Facility information summary	7
AER Reporting Year	2013
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.

a new improved capping system on cell 1. The lining of cell 4 was also completed during 2013. placing of a complete new lining system. A proposal is currently with the Agency in relation to the placement of of fly ash. There were no complaints of an environmental nature during the reporting period. There were 4 non ash was delivered and placed in the site. This was made up of 10,400 tonnes of bottom ash and 26,205 tonnes combustion of Peat/Biomass/MBM at Edenderry Power Ltd. In the reporting year a total of 36,605 tonnes of was also improved during the reporting period, works included the raising of the floor formation level and the visit. In relation to site monitoring and laboratory analysis, all results were fully compliant. The leachate lagoor compliances, two in relation to leachate levels in the leachate sumps and two procedural following an Agency The facility is licensed to accept 70,000 tonnes per annum of bottom and fly ash generated from the

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

Group/Facility manager

Signature

(or nominated, suitably qualified and experienced deputy)

Date

	AIR-summary template	Lic No:	W0049-02	Year	2013
	Answer all questions and complete all tables where relevant				
				ional information	
				ing. Results entered in Table A2 as	
	Does your site have licensed air emissions? If yes please complete table A1 and A2 below for the current		instruc	cted by the Agency	
1	reporting year and answer further questions. If you do not have licenced emissions and do not complete a	1			
	solvent management plan (table A4 and A5) you do not need to complete the tables				
		No			
	Periodic/Non-Continuous Monitoring				
	. orionio, riori communuo monitorinig				
2	Are there any results in breach of licence requirements? If yes please provide brief details in the comment section of	F			
-	TableA1 below	No			
		110			
3	Basic air				
J	Was all monitoring carried out in accordance with EPA guidance monitoring	Vee			
	note AG2 and using the basic air monitoring checklist? <u>checklist</u> <u>AGN2</u>	Yes			

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

	Frequency of	any revision	Licence Compliance criteria					Annual mass	Comments - reason for change in % mass load from previous year if applicable
SELECT			SELECT		SELECT	SELECT	SELECT		
SELECT			SELECT		SELECT	SELECT	SELECT		
SELECT									
5	Parameter/ Substance	Parameter/ Substance Frequency of Monitoring SELECT SELECT	Parameter/ Substance Monitoring therof ELECT ELECT ELECT	Parameter/ Substance Frequency of Monitoring any revision therof Licence Compliance criteria SELECT SELECT SELECT SELECT SELECT SELECT	Parameter/ Substance Frequency of Monitoring any revision therof Licence Compliance criteria Measured value SELECT SELECT SELECT SELECT SELECT SELECT SELECT	Parameter/ Substance Frequency of Monitoring any revision therof Licence Compliance criteria Measured value measurement SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT	Parameter/ Substance Frequency of Monitoring any revision therof Licence Compliance criteria Measured value Unit of measurement licence limit SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT	Parameter/ Substance Frequency of Monitoring any revision therof Licence Compliance criteria Measured value Measured value Unit of measurement licence limit Method of analysis SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT	Parameter/ Substance Frequency of Monitoring ELV in licence or any revision therof Licence Compliance criteria Measured value Measurement licence limit Method of analysis load (kg) SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT SELECT

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

	AIR-summary template	Lic No:	W0049-02	Year	2013
	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 Table A2: Summary of average emissions -continuous monitoring	No			

Emission	Parameter/ Substance		Averaging Period	Compliance Criteria	Units of	Annual Emission	Annual maximum	Monitoring	Number of ELV	Comments
reference no:					measurement			Equipment	exceedences in	
								downtime (hours)	current	
		ELV in licence or							reporting year	
		any revision therof								
DM-01	Total Particulates	350 mg/m2/day	140	Daily average < ELV	mg/m2/day	14896	166	0	0	
DM-02	Total Particulates	350 mg/m2/day	140	Daily average < ELV	mg/m2/day	20496	247	0	0	
DM-03	Total Particulates	350 mg/m2/day	140	Daily average < ELV	mg/m2/day	8064	100	0	0	
DM-04	Total Particulates	350 mg/m2/day	140	Daily average < ELV	mg/m2/day	9016	83	0	0	
	SELECT				SELECT					

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

Table A3: Abatement system bypass reporting table

<u>B</u>	ypas:	s pro	toco

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

AIR-summar	y template				Lic No:	W0049-02		Year	2013
Solve	nt use and manageme	nt on site							
	-								
Do you have a to	tal Emission Limit Value of d	irect and fugitive emis	ssions on site? if ye	s please fill out tables A4 and A5					
Table A4: Sol	vent Management Pla	an Summary	Solvent	Please refer to linked solven	t regulations to	7	No		
	nission limit value	ourilliar y	regulations	complete table 5					
Reporting year	Total solvent input on	Total VOC	Total VOC		Compliance				
	site (kg)	emissions to Air from entire site	emissions as %of solvent input	Total Emission Limit Value					
		(direct and fugitive)	·	(ELV) in licence or any revision					
				therof					
					SELECT SELECT				
Table A		e summary			SELECT	ı			
				(0)	0				
	(I) Inputs (kg)			(0)	Outputs (kg)				
Solvent	(I) Inputs (kg)	Organic solvent emission in waste	Solvents lost in water (kg)		Fugitive Organic Solvent (kg)	Solvent released in other ways e.g.	Solvents destroyed onsite through	Total emission of Solvent to air (kg)	
					(-5/			(9)	
					ı		Total		

AER M	onitorin	ng returns sur	mmary template-WA	ATER/WASTEW/	ATER(SEWER)		Lic No:	W0049-02		Year	2013
Does y pleas further Was it a 2 dischar sun	our site h se comple questions W1 a requirer ges or wa mmarising	nave licensed er te table W2 ar s. If you do not and or W2 for ment of your lice atercourses on g only any evide	missions direct to surface d W3 below for the cur- have licenced emissions storm water analysis ar sence to carry out visual or near your site? If yes ence of contamination n	the water or direct to trent reporting year is you only need to nd visual inspection I inspections on any please complete to	o sewer? If yes r and answer complete table ons y surface water able W2 below	Yes	All monitoring result	Additional information s are attached seperately as advise s are attached seperately as advise	ed by the EPA	Teal	2013
Locat	tion	Location elative 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 v	*trigger values may be agreed by the Agency outside of licence conditions Table W2 Visual inspections-Please only enter details where con					nination was ob		I			
Locat Refer		Date of inspection		Description of cont	amination		Source of contamination SELECT	Corrective acti	on	Comm	ents
							SELECT				

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

3	Was there any result in breach of licence requirements? If y comment section of Table W3		ief details in the	No	Additional information
	Was all monitoring carried out in accordance with EPA				
	guidance and checklists for Quality of Aqueous Monitoring	External /Internal			
	Data Reported to the EPA? If no please detail what areas	Lab Quality	Assessment of		
4	require improvement in additional information box	checklist	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		Frequency of monitoring		ELV or trigger values in licence or any revision therof ^{Note 2}	Licence Compliance criteria	Measured value		Compliant with licence			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

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER)	I	ic No:	W0049-02	Year	2013	
Continuous monitoring			Additional Information	1		
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)	1					
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 released to						Monitoring	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	Reason for		When was this report
			emissions	bypass		submitted?
					EPA?	
					SELECT	

