	No 30min mean can exceed the ELV	mg/m3	2.71				
KH01	Carbon monoxide (CO)	1400	Annual	No 30min mean can exceed the ELV	mg/m3	1207				
KH04	Carbon monoxide (CO)	1400	Annual	No 30min mean can exceed the ELV	mg/m3	1289				
					SELECT					

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

8

* 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

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: W0146-02 Year 2016

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

Additional information	
No	There are eight surface water monitoring points at the facility. All of the data for monitoring of the downstream locations is hidden in the rows of Table W.1. It is assumed that only data for SW-9, the outlet from the storm water pond is required here.
Yes	Weekly visual inspections are required at each of the nine surface water monitoring points as per the licence. There was no visual evidence of contamination to any of the surface water courses throughout 2016.

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

Table W1 Storm water monitoring

Location reference	Location relative to site activities	PRTR Parameter	Licensed Parameter	Monitoring date	ELV or trigger level in licence or any revision thereof*	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Comments Baseline Data / Reg Limits as appropriate listed below
SW-9	onsite	SELECT	Temperature	25/02/2016	No	SELECT	3.1	degrees C		
SW-9	onsite	SELECT	pH (Field)	25/02/2016	No	SELECT		pH units		
SW-9	onsite	SELECT	pH (Lab)	25/02/2016	No	SELECT	7.5	pH units		
SW-9	onsite	SELECT	Conductivity (Field)	25/02/2016	No	SELECT		µS/cm@25oC		
SW-9	onsite	SELECT	Conductivity (Lab)	25/02/2016	No	SELECT	819	µS/cm@25oC		
SW-9	onsite	SELECT	Ammonia (as N)	25/02/2016	No	SELECT	0.08	mg/L		
SW-9	onsite	SELECT	Dissolved Oxygen	25/02/2016	No	SELECT	9.4	mg/L		
SW-9	onsite	SELECT	Chloride	25/02/2016	No	SELECT	23	mg/L		
SW-9	onsite	SELECT	Suspended Solids	25/02/2016	35	All values < ELV	7	mg/L	yes	
SW-9	onsite	SELECT	BOD	25/02/2016	No	SELECT	<2	mg/L		
SW-9	onsite	SELECT	COD	25/02/2016	No	SELECT	11	mg/L		
SW-9	onsite	SELECT	Temperature	31/05/2016	No	SELECT	18.1	degrees C		
SW-9	onsite	SELECT	pH (Field)	31/05/2016	No	SELECT		pH units		
SW-9	onsite	SELECT	pH (Lab)	31/05/2016	No	SELECT	7.34	pH units		
SW-9	onsite	SELECT	Conductivity (Field)	31/05/2016	No	SELECT		µS/cm@25oC		
SW-9	onsite	SELECT	Conductivity (Lab)	31/05/2016	No	SELECT	700	µS/cm@25oC		
SW-9	onsite	SELECT	Ammonia (as N)	31/05/2016	No	SELECT	0.05	mg/L		
SW-9	onsite	SELECT	Dissolved Oxygen	31/05/2016	No	SELECT	9	mg/L		
SW-9	onsite	SELECT	Chloride	31/05/2016	No	SELECT	11.2	mg/L		
SW-9	onsite	SELECT	Suspended Solids	31/05/2016	35	All values < ELV	<10	mg/L	yes	
SW-9	onsite	SELECT	BOD	31/05/2016	No	SELECT	3	mg/L		
SW-9	onsite	SELECT	COD	31/05/2016	No	SELECT	21	mg/L		
SW-9	onsite	SELECT	Temperature	05/09/2016	No	SELECT	17.7	degrees C		
SW-9	onsite	SELECT	pH (Field)	05/09/2016	No	SELECT	6.79	pH units		
SW-9	onsite	SELECT	pH (Lab)	05/09/2016	No	SELECT	7.16	pH units		
SW-9	onsite	SELECT	Conductivity (Field)	05/09/2016	No	SELECT	744	µS/cm@25oC		
SW-9	onsite	SELECT	Conductivity (Lab)	05/09/2016	No	SELECT	726	µS/cm@25oC		
SW-9	onsite	SELECT	Ammonia (as N)	05/09/2016	No	SELECT	0.05	mg/L		
SW-9	onsite	SELECT	Dissolved Oxygen	05/09/2016	No	SELECT	8	mg/L		
SW-9	onsite	SELECT	Chloride	05/09/2016	No	SELECT	15.7	mg/L		
SW-9	onsite	SELECT	Suspended Solids	05/09/2016	35	All values < ELV	<10	mg/L	yes	
SW-9	onsite	SELECT	BOD	05/09/2016	No	SELECT	2	mg/L		
SW-9	onsite	SELECT	COD	05/09/2016	No	SELECT	<7	mg/L		
SW-9	onsite	SELECT	Temperature	20/12/2016	No	SELECT	3.5	degrees C		
SW-9	onsite	SELECT	pH (Field)	20/12/2016	No	SELECT	8.76	pH units		
SW-9	onsite	SELECT	pH (Lab)	20/12/2016	No	SELECT	7.53	pH units		
SW-9	onsite	SELECT	Conductivity (Field)	20/12/2016	No	SELECT	1018	µS/cm@25oC		
SW-9	onsite	SELECT	Conductivity (Lab)	20/12/2016	No	SELECT	990	µS/cm@25oC		
SW-9	onsite	SELECT	Ammonia (as N)	20/12/2016	No	SELECT	0.07	mg/L		
SW-9	onsite	SELECT	Dissolved Oxygen	20/12/2016	No	SELECT	9	mg/L		
SW-9	onsite	SELECT	Chloride	20/12/2016	No	SELECT	19.4	mg/L		
SW-9	onsite	SELECT	Suspended Solids	20/12/2016	35	All values < ELV	<10	mg/L	yes	
SW-9	onsite	SELECT	BOD	20/12/2016	No	SELECT	<1	mg/L		
SW-9	onsite	SELECT	COD	20/12/2016	No	SELECT	<7	mg/L		
SW-9	onsite	SELECT	Total Alkalinity	20/12/2016	No	SELECT	170	mg/L		
SW-9	onsite	SELECT	Sulphate	20/12/2016	No	SELECT	369	mg/L		
SW-9	onsite	SELECT	Total Phosphorus	20/12/2016	No	SELECT	42	µg/L		
SW-9	onsite	SELECT	Cadmium	20/12/2016	No	SELECT	<0.5	µg/L		
SW-9	onsite	SELECT	Calcium	20/12/2016	No	SELECT	170.2	mg/L		
SW-9	onsite	SELECT	Total Chromium	20/12/2016	No	SELECT	<1.5	µg/L		
SW-9	onsite	SELECT	Copper	20/12/2016	No	SELECT	<7	µg/L		
SW-9	onsite	SELECT	Iron	20/12/2016	No	SELECT	<20	µg/L		
SW-9	onsite	SELECT	Lead	20/12/2016	No	SELECT	<5	µg/L		
SW-9	onsite	SELECT	Magnesium	20/12/2016	No	SELECT	22.8	mg/L		
SW-9	onsite	SELECT	Manganese	20/12/2016	No	SELECT	11	µg/L		
SW-9	onsite	SELECT	Mercury	20/12/2016	No	SELECT	<1	µg/L		
SW-9	onsite	SELECT	Potassium	20/12/2016	No	SELECT	3.8	mg/L		
SW-9	onsite	SELECT	Sodium	20/12/2016	No	SELECT	15.7	mg/L		
SW-9	onsite	SELECT	Zinc	20/12/2016	No	SELECT	<3	µg/L		
SW Pond Inlet	onsite	SELECT	pH	Q1 2016	20	SELECT	8.09	pH units		
SW Pond Inlet	onsite	SELECT	TOC	Q1 2016	20	SELECT	2.36	mg/L	Yes	
SW Pond Inlet	onsite	SELECT	Conductivity	Q1 2016	No	SELECT	1,449	µS/cm@25oC		
SW Pond Inlet	onsite	SELECT	pH	Q2 2016	No	SELECT	8.4	pH units		
SW Pond Inlet	onsite	SELECT	TOC	Q2 2016	20	SELECT	3.84	mg/L	Yes	
SW Pond Inlet	onsite	SELECT	Conductivity	Q2 2016	No	SELECT	1,194	µS/cm@25oC		
SW Pond Inlet	onsite	SELECT	pH	Q3 2016	No	SELECT	8.5	pH units		
SW Pond Inlet	onsite	SELECT	TOC	Q3 2016	20	SELECT	1.16	mg/L	Yes	
SW Pond Inlet	onsite	SELECT	Conductivity	Q3 2016	No	SELECT	1,171	µS/cm@25oC		
SW Pond Inlet	onsite	SELECT	pH	Q4 2016	No	SELECT	8.35	pH units		
SW Pond Inlet	onsite	SELECT	TOC	Q4 2016	20	SELECT	2.62	mg/L	Yes	
SW Pond Inlet	onsite	SELECT	Conductivity	Q4 2016	No	SELECT	1,391	µS/cm@25oC		

