

Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Silent Valley Waste Services Limited

Silent Valley Landfill Site
Beechwood House
Cwm
Ebbw Vale
County Borough of Blaenau Gwent
NP23 6PZ

Permit number

EPR/MP3835SV

Silent Valley Landfill

Permit number EPR/MP3835SV

Introductory note

This introductory note does not form a part of the notice.

The main features of the permit are as follows:

Silent Valley landfill site ceased accepting waste for disposal on 22nd August 2011. The conditions of this permit reflect that the landfill site will now be operated and maintained in accordance with the agreed closure plan during the aftercare phase.

The schedules specify the changes made to the permit.

The status log of the permit sets out the permitting history, including any changes to the permit reference number.

Status Log of the permit		
Description	Date	Comment
Waste Disposal Licence CPA22 issued	22/02/94	-
Waste Management Licence CPA22 (EAWML 30141) modified	02/03/99	Regulator initiated change.
Waste Management Licence CPA22 (EAWML 30141) modified	31/03/99	Regulator initiated change to add waste return conditions.
Application MP3835SV	09/11/04	-
PPC Permit MP3835SV issued	08/11/05	-
Variation EPR/MP3835SV Consolidated permit issued	04/03/16	Regulator initiated change to reflect that the landfill is no longer accepting waste for disposal and is in closure and aftercare

Other Part A installation permits relating to this installation		
Permit holder	Permit Number	Date of Issue
Bleanau Gwent County Borough Council	UP3335SN	08/11/2005
Novera Energy Generation No. 2 Limited	ZP3535SQ	03/05/2005

End of introductory note

Permit

Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/MP3835SV

This is the consolidated permit referred to in the variation and consolidation notice for application number EPR/MP3835SV/V004 authorising

Silent Valley Waste Services Limited ("the operator")

of

**Beechwood House
Cwm
Ebbw Vale
County Borough of Blaenau Gwent
SP23 6PZ**

Company registration number **2674212**

to operate a regulated facility at

**Silent Valley Landfill Site
Beechwood House
Cwm
Ebbw Vale
County Borough of Blaenau Gwent
SP23 6PZ**

to the extent authorised by and subject to the conditions of this permit.

	04 March 2016
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Eirian Macdonald
Authorised on behalf of Natural Resources Wales

Conditions

Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Finance

- 1.2.1 The financial provision for meeting the obligations under this permit as set out in the Agreement made between the operator and Natural Resources Wales dated 30 March 2011 shall be maintained by the operator throughout the subsistence of this Permit, and the operator shall produce evidence of such provision whenever required by Natural Resources Wales.

1.3 Multiple operator installations

- 1.3.1 Where the operator notifies Natural Resources Wales under condition 4.3.1 (a) or 4.3.1 (c), the operator shall also notify without delay the other operator(s) of the installation of the same information.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in red on the site plan at schedule 7 to this permit.

2.3 Operating techniques

- 2.3.1 (a) The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by Natural Resources Wales.
- (b) If notified by Natural Resources Wales that the activities are giving rise to pollution, the operator shall submit to Natural Resources Wales for approval within the period specified, a revision of any plan or other documentation ("plan") specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

2.4 Improvement programme

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by Natural Resources Wales.
- 2.4.2 Except in the case of an improvement which consists only of a submission to Natural Resources Wales, the operator shall notify Natural Resources Wales within 14 days of completion of each improvement.

2.5 Landfill Engineering

- 2.5.1 No construction of landfill infrastructure shall commence until the operator has submitted relevant construction proposals or a written request to use previous construction proposals and Natural resources Wales has confirmed that it is satisfied with the construction proposals.
- 2.5.2 The construction of the landfill infrastructure shall take place only in accordance with the approved construction proposals unless:
- (a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or
- (b) a change has otherwise been agreed in writing by Natural Resources Wales.
- 2.5.3 The operator shall submit a CQA Validation Report as soon as practicable following the construction of the relevant landfill infrastructure.
- 2.5.4 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.5.1 and 2.5.2 do not apply and the relevant landfill infrastructure may be constructed, provided that the construction proposals are submitted to Natural Resources Wales as soon as practicable.
- 2.5.5 For the purposes of conditions 2.5.1, Natural Resources Wales shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the relevant construction proposals or CQA Validation Report, either:
- (a) confirmed whether or not it is satisfied; or
- (b) informed the operator that it requires further information.