^{*}Measures taken or proposed to reduce or limit bypass frequency

													i
Bund/Pipeline testing template				Lic No:	W0049-02		Year	2013	}				
Bund testing	dropdown menu o	lick to see ontions				Additional information							
		·	CIII			Additional information	1						
Are you required by your licence to underta													
containment structures on site, in addition the table below, please include all bunds of				bullus must be listed in									
1	· · · · · · · · · · · · · · · · · ·	oblic bullus and chemstore inci	uucuj		Yes								
2 Please provide integrity testing frequency p					2 Yearly								
Does the site maintain a register of bunds,	underground pipelines (including stori	mwater and foul), Tanks, sump	s and containers? (container	s refers to "Chemstore"									
3 type units and mobile bunds)					Yes								
4 How many bunds are on site? 5 How many of these bunds have been teste	Columbia the required test cohedule?				NA	U	_						
5 flow many of these bunds have been teste	u within the required test scriedule:				IVA	This includes barrel trays located	-						
6 How many mobile bunds are on site?						3 within lock up container							
7 Are the mobile bunds included in the bund	test schedule?				No								
8 How many of these mobile bunds have bee		dule?			NA								
9 How many sumps on site are included in the					NA								
0 How many of these sumps are integrity tes					NA								
Please list any sump integrity failures in ta					N-		1						
1 Do all sumps and chambers have high level 2 If yes to Q11 are these failsafe systems incl		arammo?			No NA		_						
3 Is the Fire Water Retention Pond included i		yrannic:			SELECT		-						
o is the the water neteritori on a meladed	in your integrity test programme.				DELEGI		_						
Table B1: Summary de	tails of bund /containment structure ir	tegrity test											
													Results of
								Integrity reports					retest(if in
Bund/Containment								maintained on		Integrity test failure		Scheduled date	current
structure ID Type	Specify Other type	Product containment	Actual capacity	Capacity required*	Type of integrity test	Other test type	Test date	site?	Results of test	explanation <50 words	Corrective action taken	for retest	reporting yea
SELECT					SELECT			SELECT	SELECT		SELECT		
SELECT * Capacity required should comply with 25% or 110% conta	land and a state of the state o				SELECT	Commentary		SELECT	SELECT		SELECT		
Has integrity testing been carried out in acc		d are all structures tested in				Confinentary	1						
5 line with BS8007/EPA Guidance?	•		bunding and storage guidel	ines	SELECT								
6 Are channels/transfer systems to remote of					SELECT								
7 Are channels/transfer systems compliant in	n both integrity and available volume?				SELECT								
Pipeline/underground structure testir	na												
							1						
	ake integrity testing* on underground				051.507								
				eriod as specified	SELECT SELECT								
1 underground structures and pipelines on si		iii wilicii nave not been testeu											
1 underground structures and pipelines on si 2 Please provide integrity testing frequency p	period				SELECT								
underground structures and pipelines on si	period				SELECT		J						
underground structures and pipelines on si Please provide integrity testing frequency properties are note integrity testing means water.	period	pipelines (as required under yo			SELECT	1					_		
underground structures and pipelines on si Please provide integrity testing frequency properties are note integrity testing means water.	period tightness testing for process and foul	pipelines (as required under yo			SELECT						1		
underground structures and pipelines on si Please provide integrity testing frequency properties are note integrity testing means water.	period tightness testing for process and foul	pipelines (as required under yo			SELECT]		
underground structures and pipelines on si Please provide integrity testing frequency properties are note integrity testing means water.	period tightness testing for process and foul	pipelines (as required under yo			SELECT]		
underground structures and pipelines on si Please provide integrity testing frequency properties are note integrity testing means water.	period tightness testing for process and foul	pipelines (as required under yo	ur licence)		SELECT		Integrity test						
underground structures and pipelines on si Please provide integrity testing frequency properties are note integrity testing means water.	period tightness testing for process and foul	pipelines (as required under yo integrity test	ur licence) Type of secondary				Integrity test	Corrective action	Scheduled date	Results of retest(if in current			
underground structures and pipelines on si Please provide integrity testing frequency properties are note integrity testing means water.	period tightness testing for process and foul	pipelines (as required under yo	ur licence) Type of secondary	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)			
1 underground structures and pipellines on 3 2 Please provide integrity testing frequency * *please note integrity testing means water Table B2: Summary deta	period tightness testing for process and foul ils of pipelline/underground structures	pipelines (as required under you integrity test Does this structure have	ur licence) Type of secondary	Type integrity testing SELECT	Integrity reports	Results of test SELECT	failure explanation						
1 underground structures and pipelines on si 2 Please provide integrity testing frequency in please note integrity testing means water Table B2: Summary deta Structure ID Type system	period tlightness testing for process and foul ils of pipeline/underground structures Material of construction:	oipelines (as required under yo integrity test Does this structure have Secondary containment?	ur licence) Type of secondary containment		Integrity reports maintained on site?		failure explanation			reporting year)			
1 underground structures and pipelines on si 2 Please provide integrity testing frequency in please note integrity testing means water Table B2: Summary deta Structure ID Type system	period tlightness testing for process and foul ils of pipeline/underground structures Material of construction:	oipelines (as required under yo integrity test Does this structure have Secondary containment?	ur licence) Type of secondary containment		Integrity reports maintained on site?		failure explanation			reporting year)			
1 underground structures and pipelines on si 2 Please provide integrity testing frequency in please note integrity testing means water Table B2: Summary deta Structure ID Type system	period tlightness testing for process and foul ils of pipeline/underground structures Material of construction:	oipelines (as required under yo integrity test Does this structure have Secondary containment?	ur licence) Type of secondary containment		Integrity reports maintained on site?		failure explanation			reporting year)			
1 underground structures and pipelines on si 2 Please provide integrity testing frequency in please note integrity testing means water Table B2: Summary deta Structure ID Type system	period tlightness testing for process and foul ils of pipeline/underground structures Material of construction:	oipelines (as required under yo integrity test Does this structure have Secondary containment?	ur licence) Type of secondary containment		Integrity reports maintained on site?		failure explanation			reporting year)			
1 underground structures and pipelines on si 2 Please provide integrity testing frequency in please note integrity testing means water Table B2: Summary deta Structure ID Type system	period tlightness testing for process and foul ils of pipeline/underground structures Material of construction:	oipelines (as required under yo integrity test Does this structure have Secondary containment?	ur licence) Type of secondary containment		Integrity reports maintained on site?		failure explanation			reporting year)			
1 underground structures and pipelines on si 2 Please provide integrity testing frequency in please note integrity testing means water Table B2: Summary deta	period tightness testing for process and foul ils of pipeline/underground structures Material of construction: SELECT	oipelines (as required under yo integrity test Does this structure have Secondary containment?	Type of secondary containment	SELECT	Integrity reports maintained on site?		failure explanation			reporting year)			

Groundwater/Soil monitoring template	Lic No:	W0049-02	Year	2013
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Comments

		Comments	-
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
2 Are you required to carry out soil monitoring as part of your licence requirements?	no	seperatery as advised by the LFA	interpretation box below or if you require additional space please
Do you extract groundwater for use on site? If yes please specify use in comment section	no		include a groundwater/contaminated land monitoring results interpretaion as an additional section in this AER
Do monitoring results show that groundwater generic assessment criteria such as GTVs or IGVs are exceeded or is 4 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 monitoring licensee return AND answer questions 5-12 below.	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

Table 1: Upgradient Groundwater monitoring results

	- 3			J						
										Upward trend in
										pollutant
	Sample									concentration
Date of	location	Parameter/		Monitoring	Maximum	Average				over last 5 years
sampling	reference	Substance	Methodology	frequency	Concentration++	Concentration+	unit	GTV's*	SELECT**	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

Tubic 2.	Downgradic	iit Gibaliat	vater intoffito	ing results						
										Upward trend in yearly average pollutant
D. ((Sample	D								concentration over last 5 years
Date of	location	Parameter/		Monitoring	Maximum	Average				,
sampling	reference	Substance	Methodology	frequency	Concentration	Concentration	unit	GTV's*	SELECT**	of monitoring data
							SELECT			SELECT
							SELECT			SELECT

Ground	water/Soil monitoring template	Lic No:	W0049-02	Yea	ar	2013		
results for	note exceedance of generic assessment criteria (GAC) such as a Ground a substance indicates that further interpretation of monitoring results is onitoring Guideline Template Report at the link provided and submit sep	required. In ad	dition to completing the above table, p	lease complete the Groundwater	Groun	dwater monito	ring template	
	mation on the use of soil and groundwater standards/ generic assessme AC) and risk assessment tools is available in the EPA published guidance nk in G31)		Guidance on the Management of C	ontaminated Land and Groundwate	er at EPA Li	censed Sites (El	PA 2013).	
	ding on location of the site and proximity to other sensitive receptors alt site is close to surface water compare to Surface Water Environmental C to the Drinking \	Quality Standard	s (SWEQS), If the site is close to a drink	ing water supply compare results	Surface rater EQS		Drinking water (private supply) standards	Drinking water (public supply) standards

	Groundwater/Soil monitoring template	Lic No:	W0049-02	Year 2013
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T - L-1	I - 1	C - :1		
Tab	le 3:	201	resu	ITS

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

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

Interim Guideline Values (IGV)

Environmental Liabilities template	Lic No:	W0049-02	Year	2013
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Click here to access EPA quidance on Environmental Liabilities and Financial provision

			Commentary
1	ELRA initial agreement status	Submitted and agreed by EPA	A review of the ELRA took place in March 2014 to the new EPA Guidance and this will be submitted to the EPA in April 14 Review carried out March 2014
2	ELRA review status	Review required and completed	
3	Amount of Financial Provision cover required as determined by the latest ELRA	€81,988	
4	Financial Provision for ELRA status	Submitted and agreed by EPA	
5	Financial Provision for ELRA - amount of cover	€81,988	Provisional Figure
6	Financial Provision for ELRA - type	Other please specify	Company Guarantee
			There is no expiry date as it is reviewed and carried forward each financial year as dictated by the ELRA.
7	Financial provision for ELRA expiry date	Enter expiry date	,
8	Closure plan initial agreement status	Closure plan submitted and agreed by EPA	
9	Closure plan review status	Review required and completed	Review carried out March 2014 to be agreed in April
10	Financial Provision for Closure status	Submitted and agreed by EPA	
			Review carried out March 2014 to be agreed in April 14
11	Financial Provision for Closure - amount of cover	€503,820	-
12	Financial Provision for Closure - type	Other please specify	Company Guarantee
13	Financial provision for Closure expiry date	2034	

