Facility Information Summary	
AER Reporting Year	2017
Licence Register Number	W0049-02
Name of site	Clonbullogue Ash Repository
Site Location	Cloncreen Clonbullogue Co Offaly
NACE Code	3821
Class/Classes of Activity	3.1
National Grid Reference (6E, 6 N)	259444, 225189

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.	The facility is licensed to accept 70,000 tonnes per annum of bottom and fly ash generated from the combustion of Peat/Biomass/MBM at Edenderry Power Ltd. In the reporting year a total of 32,745 tonnes of ash was delivered and placed in the site. This was made up of 2,443 tonnes of bottom ash and 30,302 tonnes of fly ash. There were no complaints of an environmental nature during the reporting period. There were no non compliances in 2017 either. All site monitoring and laboratory analysis results were fully compliant. Cell 5 was fully lined in accordance with an agreed SEW during the reporting period. Also permission was received to final cap Cell 4, 38% of which was completed in the reporting period with the remainder to be completed in 2018. The leachate management works were ongoing during the reporting period as cell development progressed. Cell 6 development was commenced, works to date included clearing the footprint and survey setting out works. The ecological survey carried out in February 2017 is attached, with nothing new to report as capping on cell 4 is still ongoing with no vegitation having colonised the area to date.

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.

E. Mullull	8-3-18
Signature Group/Facility manager (or nominated, suitably qualified and experienced deputy)	Date

AIR-summary template	Lic No:	WL49-02	Year	2017

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	No	Fugitive Dust Monitoring. Results entered in Table A2 as instructed by the Agency

Periodic/Non-Continuous Monitoring

2	Are there any results in breach of licence requirements? If yes please provide brief details in the comment section of TableA1 below	No	All dust monitoring results within permitted ELV's
3	Was all monitoring carried out in accordance with EPA guidance note AG2 and using the basic air monitoring checklist? Basic air monitoring checklist AGN2	Yes	

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

Emission reference no:	Parameter/ Substance	Frequency of Monitoring	ELV in licence or any revision 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
	SELECT			SELECT		SELECT	SELECT	SELECT		

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

Continuous Monitoring

4	Does your site carry out continuous air emissions monitoring?	No	
	If yes please review your continuous monitoring data and report the required fields below 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	No	
6	Do you have a proactive service agreement for each piece of continuous monitoring equipment?	No	
7	Did your site experience any abatement system bypasses? If yes please detail them in table A3 below	No	

AIR-summary template Lic No: WL49-02 Year 2017

Table A2: Summary of average emissions -continuous monitoring

Emission reference no:	Parameter/ Substance	ELV in licence or any revision therof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission	Annual maximum	Monitoring Equipment downtime (hours)	Number of ELV exceedences in current reporting year	Comments
DM-01	Total Particulates	350 mg/m2/day	140	Daily average < ELV	mg/m2/day	734	285	0	0	Dust monitioring took place on 5 occasions for 28 days each time between April and September.
DM-02	Total Particulates	350 mg/m2/day	140	Daily average < ELV	mg/m2/day	839	285	0	0	
DM-03	Total Particulates	350 mg/m2/day	140	Daily average < ELV	mg/m2/day	807	315	0	0	
DM-04	Total Particulates	350 mg/m2/day	140	Daily average < ELV	mg/m2/day	581	160	0	0	
	SELECT				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

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

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

Solvent use and management on site

8 Do you have a total Emission Limit Value of direct and fugitive emissions on site? if yes please fill out tables A4 and A5 — No

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

Solvent regulations — Please refer to linked solvent regulations to complete table 5 and 6

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

Table A5: Solvent Mass Balance summary

	(I) Inputs (kg)	(O) Outputs (kg)						
Solvent	(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 e.g. incineration(kg)	Total emission of Solvent to air (kg)
							Total	

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: WL49-02 Year 2017

			Additional information
1	Does your site have licensed emissions direct to surface water or direct to sewer? If yes please complete table W2 and W3 below for the current reporting year and answer further questions. If **you do not have** licenced emissions you only need to complete table W1 and or W2 for storm water analysis and visual inspections	Yes	All monitoring results are attached seperately as advised by the EPA
2	Was it a requirement of your licence to carry out visual inspections on any surface water discharges or watercourses on or near your site? If yes please complete table W2 below summarising only any evidence of contamination noted during visual inspections	Yes	All monitoring results are attached seperately as advised by the EPA

Table W1 Storm water monitoring

Location reference	Location relative to site activities	PRTR Parameter	Licenced Parameter	Monitoring date	ELV or trigger level in licence or any revision thereof*	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Comments
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	

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

Table W2 Visual inspections-Please only enter details where contamination was observed.

Location Reference	Date of inspection	Description of contamination	Source of contamination	Corrective action	Comments
			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	Emission limit value exceeded at L2
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	

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

Emission reference no:	Emission released to	Parameter/ SubstanceNote 1	Type of sample	Frequency of monitoring	Averaging period	ELV or trigger values in licence or any revision therof 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

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

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: WL49-02 Year 2017

Continuous monitoring

			Additional Information
5	Does your site carry out continuous emissions to water/sewer monitoring?	No	

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**	NA	
7	Do you have a proactive service contract for each piece of continuous monitoring equipment on site?	NA	
8	Did abatement system bypass occur during the reporting year? **If yes please complete table W5 below**	NA	

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
	SELECT	SELECT		SELECT	SELECT	SELECT					
	SELECT	SELECT		SELECT	SELECT	SELECT					

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

Table W5: Abatement system bypass reporting table

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

*Measures taken or proposed to reduce or limit bypass frequency

Bund/Pipeline testing template | Lic No: WL49-02 | Year 2017

Bund testing

dropdown menu click to see options

			Additional information
1	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)	Yes	
2	Please provide integrity testing frequency period	2 Yearly	
3	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)	Yes	
4	How many bunds are on site?	0	
5	How many of these bunds have been tested within the required test schedule?	NA	
6	How many mobile bunds are on site?	1	Lock up container with capacity for eight 200litre barrels, purchased in 2017.
7	Are the mobile bunds included in the bund test schedule?	No	
8	How many of these mobile bunds have been tested within the required test schedule?	NA	
9	How many sumps on site are included in the integrity test schedule?	NA	
10	How many of these sumps are integrity tested within the test schedule?	NA	
	Please list any sump integrity failures in table B1		
11	Do all sumps and chambers have high level liquid alarms?	No	
12	If yes to Q11 are these failsafe systems included in a maintenance and testing programme?	NA	
13	Is the Fire Water Retention Pond included in your integrity test programme?	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)
	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

			Commentary
15	Has integrity testing been carried out in accordance with licence requirements and are all structures tested in line with BS8007/EPA Guidance?	bunding and storage guidelines	SELECT
16	Are channels/transfer systems to remote containment systems tested?		SELECT
17	Are channels/transfer systems compliant in both integrity and available volume?		SELECT

Pipeline/underground structure testing

1	Are you required by your licence to undertake integrity testing* on underground structures e.g. pipelines or sumps etc ? if yes please fill out table 2 below listing all underground structures and pipelines on site **which failed the integrity test and all which have not been tested withing the integrity test period as specified**	SELECT	
2	Please provide integrity testing frequency period	SELECT	

*please note integrity testing means water tightness testing for process and foul 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)
	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:	WL49-02	Year	2017

			Comments	
1	Are you required to carry out groundwater monitoring as part of your licence requirements?	yes	Monitoring results are attached seperately as advised by the EPA	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
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)	no		
6	Have actions been taken to address contamination issues?If yes please summarise remediation strategies proposed/undertaken for the site	NA		
7	Please specify the proposed time frame for the remediation strategy	NA		
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?	SELECT		
11	Have potential receptors been identified on and off site?	yes		
12	Is there evidence that contamination is migrating offsite?	no		Please enter interpretation of data here

Groundwater/Soil monitoring template Lic No: WL49-02 Year 2017

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
							SELECT			SELECT
							SELECT			SELECT

.+ 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)

Surface water EQS | Groundwater regulations GTV's | 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

Environmental Liabilities template	Lic No:	WL49-02	Year	2017

Click here to access EPA guidance on Environmental Liabilities and Financial provision

			Commentary
1	ELRA initial agreement status	Submitted and agreed by EPA	Due for renewal in March 2018
2	ELRA review status	Review required and completed	
3	Amount of Financial Provision cover required as determined by the latest ELRA		
4	Financial Provision for ELRA status		
5	Financial Provision for ELRA - amount of cover		
6	Financial Provision for ELRA - type		
7	Financial provision for ELRA expiry date		
8	Closure plan initial agreement status	Closure plan submitted and not agreed by EPA	EPA requested further information which is currently being addressed.
9	Closure plan review status		
10	Financial Provision for Closure status		
11	Financial Provision for Closure - amount of cover		
12	Financial Provision for Closure - type		
13	Financial provision for Closure expiry date	2034	