- 2.5.6 Where Natural Resources Wales has required further information under condition 2.5.5(b), Natural Resources Wales shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the further information, either:
- (a) confirmed whether or not it is satisfied; or
 - (b) informed the operator that it requires further information.

2.6 Waste acceptance

- 2.6.1 No waste shall be accepted for disposal within the facility.
- 2.6.2 The total quantity of waste that shall be deposited in the landfill shall be limited by the pre-settlement levels shown on 115825-00 Figure 2 Extent of Phase 1A Capping.

2.7 Leachate levels

- 2.7.1 The limits for the level of leachate listed in schedule 3 table S3.1 shall not be exceeded.

2.8 Closure and aftercare

- 2.8.1 The operator shall maintain a closure and aftercare management plan.

2.9 Landfill gas management

- 2.9.1 The operator shall take appropriate measures, including, but not limited to, those specified in any approved landfill gas management plan, to:
- (a) collect landfill gas; and
 - (b) control the migration of landfill gas.
- 2.9.2 The operator shall use the collected landfill gas to produce energy. If the collected landfill gas cannot be used to produce energy, the operator shall flare the gas.
- 2.9.3 The operator shall:
- (a) if notified by Natural Resources Wales, submit to Natural Resources Wales for approval within the period specified, a revised landfill gas management plan;
 - (b) implement the revised landfill gas management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.2, S3.3 and S3.4.
- 3.1.2 The limits given in table S3.2 shall not be exceeded, save that compliance with an emission limit in that table shall include incorporation of the uncertainty allowance stated in Environment Agency guidance LFTGN 05 and LFTGN 08.
- 3.1.3 There shall be no emission from the activities into groundwater of any hazardous substances contrary to the EP Regulations.

- 3.1.4 There shall be no emission from the activities into groundwater of any non-hazardous pollutants so as to cause pollution.
- 3.1.5 The trigger levels for emissions into groundwater for the parameters and monitoring points set out in schedule 3 table S3.3 shall not be exceeded.
- 3.1.6 The operator shall submit to Natural Resources Wales a review of the Hydrogeological Risk Assessment:
- (a) between nine and six months prior to the sixth anniversary of the granting of the permit, and
 - (b) between nine and six months prior to every subsequent six years after the sixth anniversary of the granting of the permit.
- 3.1.7 The limits for landfill gas arising from the installation set out in schedule 3, tables S3.4 and S3.5 shall not be exceeded.

3.2 Emissions of substances not controlled by emission limits

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
- (a) if notified by Natural Resources Wales that the activities are giving rise to pollution, submit to Natural Resources Wales for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
 - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.
- 3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

- 3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of Natural Resources Wales, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.3.2 The operator shall:
- (a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to odour, submit to Natural Resources Wales for approval within the period specified, an odour management plan;
 - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

3.4 Noise and vibration

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of Natural Resources Wales, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.4.2 The operator shall:
- (a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to noise and vibration, submit to Natural Resources Wales for approval within the period specified, a noise and vibration management plan;
 - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by Natural Resources Wales, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) Leachate specified in tables S3.1 and S3.7;
 - (b) Point source emissions specified in tables S3.2, S3.3 and S3.4;
 - (c) Groundwater specified in tables S3.3 and S3.9;
 - (d) Landfill gas specified in tables S3.4, S3.5 and S3.6; and
 - (e) Surface water specified in table S3.8.
- 3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.5.3 A topographical survey of the site referenced to ordnance datum shall be carried out:
- (a) Years 1 and 2 post closure - annually,
 - (b) Year 3 onwards – every two years, and
 - (c) Review of frequency after Year 7 dependent on identification of changes in the landfill topography.
- The topographical survey shall be used to produce a plan of a scale adequate to show the surveyed features of the site.
- 3.5.4 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by Natural Resources Wales.
- 3.5.5 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.2, S3.3, S3.4, S3.5, S3.6, S3.7, S3.8 and S3.9 unless otherwise agreed in writing by Natural Resources Wales.