*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
SW-9	Weekly	No Contamination Identified throughout 2016	SELECT		
			SELECT		

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

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

No	Additional information
Yes	

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

External/Internal Lab Quality checklist	Assessment of results checklist	Yes
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Table W3: Licensed Emissions to water and /or wastewater (sewer)-periodic monitoring (non-continuous)

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

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

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

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

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

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

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

Table W4: Summary of average emissions - continuous monitoring

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

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? SELECT	When was this report submitted?

*Measures taken or proposed to reduce or limit bypass frequency

Bund testing dropdown menu click to see options

Additional information

Are you required by your licence to undertake integrity testing on bunds and containment structures ? if yes please fill out table B1 below listing all **new bunds and containment structures** on site, in addition to all **bunds which failed the integrity test-all bunding structures which failed including mobile bunds must be listed in the table below. please include all bunds outside the licenced testing period** (mobile bunds and chemstore included)

1
2 Please provide integrity testing frequency period
Does the site maintain a register of bunds, underground pipelines (including stormwater and foul), Tanks, sumps and containers? (containers refers to "Chemstore" type units and mobile bunds)
3
4 How many bunds are on site?
5 How many of these bunds have been tested within the required test schedule?
6 How many mobile bunds are on site?
7 Are the mobile bunds included in the bund test schedule?
8 How many of these mobile bunds have been tested within the required test schedule?
9 How many sumps on site are included in the integrity test schedule?
10 How many of these sumps are integrity tested within the test schedule?
Please list any sump integrity failures in table B1
11 Do all sumps and chambers have high level liquid alarms?
12 If yes to Q11 are these failsafe systems included in a maintenance and testing programme?
13 Is the Fire Water Retention Pond included in your integrity test programme?

Yes	
3 years	due again in 2017
Yes	
6	
6	
4	
Yes	
4	
0	
n/a	
N/A	
SELECT	
SELECT	

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

Bund/Containment structure ID	Type	Specify Other type	Product containment	Actual capacity	Capacity required*	Type of integrity test	Other test type	Test date	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
Bund: Mobile Bund	prefabricated		oil	1m3	1.1m3	Hydraulic test	Visual Assessment & partial hydrostatic test	14 &15 /7/14	Yes	Pass		SELECT		
Bund B2: Mobile Bund	prefabricated			0.22m3	0.25m3	Hydraulic test	Visual Assessment & partial hydrostatic test	14 &15 /7/14	Yes	Pass		SELECT		
Bund B3: Mobile Bund	prefabricated		oil	1m3	1.14m3	Hydraulic test	Visual Assessment & partial hydrostatic test	14 &15 /7/14	Yes	Pass		SELECT		
Bund B4: Mobile Bund	prefabricated		oil	0.22m3	0.25m3	Hydraulic test	Visual Assessment & partial hydrostatic test	14 &15 /7/14	Yes	Pass		SELECT		
Bunded Storage Container	other (please specify)	Steel constructed bund with a storage container in the base	hydraulic oils	1.6m3	1.8m3	Hydraulic test	Visual Assessment & partial hydrostatic test	14 &15 /7/14	Yes	Pass		SELECT		
Diesel Bund 1: Diesel Storage Compound	reinforced concrete		diesel	6m3	6.6m3	Hydraulic test	Visual Assessment & partial hydrostatic test	14 &15 /7/14	Yes	Pass		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? [bundling and storage guidelines](#)
15
16 Are channels/transfer systems to remote containment systems tested?
17 Are channels/transfer systems compliant in both integrity and available volume?