Environmental Management Programme/Continuous Improvement Programme template		Lic No:	WL49-02	Year	2017
Highlighted cells contain dropdown menu click to view			Additional Information		
1	Do you maintain an Environmental Mangement System (EMS) for the site. If yes, please detail in additional information	Yes			
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	Unacreddited internal EMS		

Environmental Management Programme (EMP) report

Objective Category	Target	Status (% completed)	How target was progressed	Responsibility	Intermediate outcomes
Additional improvements	Conduct all operations on site in accordance with the schedules and conditions of the waste licence and also in conjunction with the restoration and aftercare programme	80	All site operations were carried out in compliance with licence conditions. There were no non-compliance in the reporting period.	Individual	Increased compliance with licence conditions
Materials Handling/Storage/Bunding	Future cell development	100	Cell 5 was fully lined in the reporting period in accordance with agreed specifications. A new bunded oil store was purchased in 2017.	Section Head	Installation of infrastructure
Reduction of emissions to Water	Improved capping system	85	Cell 4 was partially capped in accordance with the Agencys requirements. The remainder to be completed in 2018.	Section Head	Reduced emissions
Additional improvements	Leachate Management Plan	95	The improved Leachate management plan operated successfully during 2017.	Individual	Increased compliance with licence conditions
Materials Handling/Storage/Bunding	Alternative Ash/Leachate use	70	The viability of alternative uses for both ash and leachate is ongoing.	Section Head	Improved Environmental Management Practices

Noise monitoring summary report	Lic No:	WL49-02	Year	2017

1	Was noise monitoring a licence requirement for the AER period? If yes please fill in table N1 noise summary below	No
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)	NA
3	Does your site have a noise reduction plan	NA
4	When was the noise reduction plan last updated?	Enter date
5	Have there been changes relevant to site noise emissions (e.g. plant or operational changes) since the last noise survey?	No

Table N1: Noise monitoring summary

Date of monitoring	Time period	Noise location (on site)	Noise sensitive location -NSL (if applicable)	LA_{eq}	LA_{90}	LA_{10}	LA_{max}	Tonal or Impulsive noise* (Y/N)	If tonal /impulsive noise was identified was 5dB penalty applied?	Comments (ex. main noise sources on site, & extraneous noise ex. road traffic)	Is site compliant with noise limits (day/evening/night)?
								SELECT	SELECT		SELECT

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

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

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

Resource Usage/Energy efficiency summary	Lic No:	WL49-02	Year	2017

			Additional information
1	When did the site carry out the most recent energy efficiency audit? Please list the recommendations in table 3 below	Oct-17	
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	Yes	The site attained accrediation to the energy standard 50001
3	Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in additional information	NA	

SEAI - Large Industry Energy Network (LIEN)

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)	1770.98	2127.38		
Total Energy Generated (MWHrs)				
Total Renewable Energy Generated (MWHrs)				
Electricity Consumption (MWHrs)	2	4		
Fossil Fuels Consumption:				
Heavy Fuel Oil (m3)				
Light Fuel Oil (m3)	174.096	195.546		
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^3yr):	Volume used i.e not discharged to environment e.g. released as steam m3/yr	Unaccounted for Water:
Groundwater							
Surface water							
Public supply							
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

Resource Usage/Energy efficiency summary	Lic No:	WL49-02	Year	2017

Table R3 Waste Stream Summary

	Total	Landfill	Incineration	Recycled	Other
Hazardous (Tonnes)	0	0	0	0	0
Non-Hazardous (Tonnes)	3.47	3.47	0	0	0

Table R4: Energy Audit finding recommendations

Date of audit	Recommendations	Description of Measures proposed	Origin of measures	Predicted energy savings %	Implementation date	Responsibility	Completion date	Status and comments
			SELECT					
			SELECT					
			SELECT					

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

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

Complaints and Incidents summary template

Lic No: WL49-02 Year 2017

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	No	No complaints received at the site since 2009.

Table 1 Complaints summary

Date	Category	Other type (please specify)	Brief description of complaint (Free txt <20 words)	Corrective action< 20 words	Resolution status	Resolution date	Further information
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		

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

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	No incidents occured at the site.

*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 reoccurence

Total number of incidents current year	0
Total number of incidents previous year	0
% reduction/ increase	0

WASTE SUMMARY	Lic No:	WL49-02	Year	2017
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

			Additional Information
1	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)	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	No	
3	Was waste accepted onto your site that was generated outside the Republic of Ireland? If yes please state the quantity in tonnes in additional information	No	

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)

Licenced annual tonnage limit for your site (total tonnes/annum)	EWC code European Waste Catalogue EWC codes	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 -
70,000	10 01 03	10- WASTES FROM THERMAL PROCESSES	Fly Ash from Peat and Untreated Wood.	30,302	23,624	22%	More tonnes of peat/biomass used at Power Station	NA	D5- Specially engineered landfill	465,994	Total tonnes deposited since 2000. Fly & Bottom ash
70,000	10 01 01	10- WASTES FROM THERMAL PROCESSES	Bottom Ash	2,443	2,460	-1%	More tonnes of biomass used at Power Station	NA	D5- Specially engineered landfill		

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	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
Fly &Bottom Ash	70,000	32,745	650,347	Tonnes

WASTE SUMMARY Lic No: WL49-02 Year 2017

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
										ha	ha	SELECT UNIT	
Clonbullogue Ash Repository	Nov-00	Ongoing	Yes	Private	Inert		No	No	No	11.23	11.23	NA	HDPE & GCL

Table 4 Environmental monitoring-landfill only

Landfill Manual-Monitoring Standards

Was meterological 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	NA	Yes	Yes	Yes	Yes	No	The waste is not subject to a landfill levy

.+ 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
ha	SELECT UNIT					
3.87	0	NA	10.43	1.48	Capped as per licence condition 10.3. 80/20 Peat/Subsoil	Agreed lining system on cell 4

*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?	No
10	Is leachate released to surface water? If yes please complete leachate mass load information below	Yes

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
23839.2	N/A	1172.48	7.87	N/A	23839200 litres	Dilution with surface water	Further dilution with East/West Outfall

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
N/A			SELECT	

Ecological Survey Report – Cloncreen Ash Site			
Bog Name:	**Cloncreen**	**Area (ha):**	
Works Name:	Derrygreenagh	**County:**	Offaly
Recorder(s):	B'OL	**Survey Date(s):**	15th February 2017
Photos:	Photos taken – see L:\AI_Data\Boora\Ecology Team\Photos\Cloncreen		

Introduction

The main objective of this survey was to carry out a walkover survey of Cells 1, 2 & 3 at the Cloncreen Ash Site to determine the extent of vegetation cover and habitat development following capping works undertaken at Cell 3 and the removal and replacing of the capping system at Cells 1 & 2 during 2015 & 2016 respectively. This ecological survey forms part of the EPA requirement for reporting on the site.

Results

Cell 1 and Cell 2 were initially capped prior to 2015 and a grass seed mixture was applied. However, the capping system was removed in 2015 and subsequently replaced with a more effective capping system in line with current best practice and industry standards. Cell 3 was initially capped in 2015 and works were completed in 2016. Vegetation is now well established in all three cells (Figures 1-3).

The cells have been managed to allow for the natural colonisation of grasses and broadleaved herbs. There has been no application of seed mixture since capping and recapping works were undertaken in 2015-2016. The current habitat present in all three cells conforms to the Fossitt (2000) habitat category "Dry meadows and grassy verges (GS2)". The site is unmanaged in its current state and is dominated by grasses including Creeping Bent (*Agrostis stolonifera*) and Yorkshire Fog (*Holcus lanatus*). Other grasses comprised Reed Canary Grass (*Phalaris arundinacea*), False oat-grass (*Arrhenatherum elatius*), Rye-grass (*Lolium* sp.) and Cock's Foot (*Dactylis glomerata*). The site also supports stands of Willowherb (*Epilobium* sp.), Broadleaved Dock (*Rumex obtusifolius*), Spear Thistle (*Cirsium vulgare*) and Creeping Thistle (*Cirsium arvense*) scattered throughout and along peripheral margins. Other species recorded typically comprised waste ground colonisers and broadleaved herbs such as Long-leaved Plantain (*Plantago major*), Scented Mayweed (*Matricaria chamomilla*), Red Clover (*Trifolium pratense*), Black Medick (*Medicago lupulina*), Weld (*Reseda luteola*), Creeping Buttercup (*Ranunculus repens*) Creeping cinquefoil (*Potentilla reptans*), Meadow Vetchling (*Lathyrus pratensis*), Nettle (*Urtica* Sp.), Cleavers (*Galium aparine*) and the moss, Pointed Spear-moss (*Calliergonella cuspidata*).