	Environmental Management Programme/Continuous Improvement Programme	template	Lic No:	W0049-02	Year	2013
	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	Unacı	reddited 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	70	All site operations were carried out in compliance with licence conditions. There were however 3 noncompliance, one in relation to sump levels and two procedural, following EPA visits.	Individual	Increased compliance with licence conditions
Materials Handling/Storage/Bunding	Future cell development	90	The placement of the lining system in cell 4 was completed. The leachate lagoon was reconstructed and newly lined.	Section Head	Installation of infrastructure
Reduction of emissions to Water	Improved capping system	30	Proposal submitted which calls for an improved lining system on cell 1. To be extended if accepted and successful.	Section Head	Reduced emissions
Additional improvements	Leachate Management Plan	50	An improved leachate mamagement plan was submitted and accepted. Currently at the contract stage.	Individual	Increased compliance with licence conditions

Environmental Management Prograi	mme/Continuous Impi	rovement Programme	template	Lic No:	W0049-02	Year	2013
ů ů	Alternative Ash/Leachate use		The viability of alternative uses for both ash and leachate is ongoing.	Section Head	Improved Environmental Management Practices		
SELECT		SELECT		SELECT	SELECT		

	N	oise monitor	ing summary	report			Lic No:	W0049-02	Year	2013	
		e requirement fo ise summary bel	or the AER period ow	1?				No]		
"Checklist for Does your site When was the	noise measuren e have a noise re e noise reduction	nent report" inclu duction plan n plan last update	A Guidance note uded in the guida ed? e emissions (e.g. survey?	ance note as	table 6?		Noise Guidance note NG4 the last noise	NA NA Enter date No			
Table N1: Noi	ise monitoring s	ummarv				1			_		
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 <u>site</u> compliant with noise limits (day/evening/night)?
								SELECT	SELECT		SELECT
*Please ensure that	t a tonal analysis has b	een carried out as per	guidance note NG4. The	ese records must	be maintained or	site for future ir	nspection		•		
									om the following options?	SELECT	

** please explain the reason for not taking action/resolution of noise issues?

Any additional comments? (less than 200 words)

2013

Resource Usage/Energy efficiency summary Lic No: W0049-02 Year

1 When did the site carry out the most recent energy efficiency audit? Please list the recommendations in table 3 below

SEAI - Large Industry Energy Network (LIEN)

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

as the SEAI programme linked to the right? If yes please list them in additional information Network (LIEN)
Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in

	where i der on is used in bollers on site is the sulphur compilant with licence conditions: I lease state pe
3	additional information

Table R1 Energy usag	e on site			
Energy Use	Previous year	Current year	compared to previous reporting	Energy Consumption +/- % vs overall site production*
Total Energy Used (MWHrs)	1499	1499	14	0
Total Energy Generated (MWHrs)				
Total Renewable Energy Generated (N	/IWHrs)			
Electricity Consumption (MWHrs)	1.3	1.3	14	0
Fossil Fuels Consumption:				
Heavy Fuel Oil (m3)				
Light Fuel Oil (m3)	147.47	147.47	14	0
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	e on site				Water Emissions	Water Consumption	
	Water extracted				Volume Discharged back to	Volume used i.e not discharged to environment e.g. released as steam	
Water use	Previous year m3/yr.	Current year m3/yr.	year**	production*	environment(m ³ yr):	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

I	Table R3 Waste Stream	Summary				
Ī		Total	Landfill	Incineration	Recycled	Other
ſ	Hazardous (Tonnes)	0	0	0	0	0
ſ	Non-Hazardous (Tonnes)	0.91	0.91	0	0	0

Resource	ource Usage/Energy efficiency summary				Lic No:	W0049-02		Year	2013
	Table R4: Energy Au	dit finding recommenda	tions						
	Date of audit		Description of Measures proposed	Origin of measures	Predicted energy savings %	Implementation date	Responsibility		Status and comments
				SELECT					
				SELECT					
				SELECT					

Table R5: Power Generation: Where p	oower is generated onsit	e (e.g. power generatio	n facilities/food and	drink industry)please	complete the following
	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:	W0049-02	Year	2013	
Complaints						<u>.</u>
		Additional inform	ation			
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					

Table	1 Complaints summary						
			Brief description of complaint (Free txt <20	Corrective action< 20			Further
Date	Category	Other type (please specify)	words)	words	Resolution status	Resolution date	information
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		
Total complaints open at start of reporting year Total new complaints received during reporting year Total complaints		0					
closed during reporting year Balance of complaints end of reporting year		0					

Incidents							
Additional information Additional information							
Have any incidents occurred on site in the current repo year in Tat		Yes					
*For information on how to report and what							
constitutes an incident	What is an incident						

year % reduction/ increase

ble 2 Incidents sum	mmary		1											
						Other	Activity in				Preventative			
ļ			Incident category*please			cause(please	progress at			Corrective action<20	action <20		Resolution	Likelihood of
ate of occurrence	Incident nature	Location of occurrence	refer to guidance	Receptor	Cause of incident	specify)	time of incident	Communication	Occurrence	words	words	Resolution status	date	reoccurence
14/02/2013	Breach of ELV	Sump LCIA	1. Minor	No Uncontrolled release	Adverse weather		Normal activities	EPA	Recurring	Recirculation of leacha	Proposal for th	Ongoing	May-14	Medium
17/02/2013	Procedural non-compliance	Documentation	1. Minor	No Uncontrolled release	Procedural oversign	ght	Normal activities	SELECT	New	Establish and populate	Ensure all licen	Complete	17/02/2013	Low
17/02/2013	Procedural non-compliance	Documentation	1. Minor	No Uncontrolled release	Procedural oversign	ght	Normal activities	SELECT	New	Report all incidents via	Ensure all incid	Complete	17/02/2013	Low
08/11/2013	Breach of ELV	Sump LCIA	1. Minor	No Uncontrolled release	Adverse weather		Normal activities	EPA	Recurring	Recirculation of leacha	Proposal for th	Ongoing	May-14	Low
1	SELECT	SELECT	SELECT	SELECT	SELECT		SELECT	SELECT	SELECT			SELECT		SELECT
otal number of														
cidents current														
ar	4													
otal number of														
cidents previous														
17/02/2013 17/02/2013 08/11/2013 otal number of cidents current ear	Procedural non-compliance Procedural non-compliance Breach of ELV	Documentation Documentation Sump LCIA	1. Minor 1. Minor 1. Minor	No Uncontrolled release No Uncontrolled release No Uncontrolled release	Procedural oversion Procedural oversion Adverse weather	ght ght	Normal activities Normal activities Normal activities	SELECT SELECT EPA	New New Recurring	Establish and populate Report all incidents via	Ensure all licen Ensure all incid Proposal for th	Complete Complete Ongoing	17/02/2013 17/02/2013 May-14	

WASTE SUMMARY					Lic No:	W0049-02		Year	2013	3		
SECTION A-PRTR O	N SITE WASTE TREATMENT AND	WASTE TRANSFERS TAB-	TO BE COMPLETED B	Y ALL IPPC AND WA	ASTE FACILITIES	PRTR facility logor	<u>n</u>	dropdown li	st click to see options			-
SECTION B- WASTE	ACCEPTED ONTO SITE-TO BE CO	MPLETED BY ALL IPPC AN	D WASTE FACILITIES]	Additional Information	on				
is to be captured through		or treatment prior to recovery or	disposal within the bounda	aries of your facility ?; (w	aste generated within your boundaries	Yes]				
If yes please enter detail	ls in table 1 below							1				
Did your site have any re	ejected consignments of waste in the curre	ent reporting year? If yes please g	ive a brief explanation in th	ne additional information	ı	No		-				
	waste accepted onto your site that was ger					No	Il have been rev	ported in your DD	ID workhook)			
Licenced annual tonnage limit for your site (total tonnes/annum)	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	100103	10- WASTES FROM THERMAL PROCESSES	Fly Ash from Peat and Untreated Wood.	26,205	27,229	4%	More tonnes of peat/biomass used at Power Station	NA	D5- Specially engineered landfill	407165	Total tonnes deposited since 2000. Fly & Bottom ash	
70,000	100101	10- WASTES FROM THERMAL PROCESSES	Bottom Ash	10400	4193	148%	More tonnes of peat/biomass used at Power Station	NA	D5- Specially engineered landfill		DOLLOTTI ASTI	
												1
												L
SECTION C-TO BE C	COMPLETED BY ALL WASTE FACIL	ITIES (waste transfer stati	ons, Composters, Ma	aterial recovery fac	ilities etc) EXCEPT LANDFILL SIT	ES						
Is all waste processing in	nfrastructure as required by your licence an	nd approved by the Agency in pla	ce? If no please list waste p	processing infrastructure	required onsite	SELECT]		
Is all waste storage infra	structure as required by your licence and a	approved by the Agency in place?	If no please list waste stor	age infrastructure requir	ed on site	SELECT]		
	elevant nuisance controls in place?					SELECT	ļ			1		
Do you have an odour m Do you maintain a sludge	nanagement system in place for your facilit e register on site?	y? It no why?				SELECT SELECT				1		
	COMPLETED BY LANDFILL SITES O	NLY]									
Waste types permitted for disposal Fly &Bottom Ash	Authorised/licenced annual intake for disposal (tpa) 70,000	Actual intake for disposal in reporting year (tpa) 36,605	Remaining licensed capacity at end of reporting year (m3)	Comments								
			709,176									
]							
Table 3 General inf	formation-Landfill only											Ţ
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	τ

	WASTE SUMMARY					Lic No:	W0049-02		Year	2013			
<u>-</u>											ha	ha	SELECT UNIT
	Clonbullogue Ash Reposi	Nov-00	Ongoing	Yes	Private	Inert		No	No	No	7.5	7.5	NA .