Commentary

Yes	
SELECT	
SELECT	

Pipeline/underground structure testing

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

No	
SELECT	

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)
	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT				SELECT

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

Groundwater/Soil monitoring template	Lic No: W0146-02	Year: 2016
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			Comments
1	Are you required to carry out groundwater monitoring as part of your licence requirements?	yes	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 interpretaion as an additional section in this AER Groundwater monitoring at Knockharley is compared to Groundwater Trigger Levels approved by the Agency in December 2011. There is an upward trend in monitoring results for potassium, sodium and Total and Faecal coliforms at MD6D. However, none of the results exceed the MAC and all of the upward trends are very slight, generally caused by one or two peaks and one or two results of zero or less than the limit of detection.
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 Groundwater Monitoring Template Report (link in cell G8) and submit separately through ALDER as a licensee return AND answer questions 5-12 below.	no	
5	Is the contamination related to operations at the facility (either current and/or historic)	N/A	
6	Have actions been taken to address contamination issues? If yes please summarise remediation strategies proposed/undertaken for the site	N/A	
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 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	

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
2016	MW1D	pH (Field)	Field Probe	Quarterly	7.6	7.5	pH Units	6.5 - 9.5	IGV	no
2016	MW1D	Electrical Conductivity (Field)	Field Probe	Quarterly	685	661	µS/cm	1000	IGV	yes
2016	MW1D	Temperature	Field Probe	Quarterly	10.8	10.05	°C	25	site GTL	no
2016	MW1D	Ammoniacal Nitrogen as N	Kone Spectrophotometric Analyser	Quarterly	0.656	0.3835	mg/l	1.96	site GTL	no
2016	MW1D	Dissolved Oxygen		Quarterly	6.58	5.61	mg/l	NAC	IGV	yes
2016	MW1D	Chloride	Kone Spectrophotometric Analyser	Quarterly	24.2	23.7	mg/l	31.28	site GTL	no
2016	MW1D	Iron	ICP-OES	Quarterly	<0.019	<0.019	mg/l	0.2	IGV	no
2016	MW1D	Potassium	ICP-OES	Quarterly	4.75	3.955	mg/l	6.25	site GTL	no
2016	MW1D	Sodium	ICP-OES	Quarterly	44.8	39.325	mg/l	112.3	site GTL	no
2016	MW1D	Total Oxidised Nitrogen	Kone Spectrophotometric Analyser	Quarterly	<0.1	<0.1	mg/l	NAC	site GTL	no
2016	MW1D	Total Organic Carbon	Colorimetry	Quarterly	<3	<3	mg/l	12.99	site GTL	no
2016	MW1D	Phenols	HPLC	Quarterly	<0.025	<0.025	mg/l	0.02	site GTL	no
2016	MW1D	Faecal Coliforms	Membrane Filtration	Quarterly	300	153	cfu/100mls	0	IGV	yes
2016	MW1D	Total Coliforms	Colilert System	Quarterly	>2420	51.46667	cfu/100mls	0	IGV	no

.+ where average indicates arithmetic mean

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

Groundwater/Soil monitoring template

Lic No:

W0146-02

Year

2016

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
2016	MW6D	pH (Field)	Field Probe	Quarterly	8.1	7.70	pH Units	6.5 - 9.5	IGV	yes
2016	MW6D	Electrical Conductivity (Field)	Field Probe	Quarterly	615	601	µS/cm	1000	IGV	yes
2016	MW6D	Temperature	Field Probe	Quarterly	10.9	10.23	°C	25	site GTL	no
2016	MW6D	Ammoniacal Nitrogen as N	Kone Spectrophotometric Analyser	Quarterly	0.663	0.58	mg/l	1.96	site GTL	no
2016	MW6D	Dissolved Oxygen		Quarterly	7.65	7.05	mg/l	NAC	IGV	yes
2016	MW6D	Chloride	Kone Spectrophotometric Analyser	Quarterly	17.2	14.48	mg/l	31.28	site GTL	no
2016	MW6D	Iron	ICP-OES	Quarterly	<0.019	<0.019	mg/l	0.2	IGV	no
2016	MW6D	Potassium	ICP-OES	Quarterly	3.46	2.98	mg/l	6.25	site GTL	no
2016	MW6D	Sodium	ICP-OES	Quarterly	23.3	20.73	mg/l	112.3	site GTL	yes
2016	MW6D	Total Oxidised Nitrogen	Kone Spectrophotometric Analyser	Quarterly	<0.1	<0.1	mg/l	NAC	site GTL	no
2016	MW6D	Total Organic Carbon	Colorimetry	Quarterly	<3	<3	mg/l	12.99	site GTL	no
2016	MW6D	Phenols	HPLC	Quarterly	<0.025	<0.025	mg/l	0.02	site GTL	no
2016	MW6D	Faecal Coliforms	Membrane Filtration	Quarterly	70	36	cfu/100mls	0	IGV	yes
2016	MW6D	Total Coliforms	Colilert System	Quarterly	148	53.08	cfu/100mls	0	IGV	no

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

[Groundwater monitoring template](#)

More information on the use of soil and groundwater standards/ generic assessment criteria (GAC) and risk assessment tools is available in the EPA published guidance (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)

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

Table 3: Soil results

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

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

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

		Commentary	
1	ELRA initial agreement status	Required but not submitted	To be forwarded to the Agency in due course
2	ELRA review status	SELECT	
3	Amount of Financial Provision cover required as determined by the latest ELRA	Specify	
4	Financial Provision for ELRA status	SELECT	
5	Financial Provision for ELRA - amount of cover	Specify	
6	Financial Provision for ELRA - type	SELECT	
7	Financial provision for ELRA expiry date	Enter expiry date	
8	Closure plan initial agreement status	SELECT	
9	Closure plan review status	SELECT	
10	Financial Provision for Closure status	SELECT	
11	Financial Provision for Closure - amount of cover	Specify	
12	Financial Provision for Closure - type	SELECT	
13	Financial provision for Closure expiry date	Enter expiry date	

Environmental Management Programme/Continuous Improvement Programme template Lic No: W0146-02 Year 2016