In addition, scrub species such as Common Gorse (*Ulex europaeus*), Willow sp. (*Salix* sp.) and Bracken (*Pteridium aquilinum*) have established along the southern embankment of Cell 3 and along the eastern boundary of Cell 1. Willow (*Salix* sp.) saplings and Bramble (*Rubus fruticosus* agg.) have started to establish within areas of rank grassland dominated by Creeping Bent in Cell 1.

The vegetation onsite forms a dense rank sward of creeping grasses and broadleaved herbs. An absence of management practices such as grazing and mowing has resulted in the rapid establishment of plant species and allowed for root systems to develop thereby binding soil particles together to give the site stability.

There was some bird life on the site with Meadow Pipit, Rook and Songthrush (aural registrations recorded from nearby scrub) recorded during the walkover survey. The open grassland would be expected to provide suitable breeding habitat for ground-nesting birds such as Meadow Pipit in the spring and summer months thereby enhancing the overall ecological value of the site to avifauna groups.

With the establishment of scrub species, the site is expected to offer potential suitable foraging habitat for resident mammals in the vicinity of the site. Evidence and signs of non-volant mammals (i.e. badger, fox, etc.) have previously been recorded along the peripheral margins of Cloncreen Bog.

The vegetation cover on all three cells is now well established and the site has since stabilised. The grassland habitat is likely to continue to mature into the future and scrub such as Gorse, Birch and Willow can be expected to spread slowly within the cell compartments over time.

Continued regular monitoring of vegetation cover on the site is not now required as the ground cover of both cells is assessed as being stable. It is recommended that monitoring now take place at a 5-yearly interval.

Figure 1: Cell 1 has developed to support the Fossitt (2000) habitat category “dry meadows and grassy verges (GS2)”. Scrub species such as Bramble and Willow saplings have started to encroach on areas of rank grassland.

Figure 2: Cell 2 supports the habitat “dry meadows and grassy verges (GS2)”. The site is characterised by an absence of management practices thereby allowing rapid plant growth and establishment of root systems to give the site stability.

Figure 3: View of Cell 3 (south-facing) since capping works were undertaken in 2015-2016. The Cell supports a diverse mix of grasses and broadleaved herbs and conforms to the Fossitt (2000) habitat category “dry meadows and grassy verges (GS2)”.

Cloncreen Ash Repository					
Monitoring Results					
Monitoring Location: SW4					
Parameter	**Date**	**13/03/2017**	**02/06/2017**	**15/09/2017**	**17/11/2017**
Ammonia mg/l	**Quarterly**	0.29	1.9	0.08	0.13
COD (mg/l)	**Quarterly**	47	59	53	59
pH (pH units)	**Quarterly**	7.8	8.1	7.9	7.4
Total Suspended Solids (mg/l)	**Quarterly**	6	14	5	5

Cloncreen Ash Repository					
Monitoring Results					
Monitoring Location: SW5					
Parameter	**Date**	**13/03/2017**	**02/06/2017**	**07/09/2017**	**21/11/2017**
Ammonia mg/l	**Quarterly**	0.12	2.4	0.03	0.2
COD (mg/l)	**Quarterly**	59	60	66	56
pH (pH units)	**Quarterly**	7.9	7.9	7.8	7.7
Total Suspended Solids (mg/l)	**Quarterly**	13	5	10	7

Cloncreen Ash Repository					
Monitoring Results					
Monitoring Location: SW6					
Parameter	**Date**	**13/03/2017**	**02/06/2017**	**07/09/2017**	**21/11/2017**
Ammonia mg/l	**Quarterly**	0.1	2.8	0.02	0.23
COD (mg/l)	**Quarterly**	64	56	68	53
pH (pH units)	**Quarterly**	7.8	7.8	7.8	7.6
Total Suspended Solids (mg/l)	**Quarterly**	5	6	8	9

Cloncreen Ash Repository					
Monitoring Results					
Monitoring Location: SW7					
Parameter	**Date**	**13/03/2017**	**02/06/2017**	**07/09/2017**	**21/11/2017**
Ammonia mg/l	**Quarterly**	0.15	0.64	0.04	0.12
COD (mg/l)	**Quarterly**	60	60	65	60
pH (pH units)	**Quarterly**	7.9	7.9	7.8	7.6
Suspended Solids (mg/l)	**Quarterly**	5	5	9	17

Cloncreen Ash Repository					
Monitoring Results					
Monitoring Location: SW8					
Parameter	**Date**	**13/03/2017**	**02/06/2017**	**15/09/2017**	**17/11/2017**
Ammonia mg/l	**Quarterly**	0.29	0.25	0.08	0.11
COD (mg/l)	**Quarterly**	52	61	43	54
pH (pH units)	**Quarterly**	7.7	7.9	7.8	7.3
Suspended Solids (mg/l)	**Quarterly**	9	13	5	5

Cloncreen Ash Repository

Monitoring Results

Monitoring Location: SWR1

Parameter	Date	13/03/2017	02/06/2017	15/09/2017	17/11/2017
Ammonia mg/l	Quarterly	1	0.86	0.02	0.12
COD (mg/l)	Quarterly	61	44	37	60
pH (pH units)	Quarterly	7.5	7.9	7.6	7.1
Suspended Solids (mg/l)	Quarterly	13	5	6	7

CLONCREEN ASH REPOSITORY				
MONITORING RESULTS				
Monitoring Location: LC1A				
Parameter	**Date**	**15/03/2017**	**25/05/2017**	**13/09/2017**
COD (mg/l)	Bi-Annually	271		202
Amonical nitrogen (mg/l NH4-N)	Bi-Annually	5.3		9.8
Temperature (0C)	Bi-Annually	13.3		12
Electrical Conductivity (µS/cm)	Bi-Annually	11770		10890
pH (pH units)	Bi-Annually	12.9		12.49
Total oxidised nitrogen (mg/l)	Annually		0.2	
Boron	Annually		135	
Arsenic (µg/l)	Annually		58.1	
Silver (µg/l)	Annually		2	
Aluminium (µg/l)	Annually		50	
Berylium (µg/l)	Annually		1	
Barium (µg/l)	Annually		1070	
calcium (mg/l)	Annually		390	
chromium (µg/l)	Annually		3	
Cadmium (µg/l)	Annually		0.5	
Cobalt (µg/l)	Annually		2.4	
Copper (µg/l)	Annually		12.9	
Iron (mg/l)	Annually		0.024	
Potassium (mg/l)	Annually		656	
Magnesium (mg/l)	Annually		0.05	
Manganese (µg/l)	Annually		0.5	
Sodium (mg/l)	Annually		650	
Nickel (µg/l)	Annually		80	
Lead (µg/l)	Annually		0.5	
Antimony (µg/l)	Annually		4	
Selenium (µg/l)	Annually		215	
Tin (µg/l)	Annually		3	
Zinc (µg/l)	Annually		4.49	
Phosphorus (mg/l)	Annually		0.05	
Flouride (mg/l)	Annually		0.1	
PO4-P (mg/l)	Annually		0.01	
VOC's USEPA 524.2 (µg/l)	Annually		All <1*	
SVOC'S (µg/l)	Annually		All <1**	
Comb Pesticide suite (µg/l)	Annually		All <0.02	
VOC's by GC-FID	Annually		All<0.05***	
pH	Annually		12.3	

*Dichloromethene = <3
**Phenol = 29.9
** Bis(2-ethylhexyl)phthalate = <2
**4-Methylphenol = 2.12
***Methanol = 6.7
***Ethanol = 1.4