WASTE SUMMARY					Lic No:	W0049-02		Year	2013
Table 4 Environmer	ntal monitoring-landfill only	Landfill Manual-Monitoring Stan	<u>dards</u>						
	Was leachate monitored in compliance	compliance with LD standard in	Was SW monitored in compliance with LD standard in reporting year		Were emission limit values agreed with	Was topography of the site surveyed in reporting year		Comments	
Yes	Yes		Yes	Yes	Yes	Yes	No	The waste is not subject t	to a landfill levy
	Manual linked above for relevant Landfill	Directive monitoring standards							
Table 5 Capping-Lai	ndfill only								
Area uncapped*	Area with temporary cap	Area with final cap to LD		Area with waste that should be permanently capped to date under					
ha	SELECT UNIT	Standard m2 ha, a	Area capped other	licence	What materials are used in the cap	Comments			
0.56		NA	5.1	1.13	Capped as per licence condition 10.3. 8	0/20 Peat/Subsoil			
*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?
10 Is leachate released to surface water? If yes please complete leachate mass load information below

Volume of leachate in reporting year(m3)	,	Leachate (NH4) mass load (kg/annum)	Leachate (Chloride) mass load kg/annum	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			
ı					
				Was surface emissions	
1	Gas Captured&Treated			monitoring performed	
	by LFG System m3	Power generated (MW / KWh)	Used on-site or to national grid	during the reporting year?	Comments
				SELECT	

HDPE & GCL

Monitoring Location: SW4

Worldoning Location. 3444					
Parameter	Date	13/03/2013	17/05/2013	19/09/2013	13/12/2013
Ammonia mg/l	Quarterly	0.27	0.02	0.76	0.13
COD (mg/l)	Quarterly	28	55	44	43
pH (pH units)	Quarterly	7.6	7.6	7.8	7.6
Total Suspended Solids (mg/l)	Quarterly	7	5	5	5

Monitoring Location: SW5					
Parameter	Date	13/03/2013	17/05/2013	19/09/2013	13/12/2013
Ammonia mg/l	Quarterly	0.56	0.06	0.03	0.15
COD (mg/l)	Quarterly	53	52	49	59
pH (pH units)	Quarterly	7.8	8.1	7.9	7.8
Total Suspended Solids (mg/l)	Quarterly	5	5	5	7

Monitoring Location: SW6					
Parameter	Date	13/03/2013	17/05/2013	19/09/2013	13/12/2013
Ammonia mg/l	Quarterly	0.55	0.17	0.2	0.2
COD (mg/l)	Quarterly	40	43	45	55
pH (pH units)	Quarterly	7.8	8	7.8	7.8
Total Suspended Solids (mg/l)	Quarterly	6	5	5	6

Monitoring Location: SW7					
Parameter	Date	13/03/2013	17/05/2013	19/09/2013	13/12/2013
Ammonia mg/l	Quarterly	0.02	0.02	0.02	0.04
COD (mg/l)	Quarterly	49	56	47	58
pH (pH units)	Quarterly	7.6	7.7	7.9	7.7
Suspended Solids (mg/l)	Quarterly	5	5	5	5

Monitoring Location: SW8					
Parameter	Date	13/03/2013	17/05/2013	19/09/2013	13/12/2013
Ammonia mg/l	Quarterly	0.03	0.02	0.02	0.05
COD (mg/l)	Quarterly	43	55	45	61
pH (pH units)	Quarterly	7.6	7.6	7.5	7.6
Suspended Solids (mg/l)	Quarterly	5	5	6	5

Monitoring Location: SWR1					
Parameter	Date	13/03/2013	17/05/2013	19/09/2013	13/12/2013
Ammonia mg/l	Quarterly	0.29	0.15	0.33	0.21
COD (mg/l)	Quarterly	47	52	49	40
pH (pH units)	Quarterly	7.6	7.9	8	7.7
Suspended Solids (mg/l)	Quarterly	6	7	5	5

CLONCREEN ASH REPOSITORY MONITORING RESULTS

Monitoring Location: LC1A

Parameter	Date	23/02/2007	19/03/2013	11/07/2013	14/10/2013
COD (mg/l)	Bi-Annually	416	346	145	173
Amonical nitrogen (mg/l NH4-N)	Bi-Annually	8.1	5.8	5.5	5.8
Temperature (0C)	Bi-Annually	11.01	8.5	11.8	9.8
Electrical Conductivity (µS/cm)	Bi-Annually	14.73	12530	6320	5875
pH (pH units)	Bi-Annually	10.38	12.67	12.2	12
Boron	Annually			5	
Arsenic (µg/I)	Annually			2	
Silver (µg/l)	Annually			2	
Aluminium (µg/l)	Annually			162	
Berylium (µg/l)	Annually			2	
Barium (µg/l)	Annually			50	
calcium (mg/l)	Annually			7.5	
chromium (µg/l)	Annually			2	
Cadmium (µg/l)	Annually			2	
Cobalt (µg/l)	Annually			3	
Copper (µg/l)	Annually			33	
Iron (mg/l)	Annually			0.1	
Potassium (mg/l)	Annually			601	
Magnesium (mg/l)	Annually			0.01	
Manganese (µg/l)	Annually			2	
Sodium (mg/l)	Annually			562	
Nickel (µg/l)	Annually			68	
Lead (µg/l)	Annually			2	
Antimony (µg/I)	Annually			2	
Selenium (µg/I)	Annually			4	
Tin (µg/l)	Annually			2	
Zinc (µg/l)	Annually			47	
Mercury (µg/l)	Annually			1	
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/I)	Annually			All<0.01	
VOC's by GC-FID	Annually			All<0.5	
•					

^{*}Dichloromethane =<3
**Phenol 11.7
** Bis(2-ethylhexyl) phthalate = <5.72

Cloncreen Ash Repository	
Monitoring Results	
Monitoring Location: LC2A	

Parameter	Date	23/02/2007	19/03/2013	11/07/2013	14/10/2013
COD (mg/l)	Bi-Annually	666	125	113	161
Amonical nitrogen (mg/l NH4)	Bi-Annually	3.21	2.8	2.4	3.1
Temperature (0C)	Bi-Annually	11.4	8	11.8	9.5
Electrical Conductivity (µS/cm)	Bi-Annually	30.2	22330	14405	12620
pH (pH units)	Bi-Annually	10.4	12.94	12.45	12.3
Total oxidised nitrogen (mg/l)	Annually			0.27	
Boron	Annually			2	
Arsenic (µg/I)	Annually			3	
Silver (µg/l)	Annually			2	
Aluminium (µg/l)	Annually			121	
Berylium (μg/l)	Annually			2	
Barium (µg/l)	Annually			30	
calcium (mg/l)	Annually			15	
chromium (µg/I)	Annually			2	
Cadmium (µg/l)	Annually			2	
Cobalt (µg/l)	Annually			3	
Copper (µg/I)	Annually			47	
Iron (mg/l)	Annually			0.1	
Potassium (mg/l)	Annually			2002	
Magnesium (mg/l)	Annually			0.1	
Manganese (µg/l)	Annually			2	
Sodium (mg/l)	Annually			1649	
Nickel (µg/l)	Annually			37	
Lead (µg/l)	Annually			4	
Antimony (µg/I)	Annually			2	
Selenium (µg/l)	Annually			16	
Tin (µg/l)	Annually			2	
Zinc (µg/l)	Annually			45	
Mercury (µg/l)	Annually			1	
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<0.01	
VOC's by GC-FID	Annually			All<0.5	

