Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Enovert North Limited

Hafod Quarry Landfill
Bangor Road
Johnstown
Wrexham
LL14 6ET

Permit number

EPR/PP3139GB

Hafod Quarry Landfill
Permit number EPR/PP3139GB

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows.

This permit allows the disposal of up to 300,000 tonnes of non-hazardous waste and 60,000 tonnes of inert waste per annum in this landfill site. In addition the permit will control the related activities of landfill gas extraction and treatment and leachate management.

This permit allows the following activities to carried out within the permitted boundary:

- Flaring of landfill gas.
- Burning of landfill gas in engines.

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**	**Comments**
Application reference BS8621 (EPR/BS8621/A001)	Duly Made 26/11/02	Application for a non-hazardous waste landfill site
Request for further information	01/05/03	
Request for further information	25/07/03	
Permit determined	08/10/04	
Variation application TP3032LA (EPR/BS8621/V002)	Duly Made 09/10/06	
Variation determined TP3032LA (EPR/BS8621/V002)	28/02/07	
Transfer application PP3139GB (EPR/PP3139GB/T001)	Duly Made 26/09/08	
Transfer determined PP3139GB (EPR/PP3139GB/T001)	26/11/08	Permit transferred from Mersey Waste Holdings Limited to Cory Environmental (Central) Limited

Status log of the permit		
Description	**Date**	**Comments**
Variation application GP3034GM (EPR/GP3139GB/V003)	Duly Made 13/01/09	
Variation determined GP3034GM (EPR/GP3139GB/V003)	27/03/09	
Variation application (PAS reference KP3933KM) EPR/PP3139GB/V004	Duly Made 01/04/09	
Additional information requested	26/05/09	
Variation determined (PAS reference KP3933KM) EPR/PP3139GB/V004	25/09/09	
Variation application EPR/PP3139GB/V005	Duly Made 26/04/10	
Variation determined EPR/PP3139GB/V005	08/06/10	
Variation application EPR/PP3139GB/V006	Duly Made 11/11/11	Application to vary leachate heads, emission limits and monitoring points and requirements
Variation application EPR/PP3139GB/V006	07/02/12	Permit variation issued
Agency variation determined EPR/PP3139GB/V007	12/06/13	Agency variation to implement the changes introduced by IED
Variation application EPR/PP3139GB/V008	Duly Made 05/01/16	
Variation determined EPR/PP3139GB/V008	25/01/16	Permit variation issued
Variation application PAN-002221	04/01/18	Application received for operator name change (rebranding)
Variation Application PAN-002301	30/01/18	Application received, Minor Technical Variation
Additional Information Received	18/09/2018	Information relating to deposit of waste for recovery
Variation determined EPR/PP3139GB/V009	27/11/2018	Variation issued with updated consolidated permit incorporating the operator name change and the minor technical variation.

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number
EPR/PP3139GB

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/PP3139GB/V009 authorising,

Enovert North Limited ("the operator"),

whose registered office is

20 Old Broad Street
London
EC2N 1DP

company registration number **02773558**

to operate an installation at

Hafod Quarry Landfill
Bangor Road
Johnstown
Wrexham
LL14 6ET

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

Signed	Date
Holly Noble	**27/11/2018**

Authorised on behalf of Natural Resources Wales

Conditions

1 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 set out in the Agreement between the operator and Natural Resources Wales dated 26 January 2018 or other subsequent agreement agreed in writing with Natural Resources wales 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.

1.2.2 The operator shall ensure that the charges it makes for the disposal of waste in the landfill cover all of the following:

(a) the costs of setting up and operating the landfill;

(b) the costs of the financial provision required by condition 1.2.1; and

(c) the estimated costs for the closure and aftercare of the landfill.

1.3 Energy efficiency

1.3.1 The operator shall:

(a) take appropriate measures to ensure that energy is used efficiently in the activites;

(b) Review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and

(c) Implement any appropriate measures identified by a review.

1.4 Efficient use of raw materials

1.4.1 The operator shall:

(a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;

(b) maintain records of raw materials and water used in the activities;

(c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and

(d) take any further appropriate measures identified by a review.

1.5 Avoidance, recovery and disposal of wastes produced by the activities

1.5.1 The operator shall:

(a) take appropriate measures to ensure that waste produced by the activities is avoided or reduced, or where waste is produced it is recovered wherever practicable or otherwise disposed of in a manner which minimises its impact on the environment;

(b) review and record at least every four years whether changes to those measures should be made; and

(c) take any further appropriate measures identified by a review.

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 Operating techniques to be adhered to by the operator are as follows:

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.

2.3.2 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:

(a) the nature of the process producing the waste;

(b) the composition of the waste;

(c) the handling requirements of the waste;

(d) the hazardous property associated with the waste, if applicable; and

(e) the waste code of the waste.

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 any new cell of the landfill shall commence until the operator has submitted construction proposals and Natural Resources Wales has confirmed that it is satisfied with the construction proposals.

2.5.2 Where the operator proposes to construct any new cell other than the first cell, but proposes no change from the design of the most recently approved cell which could have any impact on the performance of any element of the design, no construction of the new cell shall commence until the operator has submitted a cell layout drawing and Natural Resources Wales has confirmed that it is satisfied with the cell layout drawing.