Highlighted cells contain dropdown menu click to view		Additional Information
1	Do you maintain an Environmental Management System (EMS) for the site. If yes, please detail in additional information	Yes
2	Does the EMS reference the most significant environmental aspects and associated impacts on-site	Yes
3	Does the EMS maintain an Environmental Management Programme (EMP) as required in accordance with the licence requirements	Yes
4	Do you maintain an environmental documentation/communication system to inform the public on environmental performance of the facility, as required by the licence	Yes

Environmental Management Programme (EMP) report

Objective Category	Target	Status (% completed)	How target was progressed	Responsibility	Intermediate outcomes
Reduction of emissions to Air	Hold bi-annual gas management meetings to review existing infrastructure, discuss maintenance and upgrades as required	Ongoing	Meetings held and documented	Section Head	Increased compliance with licence conditions
Reduction of emissions to Air	In accordance with Condition 6.10.5 of the IED Licence, the site will aim to reduce the number of fugitive VOC emissions from the landfill at each survey. Records are kept showing the survey results.	Ongoing	Progressive final and intermediate capping, continuous gas extraction.	Individual	Reduced emissions
Reduction of emissions to Air	All waste filled to final levels during 2015 to have final cap within 24 months	Ongoing	Structured capping program due for completion in 2017	Section Head	Reduced emissions
Reduction of emissions to Air	Maintain O2 level at 2.5% or below for optimal running and output of generators.	Ongoing	Regular landfill infrastructure checks and field balancing	Individual	Reduced emissions
Reduction of emissions to Air	Continue with placement of Geo Hess temporary capping along the outer flanks of the landfill	Ongoing	Placement of geohess on outer flank of landfill	Section Head	Reduced emissions
Reduction of emissions to Air	Increase use of double lifts and horizontal wells along exposed outer flanks of landfill	Ongoing	As per Target	Section Head	Increased compliance with licence conditions
Reduction of emissions to Wastewater	Continue to monitor and control leachate through quarterly leachate quality monitoring and weekly leachate level checks	Ongoing	Weekly and quarterly checks completed	Section Head	Increased compliance with licence conditions
Reduction of emissions to Wastewater	Implement recirculation of leachate at the landfill	Ongoing	Approved by the Agency. Now implemented in Cells 3 and 4.	Section Head	Reduced emissions
Reduction of emissions to Wastewater	Continually assess and upgrade infrastructure as necessary. Cells are filled on an individual basis, which decreases leachate volume.	Ongoing	Cells filled on individual basis, on site checks are completed during cell construction	Section Head	Reduced emissions
Reduction of emissions to Water	Construct leachate processing plant on site. Investigations underway to source new WWTP's within 100kms of the landfill which has the capacity to accept leachate in tankers from the site.	Plans on hold	Plans on hold		Reduced emissions
Reduction of emissions to Wastewater	Install permanent capping to all finished areas of landfill and extra clay capping on intermediate areas. Geo Hess flanks of Cell 11.	Ongoing	Start geo hess placement in 2016	Individual	Reduced emissions
Additional improvements	Maintain and continue to improve all on site landscaping and the wetland area.	Ongoing (seasonal)	Carried out in-house	Section Head	Improved Environmental Management Practices

Environmental Management Programme/Continuous Improvement Programme template						Lic No:	W0146-02	Year	2016
Additional improvements	Employ a landscape contractor to assess plantations, replace failed trees/plants and improve the overall general appearance of the landfill site.	Ongoing (seasonal)	Carried out in-house	Individual	Improved Environmental Management Practices				
Additional improvements	Implement planting of fruit and nut trees as part of landscaping in planning application.	Plans on hold	Planning application withdrawn	Section Head	Improved Environmental Management Practices				
Additional improvements	Review relationships with neighbours and interested parties on a continual basis and review communications programme annually.	Ongoing	Assess communications programme annually.	Section Head	Improved Environmental Management Practices				
Additional improvements	Review the number and composition of complaints to determine any trends.	100%	Monthly assessment of complaints.	Section Head	Less complaints				
Additional improvements	Extend litter picking to include inner boundary road as illegal dumping appears to occur here occasionally.	Ongoing	As per Target	Individual	Increased compliance with licence conditions				
Additional improvements	Continue to hold regular meetings with local residents.	Ongoing	Meetings held and documented	Section Head	Improved Environmental Management Practices				
Additional improvements	Finish cell 11 and go into cell 14 where visual aspect can be minimised. When Cell 14 is full, filling of Cell 13 will commence.	Ongoing	As per development of Landfill	Individual	Increased compliance with licence conditions				
Additional improvements	Continue with litter patrols and litter picking	Ongoing	Done weekly	Individual	Increased compliance with licence conditions				
Additional improvements	Actively encourage site visits from interested parties i.e. local community groups, schools, clubs, etc.	Ongoing	Ongoing	Section Head	Improved Environmental Management Practices				
Additional improvements	Continue distribution of newsletter to local people at regular intervals.	On Hold		Section Head	Improved Environmental Management Practices				
Additional improvements	Continue to provide sponsorship of interested local parties, clubs, etc.	Ongoing	Ongoing	Section Head	Improved Environmental Management Practices				
Additional improvements	Keep Public Information Room updated and current.	Ongoing	Ongoing in 2016	Section Head	Less complaints				
Additional improvements	Review Communications Programme	Complete	Jan-16	Section Head	Less complaints				
Energy Efficiency/Utility conservation	Continual monitoring of annual usage, reported in AER	Ongoing	Ongoing	Section Head	Reduced emissions				
Reduction of emissions to Air	Cap in progressive, small sections to reduce of potential fugitive emissions. Coordinate with the contractor on this and include nuisance issues in regular construction meetings	Ongoing	As per target	Individual	Reduced emissions				
Materials Handling/Storage/Bunding	Construction of an extension to the concrete plinth of the diesel storage area, to include a berm on the bund.	Complete	Apr-16	Individual	Increased compliance with licence conditions				
Additional improvements	Development of a new 'evaluation of legal compliance' tool. Implementation of Pegasus (Register of Legislation)	Complete	Apr-16	Section Head	Increased compliance with licence conditions				
Additional improvements	Develop and implement environmental training for all staff	100%	Ongoing on an annual basis	Section Head	Improved Environmental Management Practices				

Noise monitoring summary report Lic No: W0146-02 Year: 2016

- 1 Was noise monitoring a licence requirement for the AER period?
If yes please fill in table N1 noise summary below
- 2 Was noise monitoring carried out using the EPA Guidance note, including completion of the "Checklist for noise measurement report" included in the guidance note as table 6? [Noise Guidance note NG4](#)
- 3 Does your site have a noise reduction plan?
- 4 When was the noise reduction plan last updated?
- 5 Have there been changes relevant to site noise emissions (e.g. plant or operational changes) since the last noise survey?