4 Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

- (a) be legible;
- (b) be made as soon as reasonably practicable;
- (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
- (d) be retained, unless otherwise agreed in writing by Natural Resources Wales, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.
 - (iii) the results of groundwater monitoring;
 - (iv) sub-surface landfill gas monitoring;
 - (v) leachate levels, quality and quantities;
 - (vi) landfill gas generation and collection;
 - (vii) waste types and quantities;
 - (viii) the specification and as built drawings of the basal, sidewall and capping engineering systems.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by Natural Resources Wales.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to Natural Resources Wales using the contact details supplied in writing by Natural Resources Wales.

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to Natural Resources Wales by 31 January (or other date agreed in writing by Natural Resources Wales) each year. The report(s) shall include as a minimum:

- (a) a review of the results of the monitoring and assessment carried out in accordance with this permit against the relevant assumptions, parameters and results in the risk assessments submitted in relation to this installation and any agreed amendments thereto;
- (b) the annual production/treatment set out in schedule 4 table S4.2;
- (c) the topographical surveys required by condition 3.5.3 other than those submitted as part of a CQA validation report;
- (d) an assessment of the settlement behaviour of the landfill body based on the difference between the most recent topographical survey and previous annual topographical survey for the areas of the landfill which did not receive waste between the surveys.

- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by Natural Resources Wales, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
 - (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to Natural Resources Wales, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.3 Notifications

- 4.3.1 (a) In the event that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
- (i) inform Natural Resources Wales,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) in the event of a breach of any permit condition the operator must immediately—
- (i) inform Natural Resources Wales, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1 [(a)(i), or 4.3.1 (b)(i)] where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where Natural Resources Wales has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform Natural Resources Wales when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to Natural Resources Wales at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 Natural Resources Wales shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);
- (b) any change in the operator's name(s) or address(es); and
- (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) Natural Resources Wales shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "without delay", in which case it may be provided by telephone.

Schedule 1 - Operations

Table S1.1 activities

Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity
A1	Section 5.2 Part A(1) (a) , The disposal of waste in a landfill.	Landfill for non-hazardous waste D1: Deposit into or onto land (landfill constructed prior to Landfill Directive requirements)	Management and monitoring of emissions from the closed landfill.
Directly Associated Activity			
A2	Leachate management, and fugitive emission mitigation measures	Transfer of leachate and collected groundwater to adjacent leachate treatment and disposal facility	Leachate arising from the permitted landfill.
A3	Landfill gas management	Flaring of landfill gas for disposal in an appliance	Landfill gas arising from the permitted landfill.
A4	Collection by pumping from boreholes the shallow groundwater from the down hydraulic gradient edge of the site	Transfer of collected groundwater to adjacent leachate treatment and disposal facility	
A5	Water discharges to controlled waters	Discharges of site drainage from the landfill	From surface water management system to point of entry to controlled waters.
A6	Fuel storage	Storage of fuel for operation of plant and equipment	Fuel storage tanks

Table S1.2 Operating techniques

Description	Parts
Position statement for pumping well cut off system dated Jan 2009; and subsequent pumping well re-enforcement(s)	Operation and maintenance of the pumping well cut off system
Closure Report (ref 11/8279) dated 11 Jun 2013	Parts 1, 2, 4, 5, and 6; Appendix A - Aftercare Phase Environmental and Infrastructure Monitoring Programme.
Letter (ref 115825) dated 6 Feb 2014 in response to CAR 0194073	Parts 1.0, 2.0 (excluding 2004 SRA relating to Phase 1 capping), 3.0 and 4.0

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
IC1a	<p>The Operator shall submit to Natural Resources Wales for approval a plan for the Pumping of groundwater and leachate from down-gradient monitoring point GW9. The plan shall include:-</p> <ul style="list-style-type: none"> a) aims, objectives and timescales (with proposed start date); b) pumping system design and specification; c) proposals for subsequent assessment and review of data, including pumping rate, recharge rate and water quality against relevant environmental quality standards. 	4 months from permit issue
IC1b	<p>Following approval, the Operator shall submit a report to Natural Resources Wales containing</p> <ul style="list-style-type: none"> a) monitoring results, review of data, conclusions and recommendations; b) any proposals for longer term pumping and periodic review as required. 	12 months from approval of IC1a
IC2	<p>The Operator shall submit to Natural Resources Wales for approval a Failure Response Plan for the BSC pipe. The plan shall include:-</p> <ul style="list-style-type: none"> a) an assessment of leachate levels and response zones within the Phase 1 waste mass; b) proposals to install dedicated leachate extraction wells in the event of a failure to BSC pipe or the branch lines being detected; c) the proposed extraction well locations and their construction specification; d) the response time for their installation, or for pre-emptive installation if necessary; and e) any alternative techniques. 	15 months from permit issue

Schedule 2 - Waste types

No waste shall be accepted for disposal.