2.5.3 The construction of a new cell 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.

2.5.4 No disposal of waste shall take place in a new cell until the operator has submitted a CQA Validation Report and Natural Resources Wales has confirmed that it is satisfied with the CQA Validation Report.

2.5.5 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.

2.5.6 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.

2.5.7 The operator shall submit a CQA Validation Report as soon as practicable following the construction of the relevant landfill infrastructure.

2.5.8 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.5.5 and 2.5.6 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.

2.5.9 For the purposes of conditions 2.5.1,2.5.2, 2.4.4 and 2.5.5, 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.

2.5.10 Where Natural Resources Wales has required further information under condition 2.5.9(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 Wastes shall only be accepted for disposal if:

(a) they are listed in schedule 2, table S2.1; and

(b) they are non- hazardous waste , and

(c) they are not whole used tyres (other than bicycle tyres and tyres with an outside diameter of more than 1400mm), and

(d) they are not shredded used tyres, and

(e) they are not liquid waste (including waste waters but excluding sludge), and

(f) they are not chemical substances from research and development or teaching activities, for example laboratory residues, which are unidentified and/or which are new and whose effects on man and/or the environment are unknown, and

(g) all the relevant waste acceptance procedures have been completed, and

(h) they fulfil the relevant waste acceptance criteria, and

(i) they have not been diluted or mixed solely to meet the relevant waste acceptance criteria, and

(j) they are wastes which have been treated, except for: inert wastes for which treatment is not technically feasible; or it is waste other than inert waste and treatment would not reduce its quantity or the hazards which it poses to human health or the environment, and

(k) where they are wastes with a code beginning with 07 05 and 16 03, they shall exclude waste medicinal products and pharmaceutically active waste materials arising from their manufacture.

2.6.2 Wastes shall only be accepted for recovery if: :

(a) they are listed in schedule 2, table S2.2; and

(b) they are deposited in accordance with the Hafod Quarry Landfill Site Restoration Plan dated September 2018 including Appendix C – Benefits Statements and Plan titled: Remaining areas to receive soils; referenced HAF189 and dated 12-9-18 or in accordance with other documents as agreed in writing with Natural Resources Wales.

2.6.3 The operator shall visually inspect:

(a) without unloading it, waste that is not in an enclosed container or enclosed vehicle on arrival at the landfill; and

(b) waste at the point of deposit;

and shall satisfy itself that it conforms to the basic characterisation documentation submitted by the holder.

2.6.4 Where the operator has taken samples to establish that the waste is in conformity with the documentation submitted by the holder then the samples taken shall be retained for at least one month and results of any analysis for at least two years.

2.6.5 The operator on accepting each delivery of waste shall provide a receipt to the person delivering it.

2.6.6 The total quantity of waste that shall be deposited in the landfill shall be limited by the pre-settlement levels shown on drawing 2425/2/013.

2.6.7 The quantity of waste that is deposited in the landfill in any year shall not exceed the limits in schedule 1 table S1.4.

2.6.8 The operator shall maintain and implement a system which ensures that a record is made of the quantity, characteristics, date of delivery and, where practicable, origin of any waste that is received for disposal or recovery and of the identity of the producer, or in the case of municipal waste and multiple collection vehicles, of the collector of such waste. Any information regarded by the operator as commercially confidential shall be clearly identified in the record.

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:

(b) 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..

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 parameter(s) and monitoring point(s) set out in schedule 3 table S3.5 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 S3.6 and S3.7 shall not be exceeded.

3.1.8 The limits for particulate matter arising from the installation set out in schedule 3, table S3.12 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 which identifies and minimises the risks of pollution from odour;

(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 which identifies and minimises the risks of pollution from noise and vibration;

(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 and any other actions specified in the following tables in schedule 3 to this permit:

(a) Leachate specified in tables S3.1 and S3.9;

(b) Point source emissions specified in tables S3.2, S3.3 and S3.4;

(c) Groundwater specified in tables S3.5 and S3.11;

(d) Landfill gas specified in tables S3.6, S3.7 and S3.8;

(e) Surface water specified in table S3.10; and

(f) Particulate matter specified in table S3.12.

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) annually, and

(b) prior to the disposal of waste in any new cell or new development area of the landfill, and

(a) following closure of the landfill or part of the landfill.

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 and S3.3 unless otherwise agreed in writing by Natural Resources Wales.

3.6 Pests

3.6.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.

3.6.2 The operator shall:

(a) if notified by Natural Resources Wales, submit to Natural Resources Wales for approval within the period specified, a pests management plan which identifies and minimises risks of pollution, hazard or annoyance from pests;

(b) implement the pests management plan, from the date of approval, 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) the results of groundwater monitoring;

(ii) the results of surface water monitoring;

(iii) sub-surface landfill gas monitoring;

(iv) leachate levels, quality and quantities;

(v) landfill gas generation and collection;

(vi) waste types and quantities;

(vii) topographical surveys; and

(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.

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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 energy consumed at the site, reported in the format set out in schedule 4 table S4.3

(c) the annual production/treatment set out in schedule 4 table S4.2;

(d) the topographical surveys required by condition 3.5.3 other than those submitted as part of a CQA validation report;

(e) the volumetric difference (reported in cubic metres) between the most recent topographical survey and the previous annual topographical survey i.e. the additional volume of the landfill void that is occupied by waste;

(f) an assessment of the settlement behavior 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;

(g) a calculation of the remaining capacity (reported in cubic metres) derived from the pre-settlement contours and the most recent topographical survey;.