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)?
23/11/2016	Daytime	N1		52	38	48		No	SELECT	Birdsong / Aircraft / Voices at nearby dwelling	Yes
23/11/2016	Daytime	N2		54	53	45		No		Birdsong / Aircraft / Dog Barking at nearby dwelling	Yes
23/11/2016	Daytime	N3		50	52	47		No		Birdsong / Aircraft	Yes
23/11/2016	Daytime	N4		54	46	39		No		Birdsong / Aircraft / Localised Car	Yes

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

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

** please explain the reason for not taking action/resolution of noise issues?
Any additional comments? (less than 200 words)

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

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

2 Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in additional information

3

Additional information

Sep-10	
No	
SELECT	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)				
Total Energy Generated (MWHrs)				
Total Renewable Energy Generated (MWHrs)				
Electricity Consumption (MWHrs)	135.4	176.298	+30.2%	
Fossil Fuels Consumption:				
Heavy Fuel Oil (m3)				
Light Fuel Oil (m3)	87.323	305.887	+350%	
Natural gas (m3)				
Coal/Solid fuel (metric tonnes)				
Peat (metric tonnes)				
Renewable Biomass				
Renewable energy generated on site				

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

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

Table R2 Water usage on site				Water Emissions		Water Consumption	
Water use	Water extracted Previous year m3/yr.	Water extracted Current year m3/yr.	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*	Volume Discharged back to environment(m ³ /yr):	Volume used i.e not discharged to environment e.g. released as steam m3/yr	Unaccounted for Water:
Groundwater							
Surface water							
Public supply	3769	5314	+41%				
Recycled water							
Total							

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

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

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

Resource Usage/Energy efficiency summary Lic No: W0146-02 Year 2016

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
Sep-10			SELECT					
			SELECT					
			SELECT					

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

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

Complaints and Incidents summary template	Lic No:	W0146-02	Year	2016
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Complaints Additional information

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

Yes

Table 1 Complaints summary			Brief description of complaint Free list - CEI words / EPA Complaint Ref.	Corrective action < 20 weeks	Resolution status	Resolution date	Further information
Date	Category	Other type (please specify)					
4.01.2016	Odour		COM00428		Complete	04.01.2016	
4.01.2016	Odour				Complete	04.01.2016	
09.01.2016	Odour				Complete	09.01.2016	
11.01.2016	Odour		COM00432		Complete	11.01.2016	
12.01.2016	Odour		COM00433		Complete	14.01.2016	
13.01.2016	Odour		COM00438		Complete	13.01.2016	
14.01.2016	Odour		COM00436		Complete	14.01.2016	
14.01.2016	Odour		COM00438		Complete	14.01.2016	
15.01.2016	Odour				Complete	15.01.2016	
18.01.2016	Odour		COM00434		Complete	18.01.2016	
19.01.2016	Odour				Complete	19.01.2016	
19.01.2016	Odour				Complete	19.01.2016	
19.01.2016	Odour				Complete	19.01.2016	
19.01.2016	Odour				Complete	19.01.2016	
19.01.2016	Odour		COM00439		Complete	19.01.2016	
26.01.2016	Odour				Complete	27.01.2016	
27.02.2016	Odour		COM00435		Complete	07.03.2016	
02.02.2016	Odour		Com00439		Complete	02.02.2016	
03.02.2016	Odour				Complete	03.02.2016	
04.02.2016	Odour		Com00440		Complete	04.02.2016	
09.02.2016	Odour		Com00440		Complete	10.02.2016	
09.02.2016	Odour		Com00441		Complete	09.02.2016	
09.02.2016	Odour		Com00442		Complete	09.02.2016	
09.02.2016	Odour		Com00444		Complete	10.03.2016	
09.02.2016	Odour		Com00445		Complete	10.02.2016	
11.02.2016	Odour				Complete	11.02.2016	
11.02.2016	Odour		Com00448		Complete	11.02.2016	
12.02.2016	Odour		COM00443		Complete	12.02.2016	
12.02.2016	Odour				Complete	12.02.2016	
15.02.2016	Odour		COM00451		Complete	12.02.2016	
16.02.2016	Odour		COM00452		Complete	22.02.2016	
16.02.2016	Odour		COM00454		Complete	19.03.2016	
19.02.2016	Odour				Complete	19.02.2016	
19.02.2016	Odour		COM00457		Complete	22.02.2016	
22.02.2016	Odour		COM00459		Complete	22.02.2016	
23.02.2016	Odour				Complete	23.02.2016	
23.02.2016	Odour		COM00464		Complete	23.02.2016	
24.02.2016	Odour				Complete	24.02.2016	
24.02.2016	Odour & Noise		COM00465		Complete	24.02.2016	
26.02.2016	Odour & Noise		COM00477		Complete	26.02.2016	
27.02.2016	Odour		COM00491		Complete	27.02.2016	
28.02.2016	Odour		COM00493		Complete	01.03.2016	
27.02.2016	Odour		COM00495		Complete	27.02.2016	
28.02.2016	Odour		COM00496		Complete	28.02.2016	
28.02.2016	Odour				Complete	28.02.2016	
29.02.2016	Odour		COM00498		Complete	29.02.2016	
29.02.2016	Odour		COM00503		Complete	01.03.2016	
01.03.2016	Odour		COM00504		Complete	01.03.2016	
1.03.2016	Odour				Complete	03.03.2016	
06.03.2016	Odour		COM00518		Complete	07.03.2016	
06.03.2016	Noise		COM00520		Complete	07.03.2016	
06.03.2016	Odour		COM00517		Complete	08.03.2016	
08.03.2016	Odour		COM00515		Complete	08.03.2016	
08.03.2016	Odour		COM00543		Complete	10.03.2016	
11.03.2016	Odour				Complete	17.03.2016	
21.03.2016	Odour		COM00580		Complete	21.03.2016	
22.03.2016	Odour		COM00456		Complete	22.03.2016	
24.03.2016	Odour				Complete	24.03.2016	
24.03.2016	Odour				Complete	24.03.2016	
30.03.2016	Odour		COM00499		Complete	30.03.2016	
01.04.2016	Noise & Odour				Complete	02.04.2016	
03.04.2016	Odour				Complete	03.04.2016	
03.04.2016	Noise				Complete	03.04.2016	
23.04.2016	Odour		COM00689		Complete	25.04.2016	
09.05.2016	Odour		COM00470		Complete	09.05.2016	
11.05.2016	Odour		COM00709		Complete	11.05.2016	
16.05.2016	Odour		COM00471		Complete	16.05.2016	
18.05.2016	Odour		COM00478		Complete	18.05.2016	
18.05.2016	Odour				Complete	18.05.2016	
23.05.2016	Odour		COM00806		Complete	23.05.2016	
28.05.2016	Odour		COM00849		Complete	01.06.2016	
02.06.2016	Odour				Complete	02.06.2016	
02.06.2016	Odour				Complete	02.06.2016	
02.06.2016	Odour				Complete	02.06.2016	
03.06.2016	Odour				Complete	03.06.2016	
03.06.2016	Odour				Complete	03.06.2016	
03.06.2016	Odour				Complete	03.06.2016	
03.06.2016	Odour		COM00871 (10-41am)		Complete	03.06.2016	
02.06.2016	Odour		COM00874 (10-14am)		Complete	03.06.2016	
02.06.2016	Odour		COM00878		Complete	03.06.2016	
02.06.2016	Odour		COM00879		Complete	11.06.2016	
30.05.2016	Odour		COM00847		Complete	07.06.2016	
08.06.2016	Odour		COM00857		Complete	08.06.2016	
09.06.2016	Odour		COM00854		Complete	08.06.2016	
06.06.2016	Odour				Complete	06.06.2016	
07.06.2016	Odour				Complete	07.06.2016	
07.06.2016	Odour				Complete	07.06.2016	
09.06.2017	Odour				Complete	09.06.2016	
13.06.2016	Odour				Complete	13.06.2016	
20.06.2016	Odour		COM00497		Complete	20.06.2016	
21.06.2016	Odour		COM00982		Complete	21.06.2016	
22.06.2016	Odour		COM00983		Complete	22.06.2016	
23.06.2016	Odour		COM00993		Complete	23.06.2016	
23.06.2016	Odour		COM00500		Complete	23.06.2016	
26.06.2016	Odour				Complete	26.06.2016	
28.06.2016	Odour		COM00503		Complete	28.06.2016	
28.06.2016	Odour				Complete	28.06.2016	
30.06.2016	Odour		COM00508		Complete	30.06.2016	
01.07.2016	Odour		COM00504		Complete	01.07.2016	
01.07.2016	Waste Acceptance		COM00541		Complete	11.07.2016	
04.07.2016	Odour		COM00547		Complete	04.07.2016	
05.07.2016	Odour		COM00505		Complete	05.07.2016	
08.07.2016	Odour		COM00501		Complete	08.07.2016	
11.07.2016	Odour		COM00507		Complete	11.07.2016	
12.07.2016	Odour		COM00500		Complete	12.07.2016	
12.07.2016	Odour		COM00504		Complete	12.07.2016	
14.07.2016	Odour		COM00501		Complete	14.07.2016	
15.07.2016	Odour				Complete	15.07.2016	
21.07.2016	Odour & Noise				Complete	21.07.2016	
21.07.2016	Odour				Complete	21.07.2016	
24.07.2016	Odour				Complete	24.07.2016	
25.07.2016	Odour		COM00510		Complete	25.07.2016	