Cloncreen Ash Repository				
Monitoring Results				
Monitoring Location: LC2A				
Parameter	**Date**	**15/03/2017**	**25/05/2017**	**13/09/2017**
COD (mg/l)	Bi-Annually	88		88
Amonical nitrogen (mg/l NH4)	Bi-Annually	1.8		3.1
Temperature (0C)	Bi-Annually	13.2		12.9
Electrical Conductivity (µS/cm)	Bi-Annually	18200		19840
pH (pH units)	Bi-Annually	13.04		12.69
Total oxidised nitrogen (mg/l)	Annually		0.2	
Boron	Annually		135	
Arsenic (µg/l)	Annually		87.1	
Silver (µg/l)	Annually		2	
Aluminium (µg/l)	Annually		50	
Berylium (µg/l)	Annually		1	
Barium (µg/l)	Annually		402	
calcium (mg/l)	Annually		285	
chromium (µg/l)	Annually		3	
Cadmium (µg/l)	Annually		0.5	
Cobalt (µg/l)	Annually		0.846	
Copper (µg/l)	Annually		11.7	
Iron (mg/l)	Annually		0.233	
Potassium (mg/l)	Annually		1380	
Magnesium (mg/l)	Annually		0.05	
Manganese (µg/l)	Annually		0.5	
Sodium (mg/l)	Annually		1400	
Nickel (µg/l)	Annually		20.3	
Lead (µg/l)	Annually		4.87	
Antimony (µg/l)	Annually		4	
Selenium (µg/l)	Annually		330	
Tin (µg/l)	Annually		3	
Zinc (µg/l)	Annually		13.4	
Phosphorus (mg/l)	Annually		0.05	
Flouride (mg/l)	Annually		0.1	
PO4-P (mg/l)	Annually		0.01	
VOC's USEPA 524.2 (µg/l)	Annually		All <1*	
SVOC'S (µg/l)	Annually		All <1**	
Comb Pesticide suite (µg/l)	Annually		All <0.02	
VOC's by GC-FID	Annually		All<0.05***	
pH	Annually		12.55	

*Dichloromethane = <3
** Bis(2-ethylhexyl)phthalate = <2
*** Methanol = 1.3

Cloncreen Ash Repository				
Monitoring Results				
Monitoring Location: LC3A				
Parameter	**Date**	**15/03/2017**	**25/05/2017**	**13/09/2017**
COD (mg/l)	Bi-Annually	67		98
Amonical nitrogen (mg/l NH4)	Bi-Annually	1.2		3.1
Temperature (0C)	Bi-Annually	14.5		13.1
Electrical Conductivity (µS/cm)	Bi-Annually	16910		21150
pH (pH units)	Bi-Annually	13.06		12.73
Total oxidised nitrogen (mg/l)	Annually		0.2	
Boron	Annually		135	
Arsenic (µg/l)	Annually		91.9	
Silver (µg/l)	Annually		2	
Aluminium (µg/l)	Annually		50	
Berylium (µg/l)	Annually		1	
Barium (µg/l)	Annually		265	
calcium (mg/l)	Annually		296	
chromium (µg/l)	Annually		3	
Cadmium (µg/l)	Annually		0.5	
Cobalt (µg/l)	Annually		0.5	
Copper (µg/l)	Annually		4	
Iron (mg/l)	Annually		0.024	
Potassium (mg/l)	Annually		1730	
Magnesium (mg/l)	Annually		0.05	
Manganese (µg/l)	Annually		0.616	
Sodium (mg/l)	Annually		1060	
Nickel (µg/l)	Annually		14.1	
Lead (µg/l)	Annually		0.736	
Antimony (µg/l)	Annually		4	
Selenium (µg/l)	Annually		367	
Tin (µg/l)	Annually		3	
Zinc (µg/l)	Annually		74.2	
Phosphorus (mg/l)	Annually		0.05	
Flouride (mg/l)	Annually		0.1	
PO4-P (mg/l)	Annually		0.01	
VOC's USEPA 524.2 (µg/l)	Annually		All <1*	
SVOC'S (µg/l)	Annually		All <1**	
Comb Pesticide suite (µg/l)	Annually		All <0.02	
VOC's by GC-FID	Annually		All<0.05***	
pH	Annually		12.55	

*Dichloromethane = <3
** Bis(2-ethylhexyl)phthalate = <2
*** Methanol = 2.3

Cloncreen Ash Repository				
Monitoring Results				
Monitoring Location: LC3B				
Parameter	**Date**	**15/03/2017**	**25/05/2017**	**13/09/2017**
COD (mg/l)	Bi-Annually	59		133
Amonical nitrogen (mg/l NH4)	Bi-Annually	0.87		2.4
Temperature (0C)	Bi-Annually	11.8		10.3
Electrical Conductivity (µS/cm)	Bi-Annually	21450		35500
pH (pH units)	Bi-Annually	13.15		12.77
Total oxidised nitrogen (mg/l)	Annually		0.2	
Boron	Annually		135	
Arsenic (µg/l)	Annually		86.1	
Silver (µg/l)	Annually		2	
Aluminium (µg/l)	Annually		80.1	
Berylium (µg/l)	Annually		1	
Barium (µg/l)	Annually		381	
calcium (mg/l)	Annually		366	
chromium (µg/l)	Annually		3	
Cadmium (µg/l)	Annually		0.5	
Cobalt (µg/l)	Annually		0.795	
Copper (µg/l)	Annually		7.07	
Iron (mg/l)	Annually		0.692	
Potassium (mg/l)	Annually		1730	
Magnesium (mg/l)	Annually		0.104	
Manganese (µg/l)	Annually		14	
Sodium (mg/l)	Annually		1460	
Nickel (µg/l)	Annually		17.5	
Lead (µg/l)	Annually		3.58	
Antimony (µg/l)	Annually		4	
Selenium (µg/l)	Annually		335	
Tin (µg/l)	Annually		3	
Zinc (µg/l)	Annually		100	
Phosphorus (mg/l)	Annually		0.05	
Flouride (mg/l)	Annually		0.1	
PO4-P (mg/l)	Annually		0.01	
VOC's USEPA 524.2 (µg/l)	Annually		All <1*	
SVOC'S (µg/l)	Annually		All <1**	
Comb Pesticide suite (µg/l)	Annually		All <0.02	
VOC's by GC-FID	Annually		All<0.05***	
pH	Annually		12.55	

*Dichloromethane = <3
** Bis(2-ethylhexyl)phthalate = <2
*** Methanol = 1.4

Cloncreen Ash Repository				
Monitoring Results				
Monitoring Location: LC4A				
Parameter	**Date**	**15/03/2017**	**25/05/2017**	**13/09/2017**
COD (mg/l)	Bi-Annually	29		18
Amonical nitrogen (mg/l NH4)	Bi-Annually	0.08		0.07
Temperature (0C)	Bi-Annually	11.8		12.5
Electrical Conductivity (µS/cm)	Bi-Annually	5280		3120
pH (pH units)	Bi-Annually	11.27		10
Total oxidised nitrogen (mg/l)	Annually		0.2	
Arsenic (µg/l)	Annually		40.9	
Silver (µg/l)	Annually		2	
Aluminium (µg/l)	Annually		1120	
Berylium (µg/l)	Annually		1	
Barium (µg/l)	Annually		11.6	
calcium (mg/l)	Annually		3.63	
chromium (µg/l)	Annually		4.74	
Cadmium (µg/l)	Annually		0.5	
Cobalt (µg/l)	Annually		0.5	
Copper (µg/l)	Annually		4	
Iron (mg/l)	Annually		0.0481	
Potassium (mg/l)	Annually		1210	
Magnesium (mg/l)	Annually		0.835	
Manganese (µg/l)	Annually		1.12	
Sodium (mg/l)	Annually		176	
Nickel (µg/l)	Annually		2.33	
Lead (µg/l)	Annually		0.5	
Antimony (µg/l)	Annually		4	
Selenium (µg/l)	Annually		127	
Tin (µg/l)	Annually		3	
Zinc (µg/l)	Annually		40.6	
Phosphorus (mg/l)	Annually		0.44	
Flouride (mg/l)	Annually		0.1	
PO4-P (mg/l)	Annually		0.35	
VOC's USEPA 524.2 (µg/l)	Annually		All <1*	
SVOC'S (µg/l)	Annually		All <1**	
Comb Pesticide suite (µg/l)	Annually		All <0.02	
VOC's by GC-FID	Annually		All<0.05	
pH	Annually		10.12	