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 Within one month of the end of each quarter, the operator shall submit to Natural Resources Wales using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.2.5 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.

4.3.6 Natural Resources Wales shall be given at least 14 days notice before implementation of any part of the site closure plan.

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 S1.1Specified Activities		
Activity under Schedule 1 of the EP Regulations/ Associated Activity	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity**
Section 5.2 Part A(1)(a) The disposal of waste in a landfill.	**D5:** Landfill for non-hazardous waste	Receipt, handling, storage and disposal of non-hazardous wastes, consisting of the types and quantities specified in condition 2.6 as an integral part of landfilling.
Deposit of waste for recovery	**R13:** Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced) **R5:** Recycling/ reclamation of other inorganic compounds **R10:** Land treatment resulting in benefit to agriculture or ecological improvement	Receipt, handling, storage and recovery of non-hazardous wastes, consisting of the types and quantities specified in condition 2.6 . This waste operation shall consist of the permanent deposit of waste on or in land for the purpose of recovery only. In any event the total quantity of waste used shall not exceed the amount needed to complete the recovery operation to the final levels in the approved waste recovery plan. The total quantity of waste deposited for recovery shall not exceed 206,287m^3. Topsoil and peat shall only be used for the the R10 activity in the final 0.5m thick layer to achieve the restoration profile required.
Directly Associated Activites		
Burning of waste as a fuel	Combustion of landfill gas for the purpose of electricity generation	Landfill gas arising from the Hafod Quarry Landfill site.
Landfill Gas Flaring	Flaring of landfill gas for disposal in an appliance.	Landfill gas arising from the Hafod Quarry Landfill site.
Leachate management	Storage of leachate prior to removal from site.	Leachate arising from the landfill.
Water discharges to controlled waters	Controlled discharge of site drainage from the installation	From surface water management system to point of entry to controlled waters.

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Consolidated Application	The response to questions 1.1, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, in part B of the application form, excluding the section referred to in Schedule 4 notice dated 01/05/2003 and letter from the agency dated 25/07/2003.	08/08/2003
Letter from M W H associates Ltd in response to Schedule 4 notice dated 01/05/2003	Where comments in the M W H Associates Ltd letter dated 29/05/2003 are agreed in writing with the agency.	29/05/2003
Letter from M W H associates Ltd in response to Schedule 4 notice dated 25/07/2003	Where comments in the M W H Associates Ltd letter dated 08/08/2003 are agreed in writing with the agency.	08/08/2003
Compliance with Improvement condition – Habitats monitoring plan dated 14/09/2006	All	14/09/2004
Revised surface water management plan reference MW4553/3/RAC and addendum	All	03/08/2006 and 18/08/2006. Agreed 21/08/2006
Letter dated 14/09/2006 regarding additional waste	All	Letter agreeing waste dated 19/09/2006
Compliance with improvement condition – Gas monitoring plan dated 30/06/2006 and 23/10/2006 and drawing reference MW4557/2/01 Rev B	All	Agreed 25/10/2006
Landfill gas operating techniques outlined in the variation application received on 01/04/2009 (reference Cory Environmental Ltd, Landfill gas management plan v1, March 2009) and request for further information 26/05/09	All	01/04/2009 & 15/07/2009
Variation application EPR/PP3139GB/V006	Non-technical summary (dated October 2011), excluding proposed removal of temperature monitoring from the leachate monitoring requirements.	11/11/2011
Variation application EPR/PP3139GB/V008	Response to Part C, 2, 2b – notice of permit change & summary. Doc ref Sec 3 (NTS), Sec 4 (RA).	21/11/2015
Variation application EPR/PP3139GB/V008	Response to Part C, 2, Table 1 – Changes to leachate storage volume only. Docs NTS and RA (sec. 3&4).	21/11/2015
Variation application EPR/PP3139GB/V008	Response to Part C, 5, 5a – supporting information, plans and drawings. Doc ref. HAF127 & HAF135 (sec.6) and concrete tank drawings (sec.8) of app.	21/11/2015
Variation application EPR/PP3139GB/V008	Response to Part C, 5, 5c – non-technical summary including planned changes. Removal of 2 steel storage tanks and replacement with 1 concrete storage tank.	21/11/2015
Variation application EPR/PP3139GB/V009	Non Technical Summary	30/01/2018

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Additional Information received	Hafod Quarry Landfill Site Restoration Plan dated September 2018 including Appendix C – Benefits Statements and Plan titled: Remaining areas to receive soils; referenced HAF189 and dated 12-9-18	18/09/2018

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC1	The operator shall submit to Natural Resources Wales for approval, an updated landfill gas management plan. This plan shall include proposed action limits for methane and carbon dioxide concentrations in peripheral gas monitoring boreholes and and action plan to be followed in the event of any unsuitable monitoring results.	Within three months from the date of this consolidated permit being issued

Table S1.4 Annual waste input limits	
Category	**Limit Tonnes/ Year**
Non Hazardous waste	300,000
Inert Waste	60,000
Waste for recovery	100,000