WASTE SUMMARY		Lic No:	W0146-02	Year	2016
SECTION A-PRTR ON SITE WASTE TREATMENT AND WASTE TRANSFERS TAB- TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES		PRTR facility logon		dropdown list click to see options	

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

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

Additional Information	
Yes	

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

SELECT	
SELECT	

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

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 -
	EWC 08 01 14	08- WASTES FORM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS,) ADHESIVES, SEALANTS AND PRINTING INKS	Sludges from Paint or Varnish other than those mentioned in 08 01 13	28.6	0	100%			D5- Specially engineered landfill	28.6	
	EWC 08 03 15	08- WASTES FORM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS,) ADHESIVES, SEALANTS AND PRINTING INKS	Ink sludges other than those mentioned in 08 03 14	63.04	42.56	+48%	Market Forces		D5- Specially engineered landfill	63.04	
	EWC 08 03 18	08- WASTES FORM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS,) ADHESIVES, SEALANTS AND PRINTING INKS	waste printing toner other than tonse mentioned in 08 03 17	22.62		100%			D5- Specially engineered landfill	22.62	
	EWC 19 05 01 (Disposal Levy Exempt)		Non composted Fraction of municipal and similar wastes	453.62		100%			D5- Specially engineered landfill	453.62	
	EWC 19 05 99 (Disposal Levy Exempt)		Stabilised Waste - Residual Fraction	3296.24		100%			D5- Specially engineered landfill	3296.24	
	EWC 19 08 01	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	Screenings from waste water treatment plants	576.62	49.7	+1160%	Market Forces		D5- Specially engineered landfill	576.62	
	EWC 19 08 02	MANAGEMENT FACILITIES, OFF-SITE WASTE WATER	Waste from desanding	113.66		100%			D5- Specially engineered landfill	113.66	

WASTE SUMMARY		Lic No: W0146-02		Year 2016				
EWC 19 12 04	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	PVC	941.84	446.7	+211%	Market Forces	D5- Specially engineered landfill	941.84
EWC 19 12 12(Disposal Exempt)	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	Fines C&D	703.56	16733.8	-2378%	Market Forces	D5- Specially engineered landfill	703.56
EWC 19 12 12	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	C&I Dry Mixed (residual municipal and commercial waste)	13008.2	5113.08	+254%	Market Forces	D5- Specially engineered landfill	13008.2
EWC 19 12 12	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	Residual municipal and commercial waste	108.98		100%		D5- Specially engineered landfill	108.98
EWC 19 12 12 (Disposal Exempt)	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	C&I Fines	22333		100%		D5- Specially engineered landfill	22333
EWC 19 12 12 (Disposal Exempt)	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	Mechanically treated Fines	6045		100%		D5- Specially engineered landfill	6045
EWC 19 12 12	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	C&D Mixed	449.24		100%		D5- Specially engineered landfill	449.24
EWC 20 01 38		Wood other than those mentioned in 20 01 37	11.1		100%		D5- Specially engineered landfill	11.1
EWC 20 01 39		Plastics	78.28		100%		D5- Specially engineered landfill	78.28
EWC 20 03 01	20- MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS	Mixed Municipal Waste	111931.42	45180.64	+248%	Market Forces	D5- Specially engineered landfill	111931.42