*Dichloromethane = <3

** Bis(2-ethylhexyl)phthalate = <2

Cloncreen Ash Repository				
Monitoring Results				
Monitoring Location: L1				
Parameter	**Date**	**20/03/2017**	**25/05/2017**	**13/09/2017**
COD (mg/l)	Bi-Annually	63		10
Amonical nitrogen (mg/l NH4)	Bi-Annually	0.45		0.13
Temperature (0C)	Bi-Annually	11.9		12
Electrical Conductivity (µS/cm)	Bi-Annually	594		524.5
pH (pH units)	Bi-Annually	9		9.9
Total oxidised nitrogen (mg/l)	Annually		0.65	
Arsenic (µg/l)	Annually		6.47	
Silver (µg/l)	Annually		2	
Aluminium (µg/l)	Annually		50	
Berylium (µg/l)	Annually		1	
Barium (µg/l)	Annually		34.2	
calcium (mg/l)	Annually		35.1	
chromium (µg/l)	Annually		3	
Cadmium (µg/l)	Annually		0.5	
Cobalt (µg/l)	Annually		0.5	
Copper (µg/l)	Annually		4	
Iron (mg/l)	Annually		0.024	
Potassium (mg/l)	Annually		46	
Magnesium (mg/l)	Annually		4.55	
Manganese (µg/l)	Annually		16.1	
Sodium (mg/l)	Annually		53.8	
Nickel (µg/l)	Annually		8.84	
Lead (µg/l)	Annually		0.5	
Antimony (µg/l)	Annually		4	
Selenium (µg/l)	Annually		16.8	
Tin (µg/l)	Annually		3	
Phosphorus (mg/l)	Annually		0.17	
Flouride (mg/l)	Annually		0.1	
PO4-P (mg/l)	Annually		0.01	
VOC's USEPA 524.2 (µg/l)	Annually		All <1*	
SVOC'S (µg/l)	Annually		All <1**	
Comb Pesticide suite (µg/l)	Annually		All <0.02	
VOC's by GC-FID	Annually		All<0.05	

*Dichloromethane = <3
** Bis(2-ethylhexyl)phthalate = <2

Cloncreen Ash Repository						
Monitoring Results						
Monitoring Location: L2						
Parameter	**Date**	**13/03/2017**	**02/06/2017**	**25/05/2017**	**15/09/2017**	**17/11/2017**
COD (mg/l)	Quarterly	44	59		48	51
Dissolved oxygen (%)	Quarterly	16	22.5		23.2	21.6
Dissolved oxygen (mg/l)	Quarterly	11.4	2.1		2.65	2.94
Electrical Conductivity (µS/cm)	Quarterly	509	449		531	523
Ammoniacal Nitrogen (mg/l NH4)	Quarterly	0.23	0.36		0.1	0.19
pH (pH units)	Quarterly	9.7	9.3		9	8.6
Total Suspended Solids (mg/l)	Quarterly	11	13		11	6
Sulphate	Annually			34		
Total Phosphorous	Annually			1		
Boron	Annually			135		
Arsenic (µg/l)	Annually			5.97		
Silver (µg/l)	Annually			2		
Aluminium (µg/l)	Annually			50		
Berylium (µg/l)	Annually			1		
Barium (µg/l)	Annually			33.5		
calcium (mg/l)	Annually			33.7		
chromium (µg/l)	Annually			3		
Cadmium (µg/l)	Annually			0.5		
Cobalt (µg/l)	Annually			0.5		
Copper (µg/l)	Annually			4		
Iron (mg/l)	Annually			0.0255		
Potassium (mg/l)	Annually			44.5		
Magnesium (mg/l)	Annually			4.43		
Manganese (µg/l)	Annually			16.8		
Sodium (mg/l)	Annually			51.8		
Nickel (µg/l)	Annually			8.51		
Lead (µg/l)	Annually			0.5		
Antimony (µg/l)	Annually			4		
Selenium (µg/l)	Annually			15.8		
Tin (µg/l)	Annually			3		
Zinc (µg/l)	Annually			3		
Mercury (µg/l)	Annually			0.02		
PO4-P (mg/l)	Annually			0.01		
VOC's USEPA 524.2 (µg/l)	Annually			All <1*		
SVOC'S (µg/l)	Annually			All <1**		
Comb Pesticide suite (µg/l)	Annually			All < 0.02		
VOC's by GC-FID	Annually			All <0.50		

*Dichloromethane = < 3

**Bis(2-ethylhexyl)phthalate = < 2

Cloncreen Ash Repository													
Monitoring Results													
Monitoring Location: MW02													
Parameter	**Date**	**25/01/2017**	**08/02/2017**	**15/03/2017**	**20/04/2017**	**29/05/2017**	**22/06/2017**	**24/07/2017**	**10/08/2017**	**07/09/2017**	**25/10/2017**	**09/11/2017**	**01/12/2017**
Visual/Odour	Monthly	Slightly milky, no odour	Clear no odour	Clear no odour	Clear no odour	Clear no odour	Clear no odour	Clear no odour	Clear no odour	Clear no odour	Clear no odour	Clear no odour	Clear no odour
Groundwater level (m AOD)	Monthly	68.502	68.602	68.552	68.352	68.302	68.152	68.002	67.652	67.602	68.602	68.502	68.552
pH (pH units)	Monthly	7.3	7.4	7.6	7.4	7.4	7.3	7.4	7.1	7.2	7.2	7.3	7.3
Electrical Conductivity (µS/cm)	Monthly	850	782	775	779	768.5	740	816	812	769	765	789	814
Total Ammonia mg/l	Monthly	6.1	6	6	6	5.9	5.7	6	6.2	6.1	6.2	6.2	6.1
Sulphate(SO4) mg/l	Monthly	5.5	6.5	7.6	4	4.8	2.5	2	2	2.1	5.1	4.8	6.6
Arsenic (µg/l)	Annually					6.27							
Boron (µg/l)	Annually					5							
Silver (µg/l)	Annually					2							
Aluminium (µg/l)	Annually					2							
Berylium (µg/l)	Annually					2							
Barium (µg/l)	Annually					1200							
calcium (mg/l)	Annually					123							
chromium (µg/l)	Annually					2							
Cadmium (µg/l)	Annually					2							
Cobalt (µg/l)	Annually					4.44							
Copper (µg/l)	Annually					2							
Iron (mg/l)	Annually					0.36							
Potassium (mg/l)	Annually					2.77							
Magnesium (mg/l)	Annually					23.2							
Manganese (µg/l)	Annually					265							
Sodium (mg/l)	Annually					10.8							
Nickel (µg/l)	Annually					15							
Lead (µg/l)	Annually					2							
Antimony (µg/l)	Annually					2							
Selenium (µg/l)	Annually					2							
Tin (µg/l)	Annually					2							
Zinc (µg/l)	Annually					3.25							
Mercury (µg/l)	Annually					1							
Flouride (mg/l)	Annually					0.21							
PO4-P (mg/l)	Annually					0.01							
VOC's USEPA 524.2 (µg/l)	Annually					All <1*							
SVOC'S (µg/l)	Annually					All <1**							
Comb Pesticide suite (µg/l)	Annually					All <0.01							
VOC's by GC-FID	Annually					All<0.05							

*Except Dichloromethane = <3
*m.p-Xylene = 17.8
*1,2,4-Trimethylbenzene = 8.83
*Ethyl Benzene = 3.4
*o-Xylene = 6.03
*1,3,5-Trimethylbenzene = 2.48
**Except Bis(2-ethylhexyl)phthalate <2

Cloncreen Ash Repository
Monitoring Results
Monitoring Location: MW03

Parameter	Date	25/01/2017	08/02/2017	15/03/2017	20/04/2017	29/05/2017	22/06/2017	24/07/2017	10/08/2017	07/09/2017	25/10/2017	09/11/2017	01/12/2017
Visual/Odour	Monthly	Bore well Dry	Bore well Dry	Bore well Dry	Bore well Dry	Bore well Dry	Milky, no odour	Milky, no odour	Milky, no odour	Milky, no odour	Milky brown, no odour	Milky yellow, no odour	Milky yellow, no odour
Groundwater level (m AOD)	Monthly						67.08	66.93	66.88	66.98	67.33	67.13	67.13
pH (pH units)	Monthly						6.7	7.5	7	7	7.3	7.1	7
Electrical Conductivity (µS/cm)	Monthly						801	828	890	879	864	897	895
Total Ammonia mg/l	Monthly						6	7.8	8.2	5.1	6	8.7	8.4
Sulphate(SO4) mg/l	Monthly						173	145	189	196	189	182	191
Arsenic (µg/l)	Annually										2.18		
Boron (µg/l)	Annually										36.1		
Silver (µg/l)	Annually										0.5		
Aluminium (µg/l)	Annually										20.6		
Berylium (µg/l)	Annually										0.1		
Barium (µg/l)	Annually										349		
calcium (mg/l)	Annually										177		
chromium (µg/l)	Annually										1.16		
Cadmium (µg/l)	Annually										0.442		
Cobalt (µg/l)	Annually										3.19		
Copper (µg/l)	Annually										12.8		
Iron (mg/l)	Annually										0.462		
Potassium (mg/l)	Annually										2.28		
Magnesium (mg/l)	Annually										19.1		
Manganese (µg/l)	Annually										680		
Sodium (mg/l)	Annually										7.77		
Nickel (µg/l)	Annually										24.4		
Lead (µg/l)	Annually										3.38		
Antimony (µg/l)	Annually										0.444		
Selenium (µg/l)	Annually										0.629		
Tin (µg/l)	Annually										0.36		
Zinc (µg/l)	Annually										10.7		
Mercury (µg/l)	Annually										0.01		
Flouride (mg/l)	Annually										0.18		
PO4-P (mg/l)	Annually										0.01		
VOC's USEPA 524.2 (µg/l)	Annually										All <1*		
SVOC'S (µg/l)	Annually										All <1**		
Comb Pesticide suite (µg/l)	Annually										All <0.01***		
VOC's by GC-FID	Annually										All<0.05		