Schedule 2 - List of permitted wastes

Table S2.1 Permitted waste types for disposal	
Waste code	**Description**
01	**Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals**
01 01	**wastes from mineral excavation**
01 01 01	wastes from mineral metalliferous excavation
01 01 02	wastes from mineral non-metalliferous excavation
01 03	**wastes from physical and chemical processing of metalliferous minerals**
01 03 06	tailings other than those mentioned in 01 03 04 and 01 03 05
01 03 08	dusty and powdery wastes other than those mentioned in 01 03 07
01 03 09	red mud from alumina production other than the wastes mentioned in 01 03 10
01 04	**wastes from physical and chemical processing of non-metalliferous minerals**
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
01 04 10	dusty and powdery wastes other than those mentioned in 01 04 07
01 04 11	wastes from potash and rock salt processing other than those mentioned in 01 04 07
01 04 12	tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11
01 04 13	wastes from stone cutting and sawing other than those mentioned in 01 04 07
01 05	**drilling muds and other drilling wastes**
01 05 04	freshwater drilling muds and wastes
01 05 07	barite-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
01 05 08	chloride-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
02	**Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing**
02 01	**wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing**
02 01 03	plant-tissue waste
02 01 04	waste plastics (except packaging)
02 01 06	animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site
02 01 07	wastes from forestry
02 01 09	agrochemical waste other than those mentioned in 02 01 08
02 01 10	waste metal
02 02	**wastes from the preparation and processing of meat, fish and other foods of animal origin**
02 02 01	sludges from washing and cleaning
02 02 03	materials unsuitable for consumption or processing
02 02 04	sludges from on-site effluent treatment
02 03	**wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation**

Table S2.1 Permitted waste types for disposal	
Waste code	**Description**
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation
02 03 02	wastes from preserving agents
02 03 03	wastes from solvent extraction
02 03 04	materials unsuitable for consumption or processing
02 03 05	sludges from on-site effluent treatment
02 04	**wastes from sugar processing**
02 04 01	soil from cleaning and washing beet
02 04 02	off-specification calcium carbonate
02 04 03	sludges from on-site effluent treatment
02 05	**wastes from the dairy products industry**
02 05 01	materials unsuitable for consumption or processing
02 05 02	sludges from on-site effluent treatment
02 06	**wastes from the baking and confectionery industry**
02 06 01	materials unsuitable for consumption or processing
02 06 02	wastes from preserving agents
02 06 03	sludges from on-site effluent treatment
02 07	**wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)**
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	wastes from spirits distillation
02 07 03	wastes from chemical treatment
02 07 04	materials unsuitable for consumption or processing
02 07 05	sludges from on-site effluent treatment
03	**Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard**
03 01	**wastes from wood processing and the production of panels and furniture**
03 01 01	waste bark and cork
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03	**wastes from pulp, paper and cardboard production and processing**
03 03 01	waste bark and wood
03 03 02	green liquor sludge (from recovery of cooking liquor)
03 03 05	de-inking sludges from paper recycling
03 03 07	mechanically separated rejects from pulping of waste paper and cardboard
03 03 08	wastes from sorting of paper and cardboard destined for recycling
03 03 09	lime mud waste
03 03 10	fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
03 03 11	sludges from on-site effluent treatment other than those mentioned in 03 03 10
04	**Wastes from the leather, fur and textile industries**
04 02	**wastes from the textile industry**
04 02 09	wastes from composite materials (impregnated textile, elastomer, plastomer)

Table S2.1 Permitted waste types for disposal	
Waste code	**Description**
04 02 10	organic matter from natural products (for example grease, wax)
04 02 15	wastes from finishing other than those mentioned in 04 02 14
04 02 17	dyestuffs and pigments other than those mentioned in 04 02 16
04 02 20	sludges from on-site effluent treatment other than those mentioned in 04 02 19
04 02 21	wastes from unprocessed textile fibres
04 02 22	wastes from processed textile fibres
05	**Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal**
05 01	**wastes from petroleum refining**
05 01 10	sludges from on-site effluent treatment other than those mentioned in 05 01 09
05 01 13	boiler feedwater sludges
05 01 14	wastes from cooling columns
05 01 16	sulphur-containing wastes from petroleum desulphurisation
05 01 17	bitumen
05 06	**wastes from the pyrolytic treatment of coal**
05 06 04	waste from cooling columns
05 07	**wastes from natural gas purification and transportation**
05 07 02	wastes containing sulphur
06	**Wastes from inorganic chemical processes**
06 03	**wastes from the MFSU of salts and their solutions and metallic oxides**
06 03 14	solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13
06 03 16	metallic oxides other than those mentioned in 06 03 15
06 05	**sludges from on-site effluent treatment**
06 05 03	sludges from on-site effluent treatment other than those mentioned in 06 05 02
06 06	**wastes from the MFSU of sulphur chemicals, sulphur chemical processes and desulphurisation processes**
06 06 03	wastes containing sulphides other than those mentioned in 06 06 02
06 09	**wastes from the MSFU of phosphorous chemicals and phosphorous chemical processes**
06 09 02	phosphorous slag
06 09 04	calcium-based reaction wastes other than those mentioned in 06 09 03
06 11	**wastes from the manufacture of inorganic pigments and opacificiers**
06 11 01	calcium-based reaction wastes from titanium dioxide production
06 13	**wastes from inorganic chemical processes not otherwise specified**
06 13 03	carbon black
07	**Wastes from organic chemical processes**
07 01	**wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals**
07 01 12	sludges from on-site effluent treatment other than those mentioned in 07 01 11
07 02	**wastes from the MFSU of plastics, synthetic rubber and man-made fibres**
07 02 12	sludges from on-site effluent treatment other than those mentioned in 07 02 11