WASTE SUMMARY			Lic No:	W0146-02		Year		2016		
EWC 20 03 03	20- MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS	Street cleaning waste	11053.98	1174.62	+941%	Market Forces		D5- Specially engineered landfill	11053.98	
EWC 20 03 07	20- MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS	Municipal Bulky Waste	4914.76	2839.72	+173%	Market Forces		D5- Specially engineered landfill	4914.76	
EWC 17 05 04	17- CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)	Soil and Stone	14206.80	18500.77		Market Forces		R5-Recycling/reclamation or other inorganic materials which includes soil celening resuling in recovery of the soil and recycling of inorganic construction materials	14206.80	
EWC 19 01 12	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	Incinerator Bottom Ash	15198.98	19294.04		Market Forces		R5-Recycling/reclamation or other inorganic materials which includes soil celening resuling in recovery of the soil and recycling of inorganic construction materials	15198.98	
EWC 10 01 01	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	Bottom Ash, slag and boiler dust(excluding boiler dust mentioned in 10 01 04)	138.70		100%			R5-Recycling/reclamation or other inorganic materials which includes soil celening resuling in recovery of the soil and recycling of inorganic construction materials	138.70	
EWC 19 05 99	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	Residual fraction from Aerobic Treatment (CLO)	12096.58	1383.86	+875%	Market Forces		R3-Recycling/reclamation or organic substances which are not used as solvents(including composting asanother biological transformation processes)which includes gasification and pyrolysis	12096.58	
EWC 19 09 02	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	Sludges from water clarification	1455.24	3204.5	-220%	Market Forces		R11-Use of waste obtained from any of the operations numbered R1 to R10	1455.24	
EWC 19 12 07	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	Woodchip	5265.52	2058.76	+256%	Market Forces		R3-Recycling/reclamation or organic substances which are not used as solvents(including composting asanother biological transformation processes)which includes gasification and pyrolysis	5265.52	
EWC 19 12 09	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	Minerals (including mineral fines)	1921.42	2652.58	-138%	Market Forces		R5-Recycling/reclamation or other inorganic materials which includes soil celening resuling in recovery of the soil and recycling of inorganic construction materials	1921.42	

WASTE SUMMARY			Lic No:		W0146-02		Year			2016	
EWC 19 12 12	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	C&D Fines	37123.08	6724.06	+552%	Market Forces			RS-Recycling/reclamation or other inorganic materials which includes soil celerating resulting in recovery of the soil and recycling of inorganic construction materials	37123.08	
EWC 19 12 12	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	Stone	9561.38		100%				RS-Recycling/reclamation or other inorganic materials which includes soil celerating resulting in recovery of the soil and recycling of inorganic construction materials	9561.38	
EWC 17 05 04	17- CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)	Soil and Stone	35041.04	2546.32	+1376%	Market Forces			RS-Recycling/reclamation or other inorganic materials which includes soil celerating resulting in recovery of the soil and recycling of inorganic construction materials	35041.04	

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 onsite
- 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
- 6 Does your facility have relevant nuisance controls in place?
- 7 Do you have an odour management system in place for your facility? If no why?
- 8 Do you maintain a sludge register on site?

N/A	
N/A	
Yes	
Yes	
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
Municipal Solid Waste	88,000 / 175,000	176,134	1,515,204	88,000 tonnes as per planning Permission, 175,000t as per licence, additional 95,000t authorised in 2016

WASTE SUMMARY	Lic No:	W0146-02	Year	2016
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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
										m2	m2		
Cells 1 - 14	2004	Ongoing	Yes	Private	Non Hazardous	2031	No	No	No	94500	94500		0.5m BES and HDPE Geomembrane

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

Was meteorological monitoring in compliance with Landfill Directive (LD) standard in reporting year +	Was leachate monitored in compliance with LD standard in reporting year	Was Landfill Gas monitored in compliance with LD standard in reporting year	Was SW monitored in compliance with LD standard in reporting year	Have GW trigger levels been established	Were emission limit values agreed with the Agency (ELVs)	Was topography of the site surveyed in reporting year	Has the statement under S53(A)(5) of WMA been submitted in reporting year	Comments
Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	

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

Table 5 Capping-Landfill only

Area uncapped*	Area with temporary cap	Area with final cap to LD Standard m2 ha, a	Area capped other	Area with waste that should be permanently capped to date under licence	What materials are used in the cap	Comments
m2	m2					
36,500	11,500	73000	6000	73000	Final cap to LDstd: gas collection layer, 1mm fully welded LLDPE liner, sub-surface drainage layer, subsoil layer and topsoil layer. Soil thickness of 1m. Other cap: temporary cover and intermediate cap.	

*please note this includes daily cover area

Table 6 Leachate-Landfill only

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

Yes
No

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
8,401,799	17,197	National Grid	Yes	



[Guidance to completing the PRTR workbook](#)

PRTR Returns Workbook

Version 1.1.19

REFERENCE YEAR	2016
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1. FACILITY IDENTIFICATION

Parent Company Name	Knockharley Landfill Limited
Facility Name	Knockharley Landfill
PRTR Identification Number	W0146
Licence Number	W0146-02