*Except Dichloromethane <3
**Except Bis(2-ethylhexyl)phthalate <2
***Except Azinphos Methyl <0.03

Cloncreen Ash Repository													
Monitoring Results													
Monitoring Location: MW04													
Parameter	**Date**	**25/01/2017**	**08/02/2017**	**15/03/2017**	**20/04/2017**	**29/05/2017**	**22/06/2017**	**24/07/2017**	**10/08/2017**	**07/09/2017**	**25/10/2017**	**09/11/2017**	**01/12/2017**
Visual/Odour	Monthly	Bore well Dry	Bore well Dry	Bore well Dry	Bore well Dry	Bore well Dry	Bore well Dry	Bore well Dry	Bore well Dry	Bore well Dry	Bore well Dry	Bore well Dry	Bore well Dry
Groundwater level (m AOD)	Monthly												
pH (pH units)	Monthly												
Electrical Conductivity (µS/cm)	Monthly												
Total Ammonia mg/l	Monthly												
Sulphate(SO4) mg/l	Monthly												
Boron (µg/l)	Annually												
Arsenic (µg/l)	Annually												
Silver (µg/l)	Annually												
Aluminium (µg/l)	Annually												
Berylium (µg/l)	Annually												
Barium (µg/l)	Annually												
calcium (mg/l)	Annually												
chromium (µg/l)	Annually												
Cadmium (µg/l)	Annually												
Cobalt (µg/l)	Annually												
Copper (µg/l)	Annually												
Iron (mg/l)	Annually												
Potassium (mg/l)	Annually												
Magnesium (mg/l)	Annually												
Manganese (µg/l)	Annually												
Sodium (mg/l)	Annually												
Nickel (µg/l)	Annually												
Lead (µg/l)	Annually												
Antimony (µg/l)	Annually												
Selenium (µg/l)	Annually												
Tin (µg/l)	Annually												
Zinc (µg/l)	Annually												
Mercury (µg/l)	Annually												
Flouride (mg/l)	Annually												
PO4-P (mg/l)	Annually												
VOC's USEPA 524.2 (µg/l)	Annually												
SVOC'S (µg/l)	Annually												
Comb Pesticide suite (µg/l)	Annually												

Cloncreen Ash Repository													
Monitoring Results													
Monitoring Location: MW05													
Parameter	**Date**	**25/01/2017**	**08/02/2017**	**15/03/2017**	**20/04/2017**	**29/05/2017**	**22/06/2017**	**24/07/2017**	**10/08/2017**	**07/09/2017**	**25/10/2017**	**09/11/2017**	**01/12/2017**
Visual/Odour	Monthly	milky with peat odour	milky with peat odour	milky with peat odour	milky with peat odour	milky with peat odour	milky with peat odour	milky with peat odour	milky with peat odour	milky with peat odour	milky with peat odour	milky with peat odour	milky with peat odour
Groundwater level (m AOD)	Monthly	66.384	66.484	66.434	66.384	66.384	66.234	66.334	66.184	66.384	66.534	66.434	66.434
pH (pH units)	Monthly	7.1	7.2	7.4	7.2	7.3	7.2	7.5	7.1	7.2	7.2	7.2	7.2
Electrical Conductivity (µS/cm)	Monthly	659	604	597	589	560	540	605	572	527.5	556	576	597
Total Ammonia mg/l	Monthly	5.4	5.5	5.6	5.5	5.3	5	5.4	5.5	4.9	5.6	5.6	5.5
Sulphate(SO4) mg/l	Monthly	0.5	0.5	0.5	0.5	0.5	0.5	2	0.54	0.5	0.5	0.5	0.5
Arsenic (µg/l)	Annually					3.25							
Boron (µg/l)	Annually					11.5							
Silver (µg/l)	Annually					2							
Aluminium (µg/l)	Annually					5.79							
Berylium (µg/l)	Annually					2							
Barium (µg/l)	Annually					61							
calcium (mg/l)	Annually					94.3							
chromium (µg/l)	Annually					3.49							
Cadmium (µg/l)	Annually					2							
Cobalt (µg/l)	Annually					2							
Copper (µg/l)	Annually					2							
Iron (mg/l)	Annually					0.36							
Potassium (mg/l)	Annually					1.04							
Magnesium (mg/l)	Annually					6.75							
Manganese (µg/l)	Annually					264							
Sodium (mg/l)	Annually					10.5							
Nickel (µg/l)	Annually					4.07							
Lead (µg/l)	Annually					4.12							
Antimony (µg/l)	Annually					2							
Selenium (µg/l)	Annually					2							
Tin (µg/l)	Annually					2							
Zinc (µg/l)	Annually					1.83							
Mercury (µg/l)	Annually					1							
Flouride (mg/l)	Annually					0.1							
PO4-P (mg/l)	Annually					0.01							
VOC's USEPA 524.2 (µg/l)	Annually					All <1*							
SVOC'S (µg/l)	Annually					All <1**							
Comb Pesticide suite (µg/l)	Annually					All <0.01							
VOC's by GC-FID	Annually					All<0.05							

*Except Dichloromethane <3
*Toluene = 5.91
*m.p-Xylene = 12
*n-propylbenzene = 1.37
*1,2,4-Trimethylbenzene = 10.7
*Ethyl Benzene = 2.62
*o-Xylene = 4.26
*1,3,5-Trimethylbenzene = 2.58
**Except Bis(2-ethylhexyl)phthalate <2

Cloncreen Ash Repository
Monitoring Results
Monitoring Location: MW06

Parameter	Date	25/01/2017	08/02/2017	15/03/2017	20/04/2017	29/05/2017	22/06/2017	24/07/2017	10/08/2017	07/09/2017	25/10/2017	09/11/2017	01/12/2017
Visual/Odour	Monthly	Slightly yellow, no odour	Slightly yellow, no odour	Slightly yellow, no odour	Slightly yellow, no odour	Slightly yellow, no odour	Slightly yellow, no odour	Slightly yellow, no odour	Slightly yellow, no odour	Slightly yellow, no odour	Clear no odour	Clear no odour	Slightly yellow, no odour
Groundwater level (m AOD)	Monthly	68.213	68.263	68.363	68.163	68.013	68.013	67.963	67.863	68.013	68.313	68.213	68.313
pH (pH units)	Monthly	6.8	6.8	7.1	6.9	7	6.7	7.1	6.7	6.6	6.6	6.8	7
Electrical Conductivity (µS/cm)	Monthly	939	776	795	839	827	729	839	833	798	744	851	774
Total Ammonia mg/l	Monthly	7.9	6.1	6.2	7.8	4.3	5	8.3	9.3	4.7	7.3	8.3	6.8
Sulphate(SO4) mg/l	Monthly	12	28	11	3.7	0.5	9.1	2	0.5	0.5	14	4.2	7.9
Arsenic (µg/l)	Annually					9.44							
Boron (µg/l)	Annually					5							
Silver (µg/l)	Annually					2							
Aluminium (µg/l)	Annually					3.88							
Berylium (µg/l)	Annually					2							
Barium (µg/l)	Annually					176							
calcium (mg/l)	Annually					144							
chromium (µg/l)	Annually					2							
Cadmium (µg/l)	Annually					2							
Cobalt (µg/l)	Annually					3.52							
Copper (µg/l)	Annually					2							
Iron (mg/l)	Annually					0.36							
Potassium (mg/l)	Annually					1.03							
Magnesium (mg/l)	Annually					4.75							
Manganese (µg/l)	Annually					476							
Sodium (mg/l)	Annually					12.4							
Nickel (µg/l)	Annually					17.1							
Lead (µg/l)	Annually					2							
Antimony (µg/l)	Annually					2							
Selenium (µg/l)	Annually					2							
Tin (µg/l)	Annually					2							
Zinc (µg/l)	Annually					6.76							
Mercury (µg/l)	Annually					1							
Flouride (mg/l)	Annually					0.1							
PO4-P (mg/l)	Annually					0.44							
VOC's USEPA 524.2 (µg/l)	Annually					All <1*							
SVOC'S (µg/l)	Annually					All <1**							
Comb Pesticide suite (µg/l)	Annually					All <0.02							
VOC's by GC-FID	Annually					All<0.05							