Table S2.1 Permitted waste types for disposal	
Waste code	**Description**
07 02 13	waste plastic
07 02 15	wastes from additives other than those mentioned in 07 02 14
07 02 17	waste containing silicones other than those mentioned in 07 02 16
07 03	**wastes from the MFSU of organic dyes and pigments (except 06 11)**
07 03 12	sludges from on-site effluent treatment other than those mentioned in 07 03 11
07 04	**wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides**
07 04 12	sludges from on-site effluent treatment other than those mentioned in 07 04 11
07 05	**wastes from the MFSU of pharmaceuticals**
07 05 12	sludges from on-site effluent treatment other than those mentioned in 07 05 11
07 05 14	solid wastes other than those mentioned in 07 05 13
07 06	**wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics**
07 06 12	sludges from on-site effluent treatment other than those mentioned in 07 06 11
07 07	**wastes from the MFSU of fine chemicals and chemical products not otherwise specified**
07 07 12	sludges from on-site effluent treatment other than those mentioned in 07 07 11
08	**Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks**
08 01	**wastes from MFSU and removal of paint and varnish**
08 01 12	waste paint and varnish other than those mentioned in 08 01 11
08 01 14	sludges from paint or varnish other than those mentioned in 08 01 13
08 01 16	aqueous sludges containing paint or varnish other than those mentioned in 08 01 15
08 02	**wastes from MFSU of other coatings (including ceramic materials)**
08 02 01	waste coating powders
08 02 02	aqueous sludges containing ceramic materials
08 03	**wastes from MFSU of printing inks**
08 03 07	aqueous sludges containing ink
08 03 13	waste ink other than those mentioned in 08 03 12
08 03 15	ink sludges other than those mentioned in 08 03 14
08 03 18	waste printing toner other than those mentioned in 08 03 17
08 04	**wastes from MFSU of adhesives and sealants (including water proofing products)**
08 04 10	waste adhesives and sealants other than those mentioned in 08 04 09
08 04 12	adhesive and sealant sludges other than those mentioned in 08 04 11
08 04 14	aqueous sludges containing adhesives or sealants other than those mentioned in 08 04 13
09	**Wastes from the photographic industry**
09 01	**wastes from the photographic industry**
09 01 07	photographic film and paper containing silver or silver compounds
09 01 08	photographic film and paper free of silver or silver compounds
09 01 10	single-use cameras without batteries

Table S2.1 Permitted waste types for disposal	
Waste code	**Description**
09 01 12	single-use cameras containing batteries other than those mentioned in 09 01 11
10	**Wastes from thermal processes**
10 01	**wastes from power stations and other combustion plants (except 19)**
10 01 01	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)
10 01 02	coal fly ash
10 01 03	fly ash from peat and untreated wood
10 01 05	calcium-based reaction wastes from flue-gas desulphurisation in solid form
10 01 07	calcium-based reaction wastes from flue-gas desulphurisation in sludge form
10 01 15	bottom ash, slag and boiler dust from co-incineration other than those mentioned in 10 01 14
10 01 17	fly ash from co-incineration other than those mentioned in 10 01 16
10 01 19	wastes from gas cleaning other than those mentioned in 10 01 05, 10 01 07 and 10 01 18
10 01 21	sludges from on-site effluent treatment other than those mentioned in 10 01 20
10 01 23	aqueous sludges from boiler cleansing other than those mentioned in 10 01 22
10 01 24	sands from fluidised beds
10 01 25	wastes from fuel storage and preparation of coal-fired power plants
10 01 26	wastes from cooling-water treatment
10 02	**wastes from the iron and steel industry**
10 02 01	wastes from the processing of slag
10 02 02	unprocessed slag
10 02 08	solid wastes from gas treatment other than those mentioned in 10 02 07
10 02 10	mill scales
10 02 12	wastes from cooling-water treatment other than those mentioned in 10 02 11
10 02 14	sludges and filter cakes from gas treatment other than those mentioned in 10 02 13
10 02 15	other sludges and filter cakes
10 03	**wastes from aluminium thermal metallurgy**
10 03 02	anode scraps
10 03 05	waste alumina
10 03 16	skimmings other than those mentioned in 10 03 15
10 03 18	carbon-containing wastes from anode manufacture other than those mentioned in 10 03 17
10 03 20	flue-gas dust other than those mentioned in 10 03 19
10 03 22	other particulates and dust (including ball-mill dust) other than those mentioned in 10 03 21
10 03 24	solid wastes from gas treatment other than those mentioned in 10 03 23
10 03 26	sludges and filter cakes from gas treatment other than those mentioned in 10 03 25
10 03 28	wastes from cooling-water treatment other than those mentioned in 10 03 27
10 03 30	wastes from treatment of salt slags and black drosses other than those mentioned in 10 03 29
10 04	**wastes from lead thermal metallurgy**
10 04 10	wastes from cooling-water treatment other than those mentioned in 10 04 09