Classes of Activity	
No.	class_name
-	Refer to PRTR class activities below

Address 1	Knockharley
Address 2	Navan
Address 3	(Includes Townlands of Tuiterrath & Flemingstown)
Address 4	
Country	Ireland
Coordinates of Location	-6.57373 52.3511
River Basin District	IEEA
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Thomas Finnegan
AER Returns Contact Email Address	tom.finnegan@landfills.ie
AER Returns Contact Position	Landfill Manager
AER Returns Contact Telephone Number	041 9821650
AER Returns Contact Mobile Phone Number	086 8076237
AER Returns Contact Fax Number	
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	4
User Feedback/Comments	The landfill was granted a Technical Amendment in 2016 to accept an additional 95,000tonnes of waste in 2016 only. There was an increase of 45% leachate disposed of off-site due to increased waste brought onto site in 2016. Hazardous waste was generated onsite and transferred off-site to a hazardous waste facility following an on-site diesel spill. Air emissions analysis completed in October 2016 on Flare #1, Flare #2, Engine #1 and Engine #4 only. Flare #3 is an open flare established in Nov 2016 and cannot be tested. Engine #2 and 3 were replaced during 2016 with Engines 1 and 4 and were not in operation at time of emissions test. Methane calculations from F #3, Engine #2 & 3 are estimat
Web Address	

2. PRTR CLASS ACTIVITIES

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

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

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

4. WASTE IMPORTED/ACCEPTED ONTO SITE

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities)?	Yes
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[Guidance on waste imported/accepted onto site](#)

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

4.1 RELEASES TO AIR

[Link to previous years emissions data](#)

| PRTR#: W0146 | Facility Name : Knockharley Landfill | Filename : PRTR W0146_2016.xls | Return Year : 2016 |

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SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR				Please enter all quantities in this section in KGs								QUANTITY		
No. Annex II	POLLUTANT Name	M/C/E	METHOD		Flare 1	Flare 2	Engine 1	Engine 4	Flare 3	Engine 2	Engine 3	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	Emission Point 4	Emission Point 5	Emission Point 6	Emission Point 7			
02	Carbon monoxide (CO)	M	EN 15058:2004	HICR by Horiba PG-250	5,5476	10,7082	2807,86	9558,006	0,0	0,0	0,0	12382,1218	0,0	0,0
08	Nitrogen oxides (NOx/NO2)	M	EN 14792:2005	Chemiluminescence	26,2963	189,5072	451,88	2886,658	0,0	0,0	0,0	3554,3415	0,0	0,0
11	Sulphur oxides (SOx/SO2)	M	OTH	NDIR Adsorption	2286,07	18859,84	2344,68	7282,76	0,0	0,0	0,0	30773,35	0,0	0,0
01	Methane (CH4)	E	OTH	Calculation	129609,0	686263,0	554714,0	1768507,0	17864,0	112978,0	719541,0	3989476,0	0,0	0,0
07	Non-methane volatile organic compounds (NMVOC)	M	ALT	FID	1,8958	13,7902	0,0	0,0	0,0	0,0	0,0	15,686	0,0	0,0

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

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO AIR				Please enter all quantities in this section in KGs				QUANTITY			
No. Annex II	POLLUTANT Name	M/C/E	METHOD		Flare 1	Flare 2	Engine 1	Engine 4	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	Emission Point 4			
80	Chlorine and inorganic compounds (as HCl)	M	ALT	Ion Chromatography	0,6953	4,9392	2,44	9,5614	17,6359	0,0	0,0
84	Fluorine and inorganic compounds (as HF)	M	ALT	Ion Chromatography	2,075	10,86624	8,95	28,68	50,57124	0,0	0,0

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

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

RELEASES TO AIR				Please enter all quantities in this section in KGs			QUANTITY		
Pollutant No.	POLLUTANT Name	M/C/E	METHOD		Engine 1	Engine 4	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description	Emission Point 1	Emission Point 2			
224	TA Luft carcinogenic substances Class 1	M	ALT	Thermal Desorption	1,46	4,74	6,2	0,0	0,0
244	Total Particulates	M	ALT	Gravimetric	3,9057	12,45	16,3557	0,0	0,0

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

Additional Data Requested from Landfill operators

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

Landfill: Please enter summary data on the quantities of methane flared and / or utilised	Knockharley Landfill				Facility Total Capacity m3 per hour
	T (Total) kg/Year	M/C/E	Method Used		
			Method Code	Designation or Description	
Total estimated methane generation (as per site model)	5222897,0	E	PER	Gassim 2.5	N/A
Methane flared	815872,0	M	PER	Measured at Flares	5500,0 (Total Flaring Capacity)
Methane utilised in engine/s	3173604,0	M	PER	Measured at Engines	3200,0 (Total Utilising Capacity)
Net methane emission (as reported in Section A above)	3989476,0	C	PER	As Measured	N/A

4.2 RELEASES TO WATERS

[Link to previous years emissions data](#)

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SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as t

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

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

SECTION B : REMAINING PRTR POLLUTANTS

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

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

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

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

4.3 RELEASES TO WASTEWATER OR SEWER

[Link to previous years emissions data](#)

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SECTION A : PRTR POLLUTANTS

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

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

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

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

4.4 RELEASES TO LAND

[Link to previous years emissions data](#)

| PRTR# : W0146 | Facility Name : Knockharley Landfill | Filename : PRTR W0146_2016.xls | Return Year : 2016 |

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SECTION A : PRTR POLLUTANTS

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

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

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

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

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

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Please enter all quantities on this sheet in Tonnes

3

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility	Haz Waste : Address of Next Destination Facility	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used		Non-	Non Haz Waste: Address of Recover/Disposer		
Within the Country	19 07 03	No	24949.5	landfill leachate other than those mentioned in 19 07 02	D9	M	Weighed	Offsite in Ireland	Rilta Environmental Ltd. Hazardous Waste Treatment Facility,W0192-03	Block 402,Grant's Drive,Greenogue Business Park,Rathcoole Co Dublin,Ireland		
Within the Country	17 05 03	Yes	8.78	soil and stones containing dangerous substances	R5	M	Weighed	Offsite in Ireland	Rilta Environmental Ltd. Hazardous Waste Treatment Facility,W0192-03	Block 402,Grant's Drive,Greenogue Business Park,Rathcoole Co Dublin,Ireland	Rilta Environmental Ltd,W01920-03,Block 402,Grants Drive,Greenogue Business Park,Rathcoole Co. Dublin,Ireland	Block 402,Grants Drive,Greenogue Business Park,Rathcoole Co. Dublin,Ireland
Within the Country	19 07 03	No	369.02	landfill leachate other than those mentioned in 19 07 02	D8	M	Weighed	Offsite in Ireland	Ringsend Wastewater Treatment Plant,.	Ringsend,Dublin,..,4,Ireland		