^{*}Dichloromethane =<3
**Phenol 7.36
** Bis(2-ethylhexyl) phthalate = <5

Monitoring Location: LC3A

Parameter	Date	19/03/2013	11/07/2013	14/10/2013
COD (mg/l)	Bi-Annually	254	115	89
Amonical nitrogen (mg/l NH4)	Bi-Annually	1.8	3.5	0.59
Temperature (0C)	Bi-Annually	7.8	11.4	9.8
Electrical Conductivity (µS/cm)	Bi-Annually	17620	13210	18030
pH (pH units)	Bi-Annually	12.61	11.99	12.5
Total oxidised nitrogen (mg/l)	Annually		0.7	
Boron	Annually		2	
Arsenic (μg/l)	Annually		3	
Silver (µg/l)	Annually		2	
Aluminium (μg/l)	Annually		465	
Berylium (µg/l)	Annually		2	
Barium (µg/I)	Annually		14	
calcium (mg/l)	Annually		27	
chromium (µg/l)	Annually		25	
Cadmium (µg/l)	Annually		2	
Cobalt (µg/l)	Annually		2	
Copper (µg/I)	Annually		10	
Iron (mg/l)	Annually		0.14	
Potassium (mg/l)	Annually		1393	
Magnesium (mg/l)	Annually		0.21	
Manganese (µg/l)	Annually		6	
Sodium (mg/l)	Annually		1362	
Nickel (µg/l)	Annually		11	
Lead (µg/l)	Annually		3	
Antimony (μg/l)	Annually		2	
Selenium (µg/l)	Annually		52	
Tin (μg/l)	Annually		2	
Zinc (µg/I)	Annually		95	
Mercury (µg/l)	Annually		1	
Phosphorus (mg/l)	Annually		1.5	
Flouride (mg/l)	Annually		0.81	
PO4-P (mg/l)	Annually		1.3	
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<0.5	

^{*}Dichloromethane =<3
**Phenol 7.03
** Bis(2-ethylhexyl) phthalate = <5

Monitoring Location: LC3B

Parameter	Date	19/03/2013	11/07/2013	14/10/2013
COD (mg/l)	Bi-Annually	64	105	206
Amonical nitrogen (mg/l NH4)	Bi-Annually	0.2	3.6	3.9
Temperature (0C)	Bi-Annually	7.2	11.2	10.1
Electrical Conductivity (µS/cm)	Bi-Annually	15190	11500	32400
pH (pH units)	Bi-Annually	12.71	10.2	12.9
Total oxidised nitrogen (mg/l)	Annually		1.5	
Boron	Annually		60	
Arsenic (μg/l)	Annually		6	
Silver (µg/I)	Annually		2	
Aluminium (μg/l)	Annually		3706	
Berylium (μg/l)	Annually		2	
Barium (µg/l)	Annually		12	
calcium (mg/l)	Annually		11	
chromium (µg/l)	Annually		4	
Cadmium (µg/l)	Annually		2	
Cobalt (µg/l)	Annually		2	
Copper (µg/I)	Annually		9	
Iron (mg/l)	Annually		0.11	
Potassium (mg/l)	Annually		2323	
Magnesium (mg/l)	Annually		0.46	
Manganese (µg/l)	Annually		3	
Sodium (mg/l)	Annually		1445	
Nickel (µg/l)	Annually		12	
Lead (µg/l)	Annually		2	
Antimony (µg/l)	Annually		2	
Selenium (µg/l)	Annually		60	
Tin (μg/l)	Annually		2	
Zinc (µg/I)	Annually		307	
Mercury (µg/l)	Annually		1	
Phosphorus (mg/l)	Annually		0.52	
Flouride (mg/l)	Annually		0.24	
PO4-P (mg/l)	Annually		0.43	
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<0.5	

^{*}Dichloromethane =<3

^{**} Bis(2-ethylhexyl) phthalate = <5.67

Monitoring Location: LC4A

Parameter	Date	19/03/2013	14/10/2013	23/10/2013
COD (mg/l)	Bi-Annually	58	43	n/a
Amonical nitrogen (mg/l NH4)	Bi-Annually	0.52	0.29	n/a
Temperature (0C)	Bi-Annually	6.3	8.8	n/a
Electrical Conductivity (µS/cm)	Bi-Annually	896	6510	n/a
pH (pH units)	Bi-Annually	9.8	11.9	n/a
Total oxidised nitrogen (mg/l)	Annually			0.2
Arsenic (µg/l)	Annually			2
Silver (µg/I)	Annually			2
Aluminium (µg/l)	Annually			2137
Berylium (µg/l)	Annually			2
Barium (µg/l)	Annually			14
calcium (mg/l)	Annually			32
chromium (µg/l)	Annually			23
Cadmium (µg/l)	Annually			2
Cobalt (µg/l)	Annually			2
Copper (µg/l)	Annually			4
Iron (mg/l)	Annually			0.1
Potassium (mg/l)	Annually			898
Magnesium (mg/l)	Annually			0.13
Manganese (μg/l)	Annually			2
Sodium (mg/l)	Annually			268
Nickel (μg/l)	Annually			2
Lead (µg/l)	Annually			2
Antimony (μg/l)	Annually			2
Selenium (µg/l)	Annually			30
Tin (μg/l)	Annually			2
Zinc (µg/l)	Annually			2
Mercury (µg/l)	Annually			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			<1*
SVOC'S (µg/l)	Annually			<1**
Comb Pesticide suite (µg/l)	Annually			<0.01***

^{*}Dichloromethane <3

^{**} Bis(2-ethylhexyl)phthalate <10
** n-Di octyl phthalate <5
*** p,p-DDT <0.02

Monitoring Results

Parameter	Date	19/03/2013	11/07/2013
COD (mg/l)	Bi-Annually	60	49
Amonical nitrogen (mg/l NH4)	Bi-Annually	0.32	0.05
Temperature (0C)	Bi-Annually	2	12.5
Electrical Conductivity (µS/cm)	Bi-Annually	742	622
pH (pH units)	Bi-Annually	8	8.4
Total oxidised nitrogen (mg/l)	Annually		0.2
Arsenic (µg/I)	Annually		2
Silver (µg/l)	Annually		2
Aluminium (µg/l)	Annually		4
Berylium (µg/l)	Annually		2
Barium (µg/I)	Annually		92
calcium (mg/l)	Annually		55
chromium (µg/I)	Annually		2
Cadmium (µg/I)	Annually		2
Cobalt (µg/l)	Annually		2
Copper (µg/l)	Annually		2
Iron (mg/l)	Annually		0.14
Potassium (mg/l)	Annually		43
Magnesium (mg/l)	Annually		8.8
Manganese (µg/l)	Annually		9
Sodium (mg/l)	Annually		56
Nickel (µg/l)	Annually		2
Lead (µg/l)	Annually		2
Antimony (µg/I)	Annually		2
Selenium (µg/l)	Annually		2
Tin (μg/l)	Annually		2
Zinc (µg/l)	Annually		29
Mercury (µg/l)	Annually		1
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 <0.01
VOC's by GC-FID	Annually		All<0.5

^{*}Dichloromethane =<3 ** Bis(2-ethylhexyl) phthalate = <5.76

Parameter	Date	13/03/2013	17/05/2013	11/07/2013	13/12/2013
COD (mg/l)	Quarterly	40	0.05	52	No Sample
Dissolved oxygen (%)	Quarterly	32.1	35.9	32.8	•
Dissolved oxygen (mg/l)	Quarterly	4.32	3.88	3.61	
Electrical Conductivity (µS/cm)	Quarterly	732	654	624	
Ammoniacal Nitrogen (mg/l NH4)	Quarterly	0.21	0.05	0.04	
pH (pH units)	Quarterly	8.2	8.4	8.6	
Total Suspended Solids (mg/l)	Quarterly	5	5	5	
Boron	Annually			6	
Arsenic (μg/l)	Annually			2	
Silver (µg/l)	Annually			2	
Aluminium (μg/l)	Annually			4	
Berylium (µg/l)	Annually			2	
Barium (µg/I)	Annually			93	
calcium (mg/l)	Annually			55	
chromium (µg/l)	Annually			2	
Cadmium (µg/I)	Annually			2	
Cobalt (µg/l)	Annually			2	
Copper (µg/l)	Annually			2	
Iron (mg/l)	Annually			0.22	
Potassium (mg/l)	Annually			38	
Magnesium (mg/l)	Annually			8.9	
Manganese (µg/l)	Annually			15	
Sodium (mg/l)	Annually			52	
Nickel (µg/l)	Annually			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			27	
Mercury (µg/I)	Annually			1	
PO4-P (mg/l)	Annually			0.01	
VOC's USEPA 524.2 (μg/l)	Annually				
SVOC'S (µg/l)	Annually				
Comb Pesticide suite (µg/l)	Annually	•			
-					

^{*} Except Bis(2-ethylhexyl) phthalate = <2 *2,4-Dimethylpenol = 1.61 *Phenol = 7.36