Schedule 3 – Emissions and monitoring

Table S3.1 Leachate level limits and monitoring requirements

Monitoring point reference/ Description	Limit	Monitoring frequency	Monitoring method
Leachate monitoring wells LC1A, LC2A, LC4A and LC5A as shown on Plan 'Environmental Monitoring programme Figure 2'	3.0m head Mean leachate head as measured in wells across site; not exceeding limit on three consecutive surveys	Quarterly	In accordance with Environment Agency document LFTGN 02 February 2003 'Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water'

Table S3.2 Point source emissions to air – emission limits and monitoring requirements

Emission point Ref. & Location	Parameter	Source	Limit (including unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
Flare in the Gas Compound as shown on Drawing DS02-D	Oxides of Nitrogen	Landfill Gas	150 mg/m ³	Hourly mean	Annually	In accordance with M2 version 10, October 2013 'Monitoring of stack emissions to air'
	CO	Flare	100 mg/m ³			
	Total VOCs		10 mg/m ³			
	Operational Temperature		>1000 °C			

Footnote: Annual monitoring is only required when flares operate in excess of 10% of the time, taken on an annual assessment period.

Table S3.3 Trigger levels for emissions into groundwater and monitoring requirements

Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
GW6, GW7, GW9, and GW12 as shown on Plan 'Environmental Monitoring programme Figure 2'	ammoniacal nitrogen	1 mg/l	Spot Sample	Quarterly	In accordance with Environment Agency document LFTGN 02 April 2003 'Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water'
	chloride	250 mg/l			
	mercury	0.0002 mg/l		Quarterly	
	nickel	0.05 mg/l			
	sulphate	400 mg/l			

Table S3.3 Trigger levels for emissions into groundwater and monitoring requirements

Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
	zinc	0.05 mg/l			For Landfills and the Derivation of Groundwater Control Levels and Compliance Limits'.

Footnote: GW9 ammoniacal nitrogen and chloride limits to be disapplied pending review of IC1b report for pumping of groundwater and leachate conclusions.

Table S3.4 Landfill gas in external monitoring boreholes – limits and monitoring requirements

Monitoring point Ref. /description	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard or method
GMW2, GMW3, GMW4, GMW5, GMW6, GMW7,	Methane	1.0% vol	Monthly	In accordance with the Environment Agency's guidance on the Management of Landfill Gas (LFTGN03)
GMW12				
Red		2.0% vol		
Yellow		1.0% vol		
White		1.0% vol		
GMW13				
Red		1.2% vol		
Yellow		1.2% vol		
White		1.0% vol		
GMW14				
Red		1.0% vol		
Yellow		1.2% vol		
White		1.2% vol		
GMW1, GMW8, GMW9, GMW10, GMW17, and GMW18		No limit		
as shown on Plan 'Environmental Monitoring programme Figure 2'	Carbon Dioxide	No limit		
	Oxygen			
	Atmospheric pressure			
	Differential Pressure			
	Meteorological data			

Table S3.5 Landfill gas from capped surfaces – limits and monitoring requirements

Monitoring point Ref. /description	Parameter	Limit (including unit)	Monitoring frequency	Monitoring Standard or method
Permanently capped zone	Average methane flux and total methane emission	Average zone emission rate of 0.001 mg/m ² /second	Annually	As per LFTGN 07 version 2, March 2011 'Guidance on monitoring landfill gas surface emissions', or as otherwise agreed with Natural Resources Wales