*Except Dichloromethane <3
*Toluene = 1.36
*m,p-Xylene = 1.96
*1,2,4-Trimethylbenzene = 1.25
**Except Bis(2-ethylhexyl)phthalate <2

Cloncreen Ash Repository
Monitoring Results
Monitoring Location: MW07

Parameter	Date	25/01/2017	08/02/2017	15/03/2017	20/04/2017	29/05/2017	22/06/2017	24/07/2017	10/08/2017	07/09/2017	25/10/2017	09/11/2017	01/12/2017
Visual/Odour	Monthly	Clear, no odour	Slightly yellow, no odour	Clear, no odour	Slightly yellow, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear no odour	Clear no odour	Clear no odour
Groundwater level (m AOD)	Monthly	67.316	67.066	67.166	67.016	66.816	67.016	66.816	66.616	66.616	67.216	67.366	67.566
pH (pH units)	Monthly	6.9	6.9	7.1	7	7	6.8	7.4	6.8	7	6.7	6.8	7
Electrical Conductivity (µS/cm)	Monthly	1161	955	1049	898	962	993	1110	1111	992	1124	1165	1143
Total Ammonia mg/l	Monthly	3.1	2.4	2.6	2.2	2.6	2.3	3.5	3.4	2.9	3.5	3.8	3.5
Sulphate(SO4) mg/l	Monthly	1	2.5	3	4.7	3.2	2.4	2	0.5	0.5	0.5	0.5	1.2
Arsenic (µg/l)	Annually					3.61							
Boron (µg/l)	Annually					5							
Silver (µg/l)	Annually					2							
Aluminium (µg/l)	Annually					23.5							
Berylium (µg/l)	Annually					2							
Barium (µg/l)	Annually					232							
calcium (mg/l)	Annually					148							
chromium (µg/l)	Annually					2.18							
Cadmium (µg/l)	Annually					2							
Cobalt (µg/l)	Annually					2							
Copper (µg/l)	Annually					2							
Iron (mg/l)	Annually					0.36							
Potassium (mg/l)	Annually					32.7							
Magnesium (mg/l)	Annually					9							
Manganese (µg/l)	Annually					529							
Sodium (mg/l)	Annually					44.3							
Nickel (µg/l)	Annually					2							
Lead (µg/l)	Annually					2							
Antimony (µg/l)	Annually					2							
Selenium (µg/l)	Annually					2							
Tin (µg/l)	Annually					2							
Zinc (µg/l)	Annually					3.44							
Mercury (µg/l)	Annually					1							
Flouride (mg/l)	Annually					0.1							
PO4-P (mg/l)	Annually					0.16							
VOC's USEPA 524.2 (µg/l)	Annually					All <1*							
SVOC'S (µg/l)	Annually					All <1**							
Comb Pesticide suite (µg/l)	Annually					All <0.01							
VOC's by GC-FID	Annually					All<0.05							

*Except Dichloromethane <3
**Except Bis(2-ethylhexyl)phthalate <2

Cloncreen Ash Repository													
Monitoring Results													
Monitoring Location: MW08													
Parameter	**Date**	**25/01/2017**	**08/02/2017**	**15/03/2017**	**20/04/2017**	**29/05/2017**	**22/06/2017**	**24/07/2017**	**10/08/2017**	**07/09/2017**	**25/10/2017**	**09/11/2017**	**01/12/2017**
Visual/Odour	Monthly	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour
Groundwater level (m AOD)	Monthly	68.062	68.412	68.562	68.012	67.662	67.762	67.362	67.212	67.312	68.162	67.912	68.612
pH (pH units)	Monthly	6.9	6.9	7.1	7	7	6.8	7.2	6.8	7.1	6.7	6.9	6.9
Electrical Conductivity (µS/cm)	Monthly	1002	929	963	955	928	898	950	915	808	901.5	943	993
Total Ammonia mg/l	Monthly	2.4	2	1.8	2.2	2.7	2.2	2.7	2.9	3.4	3.1	3.2	2.1
Sulphate(SO4) mg/l	Monthly	50	49	55	58	60	61	53	61	47	49	57	63
Arsenic (µg/l)	Annually					19.1							
Boron (µg/l)	Annually					6.31							
Silver (µg/l)	Annually					2							
Aluminium (µg/l)	Annually					2							
Berylium (µg/l)	Annually					2							
Barium (µg/l)	Annually					713							
calcium (mg/l)	Annually					196							
chromium (µg/l)	Annually					2							
Cadmium (µg/l)	Annually					2							
Cobalt (µg/l)	Annually					11							
Copper (µg/l)	Annually					2							
Iron (mg/l)	Annually					0.36							
Potassium (mg/l)	Annually					1							
Magnesium (mg/l)	Annually					6.38							
Manganese (µg/l)	Annually					725							
Sodium (mg/l)	Annually					7.43							
Nickel (µg/l)	Annually					60.1							
Lead (µg/l)	Annually					2							
Antimony (µg/l)	Annually					2							
Selenium (µg/l)	Annually					2							
Tin (µg/l)	Annually					2							
Zinc (µg/l)	Annually					10.3							
Mercury (µg/l)	Annually					1							
Flouride (mg/l)	Annually					0.1							
PO4-P (mg/l)	Annually					0.01							
VOC's USEPA 524.2 (µg/l)	Annually					All <1*							
SVOC'S (µg/l)	Annually					All <1**							
Comb Pesticide suite (µg/l)	Annually					All <0.02							
VOC's by GC-FID	Annually					All<0.05							

*Except Dichloromethane <3
**Except Bis(2-ethylhexyl)phthalate <2

Cloncreen Ash Repository													
Monitoring Results													
Monitoring Location: MW09													
Parameter	**Date**	**25/01/2017**	**08/02/2017**	**15/03/2017**	**20/04/2017**	**29/05/2017**	**22/06/2017**	**24/07/2017**	**10/08/2017**	**07/09/2017**	**25/10/2017**	**09/11/2017**	**01/12/2017**
Visual/Odour	Monthly	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour
Groundwater level (m AOD)	Monthly	67.218	67.518	67.518	67.118	66.668	67.068	66.618	66.418	66.818	67.568	67.268	67.618
pH (pH units)	Monthly	6.9	6.9	7.1	7	7	6.8	7.2	6.9	7.1	6.5	6.9	7
Electrical Conductivity (µS/cm)	Monthly	953	888	827	832	832	797	827	774	790	794	867.5	839
Total Ammonia mg/l	Monthly	2.4	2.2	2.4	2.3	2.3	2.2	2.5	2.6	2.2	2.4	2.4	2.4
Sulphate(SO4) mg/l	Monthly	9.9	9.5	7.4	8.6	8.6	8.7	6.1	4.4	7.8	8.6	9.1	6.4
Arsenic (µg/l)	Annually					46.9							
Boron (µg/l)	Annually					5							
Silver (µg/l)	Annually					2							
Aluminium (µg/l)	Annually					2							
Berylium (µg/l)	Annually					2							
Barium (µg/l)	Annually					506							
calcium (mg/l)	Annually					175							
chromium (µg/l)	Annually					2							
Cadmium (µg/l)	Annually					2							
Cobalt (µg/l)	Annually					7.31							
Copper (µg/l)	Annually					2							
Iron (mg/l)	Annually					0.36							
Potassium (mg/l)	Annually					1							
Magnesium (mg/l)	Annually					8.14							
Manganese (µg/l)	Annually					276							
Sodium (mg/l)	Annually					7.16							
Nickel (µg/l)	Annually					55.3							
Lead (µg/l)	Annually					2							
Antimony (µg/l)	Annually					2							
Selenium (µg/l)	Annually					2							
Tin (µg/l)	Annually					2							
Zinc (µg/l)	Annually					5.99							
Mercury (µg/l)	Annually					1							
Flouride (mg/l)	Annually					0.1							
PO4-P (mg/l)	Annually					0.05							
VOC's USEPA 524.2 (µg/l)	Annually					All <1*							
SVOC'S (µg/l)	Annually					All <1**							
Comb Pesticide suite (µg/l)	Annually					All <0.01							
VOC's by GC-FID	Annually					All<0.05							