Table S2.1 Permitted waste types for disposal	
Waste code	**Description**
10 05	**wastes from zinc thermal metallurgy**
10 05 01	slags from primary and secondary production
10 05 04	other particulates and dust
10 05 09	wastes from cooling-water treatment other than those mentioned in 10 05 08
10 05 11	dross and skimmings other than those mentioned in 10 05 10
10 06	**wastes from copper thermal metallurgy**
10 06 01	slags from primary and secondary production
10 06 02	dross and skimmings from primary and secondary production
10 06 04	other particulates and dust
10 06 10	wastes from cooling-water treatment other than those mentioned in 10 06 09
10 07	**wastes from silver, gold and platinum thermal metallurgy**
10 07 01	slags from primary and secondary production
10 07 02	dross and skimmings from primary and secondary production
10 07 03	solid wastes from gas treatment
10 07 04	other particulates and dust
10 07 05	sludges and filter cakes from gas treatment
10 07 08	wastes from cooling-water treatment other than those mentioned in 10 07 07
10 08	**wastes from other non-ferrous thermal metallurgy**
10 08 04	particulates and dust
10 08 09	other slags
10 08 11	dross and skimmings other than those mentioned in 10 08 10
10 08 13	carbon-containing wastes from anode manufacture other than those mentioned in 10 08 12
10 08 14	anode scrap
10 08 16	flue-gas dust other than those mentioned in 10 08 15
10 08 18	sludges and filter cakes from flue-gas treatment other than those mentioned in 10 08 17
10 08 20	wastes from cooling-water treatment other than those mentioned in 10 08 19
10 09	**wastes from casting of ferrous pieces**
10 09 03	furnace slag
10 09 06	casting cores and moulds which have not undergone pouring other than those mentioned in 10 09 05
10 09 08	casting cores and moulds which have undergone pouring other than those mentioned in 10 09 07
10 09 10	flue-gas dust other than those mentioned in 10 09 09
10 09 12	other particulates other than those mentioned in 10 09 11
10 09 14	waste binders other than those mentioned in 10 09 13
10 09 16	waste crack-indicating agent other than those mentioned in 10 09 15
10 10	**wastes from casting of non-ferrous pieces**
10 10 03	furnace slag
10 10 06	casting cores and moulds which have not undergone pouring, other than those mentioned in 10 10 05

Table S2.1 Permitted waste types for disposal	
Waste code	**Description**
10 10 08	casting cores and moulds which have undergone pouring, other than those mentioned in 10 10 07
10 10 10	flue-gas dust other than those mentioned in 10 10 09
10 10 12	other particulates other than those mentioned in 10 10 11
10 10 14	waste binders other than those mentioned in 10 10 13
10 10 16	waste crack-indicating agent other than those mentioned in 10 10 15
10 11	**wastes from manufacture of glass and glass products**
10 11 03	waste glass-based fibrous materials
10 11 05	particulates and dust
10 11 10	waste preparation mixture before thermal processing, other than those mentioned in 10 11 09
10 11 12	waste glass other than those mentioned in 10 11 11
10 11 14	glass-polishing and -grinding sludge other than those mentioned in 10 11 13
10 11 16	solid wastes from flue-gas treatment other than those mentioned in 10 11 15
10 11 18	sludges and filter cakes from flue-gas treatment other than those mentioned in 10 11 17
10 11 20	solid wastes from on-site effluent treatment other than those mentioned in 10 11 19
10 12	**wastes from manufacture of ceramic goods, bricks, tiles and construction products**
10 12 01	waste preparation mixture before thermal processing
10 12 03	particulates and dust
10 12 05	sludges and filter cakes from gas treatment
10 12 06	discarded moulds
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
10 12 10	solid wastes from gas treatment other than those mentioned in 10 12 09
10 12 12	wastes from glazing other than those mentioned in 10 12 11
10 12 13	sludge from on-site effluent treatment
10 13	**wastes from manufacture of cement, lime and plaster and articles and products made from them**
10 13 01	waste preparation mixture before thermal processing
10 13 04	wastes from calcination and hydration of lime
10 13 06	particulates and dust (except 10 13 12 and 10 13 13)
10 13 10	wastes from asbestos-cement manufacture other than those mentioned in 10 13 09
10 13 11	wastes from cement-based composite materials other than those mentioned in 10 13 09 and 10 13 10
10 13 13	solid wastes from gas treatment other than those mentioned in 10 13 12
10 13 14	waste concrete and concrete sludge
11	**Wastes from chemical surface treatment and coating of metals and other materials; non-ferrous hydro-metallurgy**
11 01	**wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising)**
11 01 10	sludges and filter cakes other than those mentioned in 11 01 09