Parameter	Date	29/01/2013	21/02/2013	14/03/2013	23/04/2013	13/05/2013	24/06/2013	15/07/2013	19/08/2013	04/09/2013	14/10/2013	13/11/2013	04/12/2013
		Clear, No	Slightly milky,	Clear, No									
Visual/Odour	Monthly	odour	noodour	odour									
Groundwater level (m AOD)	Monthly	68.702	68.652	68.452	68.452	68.252	68.052	67.602	67.702	67.352	68.152	68.452	68.402
pH (pH units)	Monthly	7.3	7.4	7.6	7.4	7.4	7.3	7.4	7.3	7.3	7.5	7.4	7.4
Electrical Conductivity (µS/cm)	Monthly	703	710	688	683	670.5	688.5	682.5	726.5	719	744	773	752
Total Ammonia mg/l	Monthly	6	6	6	5.8	5.7	6.1	5.9	5.8	6.1	6.3	6.1	6.2
Sulphate(SO4) mg/l	Monthly	4.32	4.18	5.63	4.6	3.4	2.8	3.8	3.1	3.5	4.5	7.1	6.1
Arsenic (µg/I)	Annually							4					
Silver (µg/I)	Annually							2					
Aluminium (µg/l)	Annually							2					
Berylium (µg/l)	Annually							2					
Barium (µg/l)	Annually							963					
calcium (mg/l)	Annually							110					
chromium (µg/l)	Annually							2					
Cadmium (µg/l)	Annually							2					
Cobalt (µg/l)	Annually							2					
Copper (µg/I)	Annually							2					
Iron (mg/l)	Annually							0.1					
Potassium (mg/l)	Annually							2.7					
Magnesium (mg/l)	Annually							20					
Manganese (µg/l)	Annually							182					
Sodium (mg/l)	Annually							9.8					
Nickel (µg/I)	Annually							10					1
Lead (µg/l)	Annually							2					Į.
Antimony (μg/l)	Annually							2					1
Selenium (µg/l)	Annually							2					Į.
Tin (μg/l)	Annually							2					1
Zinc (µg/I)	Annually							35					ı
Mercury (µg/I)	Annually							1					1
Flouride (mg/l)	Annually							0.36					ı
PO4-P (mg/l)	Annually							0.01					1
VOC's USEPA 524.2 (μg/l)	Annually							All<1					
SVOC'S (µg/l)	Annually							All<1*					1
Comb Pesticide suite (µg/l)	Annually							All<0.01					
								,					1

^{*} Except Bis(2-ethylhexyl) phthalate = <5

Parameter	Date	29/01/2013	21/02/2013	14/03/2013	23/04/2013	13/05/2013	24/06/2013	15/07/2013	19/08/2013	04/09/2013	14/10/2013	13/11/2013	04/12/2013
		Slightly yellow	Slightly yellow		Slightly yellow	Clear, No	Clear, No	Slightly milky	Slightly milky	Slightly milky		Clear, No	Slightly milky
		with gas odour			with gas odour	odour	odour	with no odour	with no odour	with no odour		odour	with no odour
		man gao oaoan	mar no ododi	odour	man gao oacan	ouou.	ouou.	With the edeal	mar no odou	William The Galdan	man no ododi	ouou.	min no odou
				ouou.									
Visual/Odour	Monthly												
Groundwater level (m AOD)	Monthly	68.506	68.106	67.656	67.656	67.506	67.456	67.156	67.506	67.206	67.756	68.306	67.806
pH (pH units)	Monthly	7	6.9	7.1	6.8	6.9	6.8	6.8	6.7	6.7	7.2	7.1	7
Electrical Conductivity (µS/cm)	Monthly	767	982	1248	1231	1243	1215	1236	1299	1316	901	842	967
Total Ammonia mg/l	Monthly	0.33	1.5	2.7	2.1	2.5	5	2.7	2.9	3.3	0.54	0.21	0.49
Sulphate(SO4) mg/l	Monthly	124	200	327	325	330	306	164	350	182	170	120	155
Arsenic (µg/I)	Annually							2					
Silver (µg/I)	Annually							2					
Aluminium (µg/l)	Annually							14					
Berylium (µg/l)	Annually							2					
Barium (µg/I)	Annually							198					
calcium (mg/l)	Annually							273					
chromium (µg/l)	Annually							2					
Cadmium (µg/I)	Annually							2					
Cobalt (µg/l)	Annually							7					
Copper (µg/I)	Annually							2					
Iron (mg/l)	Annually							0.21					
Potassium (mg/l)	Annually							1.5					
Magnesium (mg/l)	Annually							12					
Manganese (µg/I)	Annually							1879					
Sodium (mg/l)	Annually							5.3					
Nickel (µg/l)	Annually							17					
Lead (µg/l)	Annually							2					
Antimony (μg/l)	Annually							2					
Selenium (µg/l)	Annually							2					
Tin (µg/l)	Annually							2					
Zinc (µg/l)	Annually							33					
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					
													1

^{*}Dichloromethane =<3
** Bis(2-ethylhexyl) phthalate = <5

Parameter	Date	29/01/2013	21/02/2013	14/03/2013	23/04/2013	13/05/2013	24/06/2013	15/07/2013	19/08/2013	04/09/2013	14/10/2013	13/11/2013	04/12/2013
Visual/Odour	Monthly	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/I)	Annually												
Cadmium (µg/l)	Annually												
Cobalt (µg/I)	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												1
PO4-P (mg/l)	Annually	ļ											
VOC's USEPA 524.2 (μg/l)	Annually	ļ											
SVOC'S (µg/l)	Annually												
Comb Pesticide suite (µg/l)	Annually												

Parameter	Date	29/01/2013	21/02/2013	14/03/2013	23/04/2013	13/05/2013	24/06/2013	15/07/2013	19/08/2013	04/09/2013	14/10/2013	13/11/2013	04/12/2013
		Milky with peat											
Visual/Odour	Monthly	odour											
Groundwater level (m AOD)	Monthly	66.684	66.584	66.484	66.434	66.384	66.234	66.184	66.384	66.234	66.234	66.534	66.484
pH (pH units)	Monthly	7	7	7.4	7.1	7	7	7	7	7.1	7.2	7.1	7.1
Electrical Conductivity (µS/cm)	Monthly	673	645	632	626	629	634	644	619	635	624	696	673.5
Total Ammonia mg/l	Monthly	5.7	6	5.9	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.7	5.8
Sulphate(SO4) mg/l	Monthly	0.5	0.11	0.31	0.55	0.67	0.5	0.68	0.5	0.5	0.6	0.52	0.5
Arsenic (µg/I)	Annually							2					
Silver (µg/l)	Annually							2					
Aluminium (μg/l)	Annually							1043					
Berylium (μg/l)	Annually							2					
Barium (μg/l)	Annually							75					
calcium (mg/l)	Annually							115					
chromium (µg/I)	Annually							5					
Cadmium (µg/l)	Annually							2					
Cobalt (µg/l)	Annually							2					
Copper (µg/I)	Annually							3					
Iron (mg/l)	Annually							2.3					
Potassium (mg/l)	Annually							1.5					
Magnesium (mg/l)	Annually							8.8					
Manganese (µg/l)	Annually							392					
Sodium (mg/l)	Annually							13					
Nickel (µg/l)	Annually							8					
Lead (μg/l)	Annually							14					
Antimony (µg/I)	Annually							2					
Selenium (µg/l)	Annually							2					
Tin (μg/l)	Annually							2					
Zinc (µg/l)	Annually							42					
Mercury (µg/l)	Annually							1					
Flouride (mg/l)	Annually							0.1					
PO4-P (mg/l)	Annually							0.01	<u> </u>				
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					

^{*}Dichloromethane =<3
** Except Bis(2-ethylhexyl) phthalate = <5

Parameter	Date	29/01/2013	21/02/2013	14/03/2013	23/04/2013	13/05/2013	24/06/2013	15/07/2013	19/08/2013	04/09/2013	14/10/2013	13/11/2013	04/12/2013
		Milky with peat		Clear, No	Clear, No	Slightly milky,	Clear, No	Clear, No	Clear, No	Clear, No	Slightly yellow,	Slightly yellow,	Slightly yellow,
		odour	slight peat	odour	odour	no odour	odour	odour	odour	odour	no odour	slight peat	no odour
Visual/Odour	Monthly		odour									odour	
Groundwater level (m AOD)	Monthly	68.163	68.363	68.213	68.013	68.013	67.913	67.813	67.863	67.763	68.013	68.163	68.113
pH (pH units)	Monthly	6.9	6.9	7.2	6.8	6.8	6.7	6.8	6.7	6.8	6.7	6.8	6.8
Electrical Conductivity (µS/cm)	Monthly	767	798	768	770	762	741	778	757	776	758	780	790
Total Ammonia mg/l	Monthly	7.2	7.3	7.8	7.5	7.3	6.7	7.5	7.8	7.2	7.5	5.5	6.5
Sulphate(SO4) mg/l	Monthly	0.5	0.1	0.33	0.7	0.69	0.5	0.5	1.1	1	12	26	13
Arsenic (µg/l)	Annually							3					
Silver (µg/l)	Annually							2					
Aluminium (µg/l)	Annually							68					
Berylium (µg/l)	Annually							2					
Barium (µg/I)	Annually							166					
calcium (mg/l)	Annually							137					
chromium (µg/l)	Annually							2					
Cadmium (µg/I)	Annually							2					
Cobalt (µg/l)	Annually							3					
Copper (µg/I)	Annually							2					
Iron (mg/l)	Annually							4.4					
Potassium (mg/l)	Annually							1					
Magnesium (mg/l)	Annually							4.8					
Manganese (μg/l)	Annually							482					
Sodium (mg/l)	Annually							8.6					
Nickel (µg/l)	Annually							17					
Lead (µg/l)	Annually							2					
Antimony (µg/I)	Annually							2					
Selenium (µg/l)	Annually							2					
Tin (µg/l)	Annually							2					
Zinc (µg/l)	Annually							38					
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/I)	Annually							All<0.01					