Table S3.6 Landfill gas – other monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
In waste gas extraction wells	Methane, Carbon Dioxide, Oxygen, Carbon Monoxide, Atmospheric pressure, Differential pressure, Gas flow rate or suction, % Balance Gas (calculated as the difference between the sum of measured gases and 100%), Valve setting	Monthly	In accordance with guidance on the Management of Landfill Gas (LFTGN03)	Where the oxygen concentration exceeds 5% or the % balance gas is greater than 20% an assessment of air ingress into the system shall be undertaken. Where the concentration of carbon monoxide exceeds 100 ppm then further investigation shall be undertaken.
Input to LFG Compound	Methane Carbon Dioxide Oxygen Balance Gas Gas flow rate Suction	In accordance with guidance on the Management of Landfill Gas (LFTGN03)	In accordance with guidance on the Management of Landfill Gas (LFTGN03)	Where the oxygen concentration exceeds 5% or the % balance gas is greater than 20% an assessment of air ingress into the system shall be undertaken.
Input to LFG Compound.	Trace gas analysis	Annually	In accordance with "Guidance for monitoring trace components in landfill gas" (LFTGN04)	
Flare on Gas Compound	Temperature	As per LFTGN05, v. 2, issued March 2011	As per M2 V7 August 2010	

Table S3.7 Leachate– other monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method
Leachate monitoring wells L1A, L1B,	temp, pH, electrical conductivity, DO, Redox potential,	Quarterly	As specified in Environment Agency Guidance TGN02
Leachate monitoring wells LC1A, LC2A, LC4A, LC5A, and	Suspended Solids, Dissolved Solids, ammoniacal nitrogen, TOC,		'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003) and
Leachate monitoring outfalls LP3A, LP4, as shown on Plan 'Environmental Monitoring programme Figure 2'	alkalinity, sulphate, chloride, manganese, nickel, zinc, mercury		Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J, version 2.1, (December 2011)
	Hazardous substances	Every four years	
Leachate monitoring wells BH1, BH2, BH3, BH4, as shown on Plan 'Environmental Monitoring programme Figure 2'	Leachate head along BSC pipe	Weekly	
	Base of monitoring point (mAoD)	Annually	

Table S3.8 Surface water – other monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
SWD, SWD1 as shown on Plan 'Environmental Monitoring programme Figure 2'	temp, pH, electrical conductivity, DO, Redox potential, Suspended Solids, ammoniacal nitrogen, TOC, alkalinity, sulphate, chloride, manganese, nickel, zinc, mercury	Quarterly	Spot Sample	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003) and
SWU, SW2AI, SWW4, SWW1, SWW2, as shown on Plan 'Environmental Monitoring programme Figure 2'		Six-monthly		Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J., version 2.1, (December 2011)
Additional monitoring locations SW1-SW10	ammoniacal nitrogen, chloride, mercury	Monthly		

Footnote: Requirements for additional monitoring SW1-SW10 to be reviewed following receipt of IC1b report for pumping of groundwater and leachate conclusions.

Table S3.9 Groundwater – other monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method
Up gradient Monitoring wells GW3A, GW4 and GW11A	Water level, temp, pH, electrical conductivity, DO, Redox potential, ammoniacal nitrogen, TOC, alkalinity, sulphate, chloride, manganese, zinc, nickel, mercury.	Quarterly	As specified in Appendix 6 of Environment Agency Guidance LFTGN 02 February 2003 'Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water' and Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J, version 2.1, (December 2011)
Down gradient Monitoring wells GW6, GW7, GW9, GW10, and GW12			
as shown on Plan 'Environmental Monitoring programme Figure 2'.			
	Hazardous Substances detected in leachate	Every four years	If the results of monitoring suggest an increase in contamination, the operator shall also undertake a full hazardous substances screen
	Base of monitoring point (mAoD)	Annually	

Schedule 4 - Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Leachate levels As specified by Schedule 3, Table S3.1		Every 3 months	31 March, 30 June, 30 September, 31 December
Emissions to air Parameters as specified by Schedule 3, Table S3.2		Every 12 months	31 March, 30 June, 30 September, 31 December
Groundwater Parameters as specified by Schedule 3, Table S3.3		Every 3 months	31 March, 30 June, 30 September, 31 December
Landfill gas surface emissions as specified by Schedule 3, Table S3.5		Every 12 months	31 March, 30 June, 30 September, 31 December
Landfill gas lateral migration Parameters as specified by Schedule 3, Table S3.4		Every 3 months	31 March, 30 June, 30 September, 31 December
Other Landfill gas monitoring Parameters as specified by Schedule 3, Table S3.6		Every 3 months	31 March, 30 June, 30 September, 31 December
Other leachate monitoring Parameters as required by condition 3.5.1		Every 3 months	31 March, 30 June, 30 September, 31 December
Hazardous Substances screen		Every 4 years	
Other surface water monitoring Parameters as required by condition 3.5.1		Every 3 months	31 March, 30 June, 30 September, 31 December
Other groundwater monitoring Parameters as required by condition 3.5.1		Every 3 months	31 March, 30 June, 30 September, 31 December
Hazardous Substances		Every 4 years	