Table S2.1 Permitted waste types for disposal	
Waste code	**Description**
11 01 14	degreasing wastes other than those mentioned in 11 01 13
11 02	**wastes from non-ferrous hydrometallurgical processes**
11 02 03	wastes from the production of anodes for aqueous electrolytical processes
11 02 06	wastes from copper hydrometallurgical processes other than those mentioned in 11 02 05
11 05	**wastes from hot galvanising processes**
11 05 01	hard zinc
11 05 02	zinc ash
12	**Wastes from shaping and physical and mechanical surface treatment of metals and plastics**
12 01	**wastes from shaping and physical and mechanical surface treatment of metals and plastics**
12 01 01	ferrous metal filings and turnings
12 01 02	ferrous metal dust and particles
12 01 03	non-ferrous metal filings and turnings
12 01 04	non-ferrous metal dust and particles
12 01 05	plastics shavings and turnings
12 01 13	welding wastes
12 01 15	machining sludges other than those mentioned in 12 01 14
12 01 17	waste blasting material other than those mentioned in 12 01 16
12 01 21	spent grinding bodies and grinding materials other than those mentioned in 12 01 20
15	**Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified**
15 01	**packaging (including separately collected municipal packaging waste)**
15 01 01	paper and cardboard packaging
15 01 02	plastic packaging
15 01 03	wooden packaging
15 01 04	metallic packaging
15 01 05	composite packaging
15 01 06	mixed packaging
15 01 07	glass packaging
15 01 09	textile packaging
15 02	**absorbents, filter materials, wiping cloths and protective clothing**
15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
16	**Wastes not otherwise specified in the list**
16 01	**end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)**
16 01 06	end-of-life vehicles, containing neither liquids nor other hazardous components
16 01 12	brake pads other than those mentioned in 16 01 11
16 01 16	tanks for liquefied gas
16 01 17	ferrous metal

Table S2.1 Permitted waste types for disposal	
Waste code	**Description**
16 01 18	non-ferrous metal
16 01 19	plastic
16 01 20	glass
16 01 22	components not otherwise specified
16 02	**wastes from electrical and electronic equipment**
16 02 14	discarded equipment other than those mentioned in 16 02 09 to 16 02 13
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15
16 03	**off-specification batches and unused products**
16 03 04	inorganic wastes other than those mentioned in 16 03 03
16 03 06	organic wastes other than those mentioned in 16 03 05
16 05	**gases in pressure containers and discarded chemicals**
16 05 05	gases in pressure containers other than those mentioned in 16 05 04
16 05 09	discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08
16 06	**batteries and accumulators**
16 06 04	alkaline batteries (except 16 06 03)
16 04 05	other batteries and accumulators
16 08	**spent catalysts**
16 08 01	spent catalysts containing gold, silver, rhenium, rhodium, palladium, iridium or platinum (except 16 08 07)
16 08 03	spent catalysts containing transition metals or transition metal compounds not otherwise specified
16 11	**waste linings and refractories**
16 11 02	carbon-based linings and refractories from metallurgical processes others than those mentioned in 16 11 01
16 11 04	other linings and refractories from metallurgical processes other than those mentioned in 16 11 03
16 11 06	linings and refractories from non-metallurgical processes others than those mentioned in 16 11 05
17	**Construction and demolition wastes (including excavated soil from contaminated sites)**
17 01	**concrete, bricks, tiles and ceramics**
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02	**wood, glass and plastic**
17 02 01	wood
17 02 02	glass
17 02 03	plastic
17 03	**bituminous mixtures, coal tar and tarred products**
17 03 02	bituminous mixtures other than those mentioned in 17 03 01

Table S2.1 Permitted waste types for disposal	
Waste code	**Description**
17 04	**metals (including their alloys)**
17 04 01	copper, bronze, brass
17 04 02	aluminium
17 04 03	lead
17 04 04	zinc
17 04 05	iron and steel
17 04 06	tin
17 04 07	mixed metals
17 04 11	cables other than those mentioned in 17 04 10
17 05	**soil (including excavated soil from contaminated sites), stones and dredging spoil**
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 08	track ballast other than those mentioned in 17 05 07
17 06	**insulation materials and asbestos-containing construction materials**
17 06 04	insulation materials other than those mentioned in 17 06 01 and 17 06 03
17 09	**other construction and demolition wastes**
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
18	**Wastes from human or animal health care and/or related research (except kitchen and restaurant wastes not arising from immediate health care)**
18 01	**wastes from natal care, diagnosis, treatment or prevention of disease in humans**
18 01 01	sharps (except 18 01 03)
18 01 04	wastes whose collection and disposal is not subject to special requirements in order to prevent infection (for example dressings, plaster casts, linen, disposable clothing, diapers)
18 01 07	chemicals other than those mentioned in 18 01 06
18 01 09	medicines other than those mentioned in 18 01 08
18 02	**wastes from research, diagnosis, treatment or prevention of disease involving animals**
18 02 01	sharps (except 18 02 02)
18 02 03	wastes whose collection and disposal is not subject to special requirements in order to prevent infection
18 02 06	chemicals other than those mentioned in 18 02 05
18 02 08	medicines other than those mentioned in 18 02 07
19	**Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use**
19 01	**wastes from incineration or pyrolysis of waste**
19 01 02	ferrous materials removed from bottom ash
19 01 12	bottom ash and slag other than those mentioned in 19 01 11
19 01 14	fly ash other than those mentioned in 19 01 13
19 01 16	boiler dust other than those mentioned in 19 01 15