^{*}Dichloromethane =<3
** Except Bis(2-ethylhexyl) phthalate = <5

Monitoring Location: MW07													
Parameter	Date	29/01/2013	21/02/2013	14/03/2013	23/04/2013	13/05/2013	24/06/2013	15/07/2013	19/08/2013	04/09/2013	14/10/2013	13/11/2013	04/12/2013
		Slightly yellow,		Slightly yellow,		Slightly yellow,	Slightly yellow,	Slightly yellow,					
		no odour	slight gas	no odour	slight gas	slight gas	no odour	no odour	no odour				
Visual/Odour	Monthly		odour	odour	odour	odour	odour		odour	odour			
Groundwater level (m AOD)	Monthly	67.666	67.616	67.066	67.066	67.066	66.866	66.716	65.966	66.462	66.516	66.866	66.816
pH (pH units)	Monthly	7	7	7.3	7	7	7	7	6.9	7	7	6.9	7
Electrical Conductivity (µS/cm)	Monthly	940	1090	883	853	854	1050	1097	943	966	1055	1172	1099
Total Ammonia mg/l	Monthly	1.8	2.4	2	1.7	1.7	2.6	2.8	2.6	2.8	3	2.6	2.6
Sulphate(SO4) mg/l	Monthly	3.2	1.04	4.93	5.9	5	2.4	3.5	3.4	2.9	1.6	8.9	5.6
Arsenic (µg/I)	Annually							4					
Silver (µg/l)	Annually							2					
Aluminium (µg/l)	Annually							238					
Berylium (µg/l)	Annually							2					
Barium (µg/l)	Annually							257					
calcium (mg/l)	Annually							127					
chromium (µg/l)	Annually							5					
Cadmium (µg/I)	Annually							2					
Cobalt (µg/l)	Annually							2					
Copper (µg/I)	Annually							2					
Iron (mg/l)	Annually							11					
Potassium (mg/l)	Annually							64					
Magnesium (mg/l)	Annually							7.2					
Manganese (µg/l)	Annually							339					
Sodium (mg/l)	Annually							92					
Nickel (µg/l)	Annually							3					
Lead (µg/l)	Annually							4					
Antimony (μg/l)	Annually							2					
Selenium (µg/I)	Annually							2					
Tin (µg/l)	Annually							2					
Zinc (µg/I)	Annually							30					
Mercury (µg/l)	Annually							1					
Flouride (mg/l)	Annually							0.1					
PO4-P (mg/l)	Annually							0.09					
VOC's USEPA 524.2 (µg/l)	Annually							All<1*					
SVOC'S (µg/l)	Annually							All<1**					
Comb Pesticide suite (µg/I)	Annually							All<0.01					
1,0													
	•												

^{*}Dichloromethane =<3

^{**} Except Bis(2-ethylhexyl) phthalate = <5

Monitoring Location: MW08

Parameter	Date	29/01/2013	21/02/2013	14/03/2013	23/04/2013	13/05/2013	24/06/2013	15/07/2013	19/08/2013	04/09/2013	14/10/2013	13/11/2013	04/12/2013
		Clear, No											
Visual/Odour	Monthly	odour											
Groundwater level (m AOD)	Monthly	69.112	68.862	68.412	68.262	68.112	67.662	67.412	67.412	67.862	67.862	68.312	68.113
pH (pH units)	Monthly	7	6.9	7.2	6.9	7	6.8	6.9	6.8	7.1	7	6.9	6.9
Electrical Conductivity (µS/cm)	Monthly	891	853	844	854	864	853	878	839	877	860.5	952	937
Total Ammonia mg/l	Monthly	0.74	0.63	1.8	2.1	2.2	2.3	2	3.2	3	3.5	2.4	2.8
Sulphate(SO4) mg/l	Monthly	86	74.8	55.9	53	56	54	49	50	47	44	44	49
Arsenic (µg/I)	Annually							9					
Silver (µg/l)	Annually							2					
Aluminium (μg/l)	Annually							67					
Berylium (μg/l)	Annually							2					
Barium (µg/l)	Annually							438					
calcium (mg/l)	Annually							178					
chromium (µg/I)	Annually							2					
Cadmium (µg/I)	Annually							2					
Cobalt (µg/l)	Annually							7					
Copper (µg/l)	Annually							2					
Iron (mg/l)	Annually							4.7					
Potassium (mg/l)	Annually							0.8					
Magnesium (mg/l)	Annually							6					
Manganese (μg/l)	Annually							577					
Sodium (mg/l)	Annually							6.1					
Nickel (µg/l)	Annually							44					
Lead (µg/I)	Annually							2					
Antimony (µg/l)	Annually							2					
Selenium (µg/l)	Annually							2					
Tin (μg/l)	Annually							2					
Zinc (µg/l)	Annually							27					
Mercury (µg/I)	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					
W 0 /													

*Dichloromethane =<3

^{**} Except Bis(2-ethylhexyl) phthalate = <5

Parameter	Date	29/01/2013	21/02/2013	14/03/2013	23/04/2013	13/05/2013	24/06/2013	15/07/2013	19/08/2013	04/09/2013	14/10/2013	13/11/2013	04/12/2013
		Clear, No											
Visual/Odour	Monthly	odour											
Groundwater level (m AOD)	Monthly	67.718	67.668	67.418	67.268	67.218	66.768	66.468	66.618	66.368	67.118	67.518	67.368
pH (pH units)	Monthly	7	7	7.2	7	7	6.9	7	6.9	7	6.8	6.8	7
Electrical Conductivity (µS/cm)	Monthly	747	764	802	811	813	787	769	785	903	821	891	869
Total Ammonia mg/l	Monthly	2.4	2.4	2.4	2	2.1	9	2.4	2.4	2.5	2.2	2.2	2.2
Sulphate(SO4) mg/l	Monthly	5.36	4.79	7.87	10	9.9	8.4	6.3	8.3	6	11	10	11
Arsenic (μg/l)	Annually							23					
Silver (µg/l)	Annually							2					
Aluminium (µg/l)	Annually							2					
Berylium (µg/l)	Annually							2					
Barium (µg/l)	Annually							440					
calcium (mg/l)	Annually							154					
chromium (µg/l)	Annually							2					
Cadmium (µg/I)	Annually							2					
Cobalt (µg/l)	Annually							5					
Copper (µg/l)	Annually							2					
Iron (mg/l)	Annually							5.7					
Potassium (mg/l)	Annually							0.84					
Magnesium (mg/l)	Annually							8					
Manganese (μg/l)	Annually							248					
Sodium (mg/l)	Annually							6.4					
Nickel (µg/l)	Annually							42					
Lead (µg/l)	Annually							2					
Antimony (μg/l)	Annually							2					
Selenium (µg/l)	Annually							2					
Tin (µg/l)	Annually							2					
Zinc (μg/I)	Annually							18					
Mercury (µg/I)	Annually							1					
Flouride (mg/l)	Annually							0.13					
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					
									_				