Table S4.2 Annual production/treatment

Parameter	Units
Leachate: Disposed of off site; Disposed of to any onsite effluent treatment plant; Recirculated into the waste mass.	Cubic metres/year
Surface water and/ or groundwater: Disposed of off site; Disposed of to any onsite effluent treatment plant.	Cubic metres/year
Landfill gas: combustion in flares; combustion in gas engines; Other methods of gas utilisation.	Normalised cubic metres/year

Table S4.3 Performance parameters

Parameter	Frequency of assessment	Units
<i>Table not applicable</i>		

Table S4.4 Reporting forms

Media/parameter	Reporting format	Date of form
Leachate	Form Leachate 1 or other reporting format to be agreed in writing with Natural Resources Wales	04/03/2016
Air	Form Air 1 or other reporting format to be agreed in writing with Natural Resources Wales	04/03/2016
Controlled water	Form Water 1 or other reporting format to be agreed in writing with Natural Resources Wales	04/03/2016
Groundwater	Form Groundwater 1 or other reporting format to be agreed in writing with Natural Resources Wales	04/03/2016
Landfill gas	Form LFG 1 or other reporting format to be agreed in writing with Natural Resources Wales	04/03/2016
Waste Return	Waste tonnage return form from the Natural Resources Wales website or other form as agreed in writing by Natural Resources Wales	04/03/2016
Landfill topographical surveys and interpretation	Reporting format to be agreed in writing with Natural Resources Wales	04/03/2016

Schedule 5 - Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or fugitive emission which has caused, is causing or may cause significant pollution

To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit

To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B - to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 - Interpretation

“accident” means an accident that may result in pollution.

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“annually” means once every year.

“authorised officer” means any person authorised by Natural Resources Wales under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“Background concentration” means such concentration of that substance as is present in:

- For emissions to surface water, the surface water quality up-gradient of the site; or
- For emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge; or
- For emissions of landfill gas, the ground or air outside the site and not attributable to the site.

“Construction Proposals” means written information, at a level of detail appropriate to the complexity and pollution risk, on the design, specifications of materials selected, stability assessment (where relevant) and the construction quality assurance (CQA) programme in relation to the Landfill Infrastructure.

“CQA Validation Report” means the final “as built” construction and engineering details of the Landfill Infrastructure. It must provide a comprehensive record of the construction and must include, where relevant:

- The results of all testing required by the CQA programme - this must include the records of any failed tests with a written explanation, details of the remedial action taken, referenced to the appropriate secondary testing;
- Plans showing the location of all tests;
- “As-built” plans and sections of the works;
- Copies of the site engineer’s daily records;
- Records of any problems or non-compliances and the solution applied;
- Any other site specific information considered relevant to proving the integrity of the Landfill Infrastructure;
- Validation by a qualified person that all of the construction has been carried out in accordance with the Construction Proposals.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit..

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“Landfill Infrastructure” means any specified element of the:

- permanent capping;
- leachate abstraction systems;
- leachate transfer, treatment and storage systems;
- surface water drainage systems;
- leachate monitoring wells;
- groundwater monitoring boreholes;
- landfill gas monitoring boreholes;
- landfill gas management systems;

within the site.

“Liquids” means any liquid other than leachate within the engineered landfill containment system.

“LFTGN 05” means Environment Agency Guidance for monitoring enclosed landfill gas flares.

“LFTGN 07” means Environment Agency Guidance on monitoring landfill gas surface emissions.

“LFTGN 08” means Environment Agency Guidance for monitoring landfill gas engines.

“M2” means Environment Agency Guidance Monitoring of stack emissions to air.

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“Review of the Hydrogeological Risk Assessment” means a written review of the hydrogeological risk assessment included in the Application, together with any other parts of the Application that addressed the requirements of the EP Regulations. The review shall assess whether the activities of disposal or tipping for the purpose of disposal of waste authorised by the permit continue to meet the requirements of the EP Regulations.