*Except Dichloromethane <3
**Except Bis(2-ethylhexyl)phthalate <2

Cloncreen Ash Repository													
Monitoring Results													
Monitoring Location: MW10													
Parameter	**Date**	**25/01/2017**	**08/02/2017**	**15/03/2017**	**20/04/2017**	**29/05/2017**	**22/06/2017**	**24/07/2017**	**10/08/2017**	**07/09/2017**	**25/10/2017**	**09/11/2017**	**01/12/2017**
Visual/Odour	Monthly	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour
Groundwater level (m AOD)	Monthly	68.09	68.19	68.24	68.04	67.94	67.99	67.84	67.74	67.89	68.19	68.09	68.24
pH (pH units)	Monthly	6.9	7	7.2	7	7	7	7.1	6.9	7.1	6.7	7	7
Electrical Conductivity (µS/cm)	Monthly	879	829	790	794	772	747	779	791	739	765	794	805
Total Ammonia mg/l	Monthly	3.7	3.6	3.4	3.3	3.5	3.2	3.6	3.5	4.2	6.6	3.6	3.4
Sulphate(SO4) mg/l	Monthly	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5	0.5	0.5	0.5	0.5
Arsenic (µg/l)	Annually					57.6							
Boron (µg/l)	Annually					5							
Silver (µg/l)	Annually					2							
Aluminium (µg/l)	Annually					2.24							
Berylium (µg/l)	Annually					2							
Barium (µg/l)	Annually					547							
calcium (mg/l)	Annually					138							
chromium (µg/l)	Annually					2							
Cadmium (µg/l)	Annually					2							
Cobalt (µg/l)	Annually					12.5							
Copper (µg/l)	Annually					2							
Iron (mg/l)	Annually					0.36							
Potassium (mg/l)	Annually					1							
Magnesium (mg/l)	Annually					4.03							
Manganese (µg/l)	Annually					376							
Sodium (mg/l)	Annually					9.52							
Nickel (µg/l)	Annually					62.6							
Lead (µg/l)	Annually					2							
Antimony (µg/l)	Annually					2							
Selenium (µg/l)	Annually					2							
Tin (µg/l)	Annually					2							
Zinc (µg/l)	Annually					10.6							
Mercury (µg/l)	Annually					1							
Flouride (mg/l)	Annually					0.1							
PO4-P (mg/l)	Annually					0.19							
VOC's USEPA 524.2 (µg/l)	Annually					All <1*							
SVOC'S (µg/l)	Annually					All <1**							
Comb Pesticide suite (µg/l)	Annually					All <0.01							
VOC's by GC-FID	Annually					All<0.05							

*Except Dichloromethane <3
**Except Bis(2-ethylhexyl)phthalate <2

Cloncreen Ash Repository													
Monitoring Results													
Monitoring Location: MW11													
Parameter	**Date**	**25/01/2017**	**08/02/2017**	**15/03/2017**	**20/04/2017**	**29/05/2017**	**22/06/2017**	**24/07/2017**	**10/08/2017**	**07/09/2017**	**25/10/2017**	**09/11/2017**	**01/12/2017**
Visual/Odour	**Monthly**	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, no odour	Clear, slight gas odour	Clear, no odour	Clear, no odour
Groundwater level (m AOD)	**Monthly**	66.719	66.619	66.519	66.469	66.369	66.569	66.419	66.319	66.269	66.969	67.019	67.169
pH (pH units)	**Monthly**	6.9	6.9	7.1	7	7.1	6.8	7.2	7	7	6.6	6.9	6.9
Electrical Conductivity (µS/cm)	**Monthly**	1146	1030	968	995	943	977	1060	1047.5	867	1024	1053	1047.5
Total Ammonia mg/l	**Monthly**	2.8	2.8	3.1	2.6	3	2.2	2.6	2.5	2.8	2.7	2.7	2.8
sulphate(SO4) mg/l	**Monthly**	0.54	0.5	0.5	0.62	0.5	0.5	2	0.5	0.5	0.5	0.5	0.5
Arsenic (µg/l)	**Annually**					3.1							
Boron (µg/l)	**Annually**					5							
Silver (µg/l)	**Annually**					21.5							
Aluminium (µg/l)	**Annually**					2							
Berylium (µg/l)	**Annually**					2							
Barium (µg/l)	**Annually**					347							
calcium (mg/l)	**Annually**					140							
chromium (µg/l)	**Annually**					2							
Cadmium (µg/l)	**Annually**					2							
Cobalt (µg/l)	**Annually**					2							
Copper (µg/l)	**Annually**					2							
Iron (mg/l)	**Annually**					0.36							
Potassium (mg/l)	**Annually**					25.7							
Magnesium (mg/l)	**Annually**					9.82							
Manganese (µg/l)	**Annually**					601							
Sodium (mg/l)	**Annually**					21.5							
Nickel (µg/l)	**Annually**					6.42							
Lead (µg/l)	**Annually**					2							
Antimony (µg/l)	**Annually**					2							
Selenium (µg/l)	**Annually**					2							
Tin (µg/l)	**Annually**					2							
Zinc (µg/l)	**Annually**					2.2							
Mercury (µg/l)	**Annually**					1							
Flouride (mg/l)	**Annually**					0.1							
PO4-P (mg/l)	**Annually**					0.99							
VOC's USEPA 524.2 (µg/l)	**Annually**					All <1*							
SVOC'S (µg/l)	**Annually**					All <1**							
Comb Pesticide suite (µg/l)	**Annually**					All <0.01							
VOC's by GC-FID	**Annually**					All<0.05							

*Except Dichloromethane <3
**Except Bis(2-ethylhexyl)phthalate <2

Environmental Protection Agency

Guidance to completing the PRTR workbook

PRTR Returns Workbook

Version 1.1.19

REFERENCE YEAR	2017

1. FACILITY IDENTIFICATION

Parent Company Name	Bord na Mona Energy Limited
Facility Name	Clonbulloge Ash Repository
PRTR Identification Number	W0049
Licence Number	W0049-02

Classes of Activity

No.	class_name
-	Refer to PRTR class activities below

Address 1	Cloncreen Bog
Address 2	Clonbulloge
Address 3	
Address 4	
	Offaly
Country	Ireland
Coordinates of Location	-7.11013 53.274
River Basin District	IESE
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Enda McDonagh
AER Returns Contact Email Address	enda.mcdonagh@bnm.ie
AER Returns Contact Position	Head of Environment, Health & Safety
AER Returns Contact Telephone Number	0579345911
AER Returns Contact Mobile Phone Number	0862370816
AER Returns Contact Fax Number	0579345160
Production Volume	32745.0
Production Volume Units	Tonnes
Number of Installations	1
Number of Operating Hours in Year	3796
Number of Employees	4
User Feedback/Comments	Site energy consumption has increased due to the installation of additional pumps for the management of leachate. In addition gas oil consumption has increased due to capping and lining activities.
Web Address	www.bnm.ie

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5(d)	Landfills

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

Is it applicable?	No
Have you been granted an exemption ?	
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	

4. WASTE IMPORTED/ACCEPTED ONTO SITE Guidance on waste imported/accepted onto site

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

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# : W0049 | Facility Name : Clonbulloge Ash Repository | Filename : W0049_2017.xls | Return Year : 2017 | 28/02/2018 13:24

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
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 AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
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 AIR					Please enter all quantities in this section in KGs						
POLLUTANT		METHOD							QUANTITY		
			Method Used		DM01	DM02	DM03	DM04			
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	Emission Point 4	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
210	Dust	E	OTH	VDI 2199 Blatt 2/Part 2	0.0	0.0	0.0	0.0	0.082908	0.0	0.082908

* 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: Clonbulloge Ash Repository

Please enter summary data on the quantities of methane flared and / or utilised	**T (Total) kg/Year**	**M/C/E**	**Method Used**		**Facility Total Capacity m3 per hour**	
			Method Code	**Designation or Description**		
Total estimated methane generation (as per site model)	0.0				N/A	
Methane flared	0.0				0.0	(Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0	(Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0				N/A	

4.2 RELEASES TO WATERS

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

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

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
			Method Used					
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					QUANTITY			
			Method Used					
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					QUANTITY			
			Method Used					
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

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

4.3 RELEASES TO WASTEWATER OR SEWER

Link to previous years emissions data

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			
			Method Used					
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 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			
			Method Used					
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

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

4.4 RELEASES TO LAND

Link to previous years emissions data

SECTION A : PRTR POLLUTANTS

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

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

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

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

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

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

| PRTR# : W0049 | Facility Name : Clonbulloge Ash Repository | Filename : W0049_2017.xls | Return Year : 2017 | 28/02/2018 13:37

Please enter all quantities on this sheet in Tonnes

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Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	20 03 01	No	3.4755	mixed municipal waste	D5	C	Volume Calculation	Offsite in Ireland	AES Ltd Cappincur Tullamore Co Offaly,WCP-OY-08-601-01	Cappincur,Tullamore,Co Offaly,.,Ireland		

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

Link to previous years waste data
Link to previous years waste summary data & percentage change
Link to Waste Guidance