^{*}Dichloromethane =<3

^{**} Except Bis(2-ethylhexyl) phthalate = <5

Parameter	Date	29/01/2013	21/02/2013	14/03/2013	23/04/2013	13/05/2013	24/06/2013	15/07/2013	19/08/2013	04/09/2013	14/10/2013	13/11/2013	04/12/2013
		Clear, No											
Visual/Odour	Monthly	odour											
Groundwater level (m AOD)	Monthly	68.39	68.29	68.14	67.99	67.94	67.84	67.74	67.79	67.69	67.94	68.14	68.04
pH (pH units)	Monthly	7	7.1	7.3	7.1	7.1	6.9	7	6.9	7	6.8	7	7.1
Electrical Conductivity (µS/cm)	Monthly	676	681	665	684	688	682	700	696	843	703	773	738
Total Ammonia mg/l	Monthly	2.8	2.5	2.6	2.4	2.4	2.5	2.6	2.9	2.9	3.2	2.5	2.5
Sulphate(SO4) mg/l	Monthly	0.5	0.237	0.29	0.51	0.56	0.5	0.55	0.5	0.5	0.5	0.5	0.5
Arsenic (µg/l)	Annually		0	VV				6					1
Silver (µg/l)	Annually							2					ĺ
Aluminium (µg/l)	Annually							2					1
Berylium (µg/l)	Annually							2					
Barium (µg/l)	Annually							340					
calcium (mg/l)	Annually							137					
chromium (µg/I)	Annually							2					
Cadmium (µg/l)	Annually							2					ĺ
Cobalt (µg/l)	Annually							6					
Copper (µg/I)	Annually							7					ĺ
Iron (mg/l)	Annually							3.3					
Potassium (mg/l)	Annually							0.68					
Magnesium (mg/l)	Annually							4.3					
Manganese (μg/l)	Annually							299					l
Sodium (mg/l)	Annually							9.8					1
Nickel (μg/l)	Annually							30					
Lead (µg/l)	Annually							2					1
Antimony (µg/l)	Annually							2					
Selenium (µg/l)	Annually							2					l
Tin (µg/l)	Annually							2					l
Zinc (μg/l)	Annually							23					
Mercury (μg/l)	Annually							1					<u> </u>
Flouride (mg/l)	Annually							0.1					l
PO4-P (mg/l)	Annually							0.01					
VOC's USEPA 524.2 (μg/l)	Annually							All<1*					<u> </u>
SVOC'S (μg/l)	Annually							All<1**					
Comb Pesticide suite (µg/l)	Annually							All<0.01					
													ļ
			1										i

^{*}Dichloromethane =<3

^{**} Except Bis(2-ethylhexyl) phthalate = <5

Parameter	Date	29/01/2013	21/02/2013	14/03/2013	23/04/2013	13/05/2013	24/06/2013	15/07/2013	19/08/2013	04/09/2013	14/10/2013	13/11/2013	04/12/2013
		Slightly yellow,	Slightly yellow,	Clear, No									
		slight gas	slight gas	odour									
		odour	odour										
Visual/Odour	Monthly												
Groundwater level (m AOD)	Monthly	67.169	67.019	66.469	66.469	66.419	66.319	66.169	65.619	65.569	65.919	66.219	66.069
pH (pH units)	Monthly	7.6	7.4	7.7	7.4	7.4	7.3	7.3	7	7	7.1	7.1	7.1
Electrical Conductivity (µS/cm)	Monthly	1130	1068	1011	1025	1010	1025	1015	803	787	764	808	778
Total Ammonia mg/l	Monthly	2.9	3.1	3.1	3.1	2.8	3	3	3	2.9	9	2.8	2.8
sulphate(SO4) mg/l	Monthly	19.8	15.1	13.6	12	11	10	10	1.6	1.1	1.2	0.91	0.91
Arsenic (µg/I)	Annually							3					
Silver (µg/l)	Annually							2					
Aluminium (µg/l)	Annually							9					
Berylium (µg/l)	Annually							2					
Barium (µg/l)	Annually							323					
calcium (mg/l)	Annually							91					
chromium (µg/l)	Annually							2					
Cadmium (µg/I)	Annually							2					
Cobalt (µg/l)	Annually							2					
Copper (µg/I)	Annually							2					
Iron (mg/l)	Annually							1					
Potassium (mg/l)	Annually							90					
Magnesium (mg/l)	Annually							6.5					
Manganese (μg/I)	Annually							246					
Sodium (mg/l)	Annually							64					
Nickel (µg/I)	Annually							2					
Lead (µg/l)	Annually							2					
Antimony (μg/l)	Annually							2					
Selenium (µg/l)	Annually							2					
Tin (µg/l)	Annually							2					
Zinc (μg/I)	Annually							16					
Mercury (μg/I)	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/I)	Annually							All<0.01					

^{*}Dichloromethane =<3

^{**} Except Bis(2-ethylhexyl) phthalate = <5.43



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Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.18

REFERENCE YEAR 2013

1.	FACIL	ITY ID	ENTIFI	CATION

1. FACILITY IDENTIFICATION	
Parent Company Name	Bord Na Mona
Facility Name	Clonbulloge Ash Repository
PRTR Identification Number	W0049
Licence Number	W0049-02

Waste or IPPC Classes of Activity

Tradic of it i C classes of heavy	
No.	class_name
3.1	Deposit on, in or under land (including landfill).

Address 1	Cloncreen Bog					
	Clonbulloge					
Address 3	Co. Offaly					
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 (W0049)					
AER Returns Contact Email Address						
AER Returns Contact Position	Head of Environmental Engineering					
AER Returns Contact Telephone Number	057 9345911					
AER Returns Contact Mobile Phone Number	086 2370816					
AER Returns Contact Fax Number	057 9345160					
Production Volume	36605.0					
Production Volume Units	Tonnes					
Number of Installations	1					
Number of Operating Hours in Year	3796					
Number of Employees	4					
User Feedback/Comments						
	There are no loadings calculated on emissions to water as flow					
	measurement is not a licence requirement.					
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)

5: 00EVENTO REGUERTIONO (0::: No: 040 01 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) ?	1

No
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_2013(1).xls | Return Year : 2013 |

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SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

	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. A	Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Yea	r F (Fugitive) 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 C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

	OLOTION OT REMINATION OLEOTANT EMILO											
RELEASES TO AIR						Please enter all quantities i	n this section in KGs					
	POLLUTANT			METH	OD						QUANTITY	
				Method Used		DM-01	DM-02	DM-03	DM-04			
										A (Accid		F (Fugitive)
	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 KG/Year	r k	KG/Year
	210	Dust	С	OTH	VDI 2199 Blatt 2/Part 2	0.0	0.0	0.0	0.0	0.052472	0.0	0.05247

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

Additional Data Requested from Landfill operators

flared or utilised on their facilities to accompany the fig	use Gases, landfill operators are requested to provide summary data on landfill gas (Methane) jures for total methane generated. Operators should only report their Net methane (CH4) action A: Sector specific PRTR pollut					
Landfill:	Clonbulloge Ash Repository					
Please enter summary data on the					4	
quantities of methane flared and / or					<mark>/</mark>	
utilised			Meth	hod Used	/	_
				Designation or	Facility Total Capacity m3	1
	T (Total) kg/Year	M/C/E	Method Code	Description	per hour	1
Total estimated methane generation (as per						1
site model)	0.0				N/A	1
Methane flared	0.0					(Total Flaring Capacity)
Methane utilised in engine/s					0.0	(Total Utilising Capacity
Net methane emission (as reported in Section						i i
A above)	0.0				N/A	1

4.2 RELEASES TO WATERS

Link to previous years emissions data

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SECTION A : SECTOR SPECIFIC 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 B: REMAINING PRTR POLLUTANTS

	RELEASES TO WATERS			Please enter all quantities in this section in KGs								
PO				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				

^{*} 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								
POI	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

PRTR#: W0049 | Facility Name: Clonbulloge Ash Repository | Filename: W0049_2013(1).xls | Return

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SECTION A: PRTR POLLUTANTS

OFFSITE TRANS	SFER OF POLLUTANTS DESTINED FOR WASTE-V	VATER TRI	EATMENT OR SEWER		Please enter all quantities	in this section in KGs	5			
PO	LLUTANT		METHO)D		QUANTITY				
			Met	hod 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)

DECTION D. REMAINING DEED ANT EM	bololio (as required in your Electrice)									
OFFSITE TRANS	SFER OF POLLUTANTS DESTINED FOR WASTE-V	VATER TRI	EATMENT OR SEW	/ER	Please enter all quantities in this section in KGs					
PO	LLUTANT		ME	THOD	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		

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

Link to previous years emissions data Page 1 of 1

4.4 RELEASES TO LAND

Link to previous years emissions data

| PRTR# : W0049 | Facility Name : Clonbulloge Ash Repository | Filename : W0049_2013(1).xls | Return Year : 2013 |

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SECTION A: PRTR POLLUTANTS

		RELEASES TO LAND				Please enter all quantities in this section in KGs					
	POLLUTANT			METHO	D			QUANTITY			
				Met	hod 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) k	KG/Year		
						C	1.0	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_2013(1).xls | Return Year: 2013 |

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				Please enter a	II quantities on this sheet in Tonnes							0
				Quantity (Tonnes per Year)		Waste		Method Used		Haz Waste: Name and Licence/Permit No of Next Destination Facility Not Haz Waste: Name and Licence/Permit No of Recover/Disposer	n <u>Haz Waste</u> : Address of Next Destination Facility <u>Non Haz Waste</u> : Address of Recover/Disposer	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
		European Waste				Treatment			Location of			
	Transfer Destination	Code	Hazardous		Description of Waste	Operation	M/C/E	Method Used	Treatment			
١	Vithin the Country	n the Country 20 03 01 No 0.91 mixed municipal waste		mixed municipal waste	D1	С	Volume Calculation		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