“waste code” means the six digit code referable to a type of waste in accordance with the list of wastes established by Commission Decision 2000/532/EC as amended from time to time (the ‘List of Wastes Decision’) and in relation to hazardous waste, includes the asterisk.

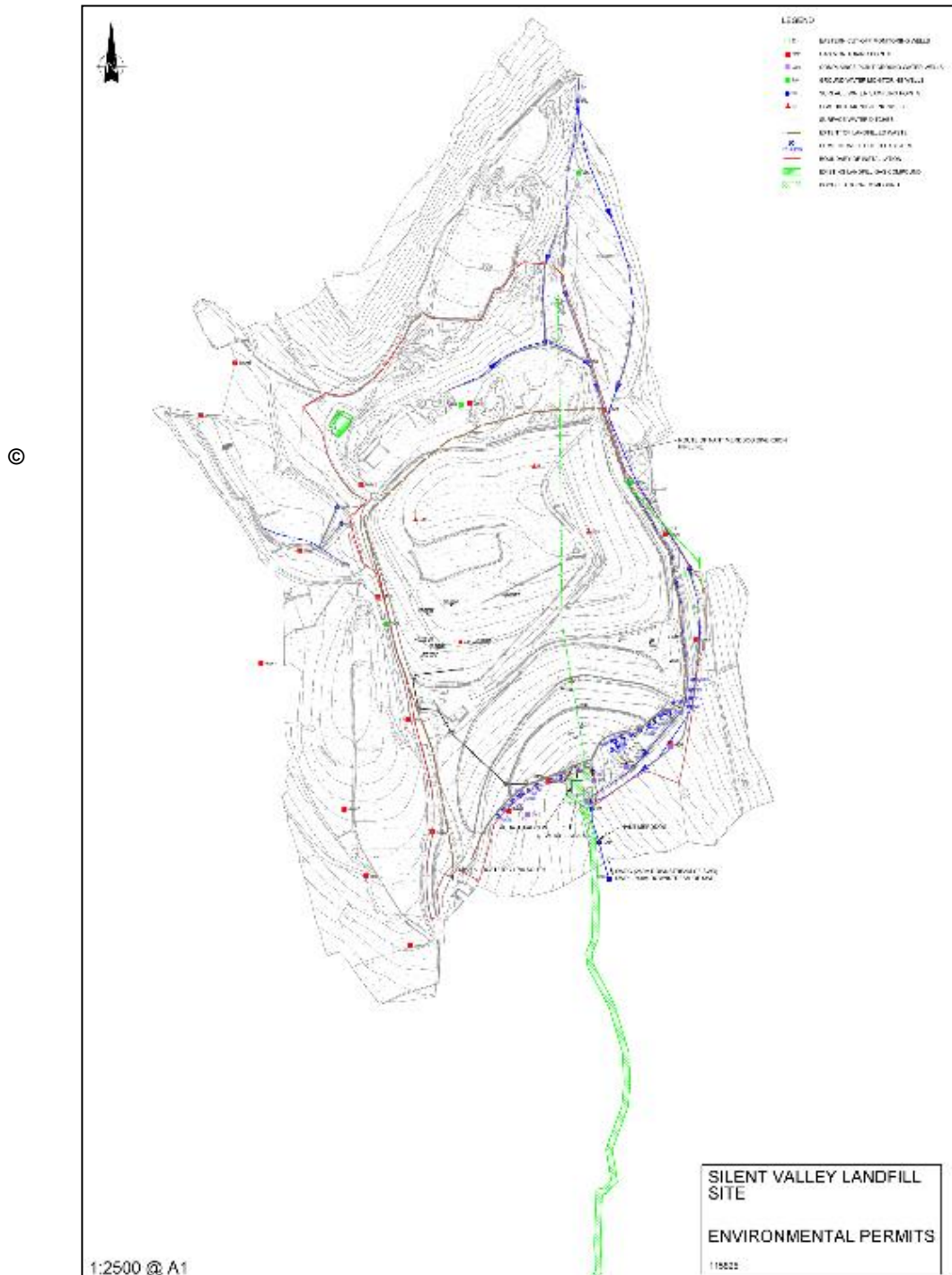
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means the standards included in Environment Agency Guidance for Monitoring Enclosed Landfill Gas Flares LFTGN 05 or Guidance for Monitoring Landfill Gas Engine Emissions LFTGN 08.

“year” means calendar year ending 31 December.

Schedule 7 - Site plan

Drawing Reference Silent Valley Landfill Site – Environmental Permits



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END OF PERMIT

Permit Number: EPR/MP3835SV Operator: Silent Valley Waste Services Limited

Facility: Silent Valley Landfill Form Number: Air1

Reporting of emissions to air for the period from DD/MM/YYYY to DD/MM/YYYY

Emission Point	Substance / Parameter	Emission		Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]
		Limit Value						
LFGF1	Carbon monoxide	50 mg/m ³		Hourly Mean		BS EN 15058		
LFGF1	VOC as Total Organic Carbon (TOC)	10 mg/m ³		Hourly Mean		BS EN 12619		
LFGF1	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	150 mg/m ³		Hourly Mean		BS EN 14792		

- [1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.
- [2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with Natural Resources Wales is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.
- [3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.
- [4] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed
(Authorised to sign as representative of Operator)

Date.....

Permit Number: EPR/MP3835SV Operator: Silent Valley Waste Services Limited

Facility: Silent Valley Landfill Form Number Water1

Reporting of emissions to water (other than to sewer) and land for the period from DD/MM/YYYY to DD/MM/YYYY

Emission Point	Substance / Parameter	Emission		Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]
		Limit Value	Reference Period				
<i>There are no point source emissions to water</i>	-	-	-	-	-	-	-

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with Natural Resources Wales is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.

[3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.

[4] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed
(Authorised to sign as representative of Operator)

Date.....

Permit Number: EPR/MP3835SV Operator: Silent Valley Waste Services Limited

Facility: Silent Valley Landfill Form Number WaterUsage1

Reporting of Water Usage for the year

Water Source	Usage (m ³ /year)	Specific Usage (m ³ /unit output)
Mains water		
Site borehole		
River abstraction		
TOTAL WATER USAGE		

Operator's comments :

Signed
(authorised to sign as representative of Operator)

Date.....

Permit Number: EPR/MP3835SV Operator: Silent Valley Waste Services Limited

Facility: Silent Valley Landfill Form Number: Energy1

Reporting of Energy Usage for the year

Energy Source	Energy Usage		Specific Usage (MWh/unit output)
	Quantity	Primary Energy (MWh)	
Electricity *	MWh		
Natural Gas	MWh		
Gas Oil	tonnes		
Recovered Fuel Oil	tonnes		
TOTAL	-		

* Conversion factor for delivered electricity to primary energy = 2.4

Operator's comments :

Signed
(Authorised to sign as representative of Operator)

Date.....

Facility: Silent Valley Landfill Form Number Performance1

[illegible]

Operator's comments :

Date.....

Permit Number: EPR/MP3835SV Operator: Silent Valley Waste Services Limited
 Facility: Silent Valley Landfill Form Number Leachate1

Reporting of leachate monitoring for the period from DD/MM/YYYY to DD/MM/YYYY

Monitoring Point	Substance / Parameter	Compliance limit	Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]
	Parameters as in Table S3.7						
	Parameters as in Table S3.7						
	Parameters as in Table S3.7						
	<i>Parameters as in Table S3.7</i>						
	Parameters as in Table S3.7						

- [1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.
- [2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with Natural Resources Wales is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.
- [3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.
- [4] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed
 (Authorised to sign as representative of Operator)

Date.....

Permit Number: EPR/MP3835SV Operator: Silent Valley Waste Services Limited

Facility: Silent Valley Landfill Form Number: Groundwater1

Reporting of groundwater monitoring for the period from DD/MM/YYYY to DD/MM/YYYY

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with Natural Resources Wales is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.

[3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.

[4] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed
(Authorised to sign as representative of Operator)

Date.....

Permit Number: EPR/MP3835SV Operator: Silent Valley Waste Services Limited
 Facility: Silent Valley Landfill Form Number LFG1

Reporting of landfill gas monitoring for the period from DD/MM/YYYY to DD/MM/YYYY

Monitoring Point	Substance / Parameter	Compliance limit	Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]

- [1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.
- [2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with Natural Resources Wales is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.
- [3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.
- [4] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed
 (Authorised to sign as representative of Operator)

Date.....