Table S2.1 Permitted waste types for disposal	
Waste code	**Description**
19 01 18	pyrolysis wastes other than those mentioned in 19 01 17
19 01 19	sands from fluidised beds
19 02	**wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)**
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05
19 02 10	combustible wastes other than those mentioned in 19 02 08 and 19 02 09
19 03	**stabilised/solidified wastes**
19 03 05	stabilised wastes other than those mentioned in 19 03 04
19 03 07	solidified wastes other than those mentioned in 19 03 06
19 04	**vitrified waste and wastes from vitrification**
19 04 01	vitrified waste
19 05	**wastes from aerobic treatment of solid wastes**
19 05 01	non-composted fraction of municipal and similar wastes
19 05 02	non-composted fraction of animal and vegetable waste
19 05 03	off-specification compost
19 06	**wastes from anaerobic treatment of waste**
19 06 04	digestate from anaerobic treatment of municipal waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
19 07	**Landfill leachate**
19 07 02*	landfill leachate containing dangerous substances
19 07 03	landfill leachate other than those mentioned in 19 07 02
19 08	**wastes from waste water treatment plants not otherwise specified**
19 08 01	screenings
19 08 02	waste from desanding
19 08 05	sludges from treatment of urban waste water
19 08 09	grease and oil mixture from oil/water separation containing only edible oil and fats
19 08 12	sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11
19 08 14	sludges from other treatment of industrial waste water other than those mentioned in 19 08 13
19 09	**wastes from the preparation of water intended for human consumption or water for industrial use**
19 09 01	solid waste from primary filtration and screenings
19 09 02	sludges from water clarification
19 09 03	sludges from decarbonation
19 09 04	spent activated carbon
19 09 05	saturated or spent ion exchange resins
19 09 06	solutions and sludges from regeneration of ion exchangers
19 10	**wastes from shredding of metal-containing wastes**
19 10 01	iron and steel waste

Table S2.1 Permitted waste types for disposal	
Waste code	**Description**
19 10 02	non-ferrous waste
19 10 04	fluff-light fraction and dust other than those mentioned in 19 10 03
19 10 06	other fractions other than those mentioned in 19 10 05
19 11	**wastes from oil regeneration**
19 11 06	sludges from on-site effluent treatment other than those mentioned in 19 11 05
19 12	**wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 01	paper and cardboard
19 12 02	ferrous metal
19 12 03	non-ferrous metal
19 12 04	plastic and rubber
19 12 05	glass
19 12 07	wood other than that mentioned in 19 12 06
19 12 08	textiles
19 12 09	minerals (for example sand, stones)
19 12 10	combustible waste (refuse derived fuel)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
19 13	**wastes from soil and groundwater remediation**
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
19 13 06	sludges from groundwater remediation other than those mentioned in 19 13 05
20	**Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions**
20 01	**separately collected fractions (except 15 01)**
20 01 01	paper and cardboard
20 01 02	glass
20 01 08	biodegradable kitchen and canteen waste
20 01 10	clothes
20 01 11	textiles
20 01 25	edible oil and fat
20 01 28	paint, inks, adhesives and resins other than those mentioned in 20 01 27
20 01 30	detergents other than those mentioned in 20 01 29
20 01 32	medicines other than those mentioned in 20 01 31
20 01 34	batteries and accumulators other than those mentioned in 20 01 33
20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	plastics
20 01 40	metals
20 01 41	wastes from chimney sweeping

Table S2.1 Permitted waste types for disposal	
Waste code	**Description**
20 01 99	Other fractions not otherwise specified (Dog, Pigeon and Cat faeces, Tiger bagged offensive hygiene waste from shops and offices)
20 02	**garden and park wastes (including cemetery waste)**
20 02 01	biodegradable waste
20 02 02	soil and stones
20 02 03	other non-biodegradable wastes
20 03	**other municipal wastes**
20 03 01	mixed municipal waste
20 03 02	waste from markets
20 03 03	street-cleaning residues
20 03 04	septic tank sludge
20 03 06	waste from sewage cleaning
20 03 07	bulky waste

Table S2.2 Permitted waste types for recovery	
Waste code	**Description**
01	**Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals**
01 01	**wastes from mineral excavation**
01 01 02	wastes from mineral non-metalliferous excavation
01 04	**wastes from physical and chemical processing of non-metalliferous minerals**
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
03	**Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard**
03 03	**wastes from pulp, paper and cardboard production and processing**
03 03 05	de-inking sludges from paper recycling
03 03 10	fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
17	**Construction and demolition wastes (including excavated soil from contaminated sites)**
17 01	**concrete, bricks, tiles and ceramics**
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 05	**soil (including excavated soil from contaminated sites), stones and dredging spoil**
17 05 04	soil and stones other than those mentioned in 17 05 03

Table S2.2 Permitted waste types for recovery	
Waste code	**Description**
19	**Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use**
19 05	**wastes from aerobic treatment of solid wastes**
19 05 03	off-specification compost
19 06	**wastes from anaerobic treatment of waste**
19 06 04	digestate from anaerobic treatment of municipal waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
19 08	**wastes from waste water treatment plants not otherwise specified**
19 08 02	waste from desanding
19 08 05	sludges from treatment of urban waste water
19 09	**wastes from the preparation of water intended for human consumption or water for industrial use**
19 09 02	sludges from water clarification
19 12	**wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 09	minerals (for example sand, stones)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
19 13	**wastes from soil and groundwater remediation**
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
20	**Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions**
20 02	**garden and park wastes (including cemetery waste)**
20 02 02	soil and stones

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 points: LMP1b, LMP2a, LC3, LC4, LMP4a, LMP4b, New wells to be installed in the future as agreed in writing with Natural Resources Wales	2m	Monthly until new frequency agreed in writing with Natural Resources Wales.	As detailed in LFTGN02 issued February 2003 'Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water', or such other subsequent guidance as may be agreed in writing with Natural Resources Wales

Table S3.2 Point source emissions to air – emission limits and monitoring requirements						
Emission point Ref. & Location	**Source**	**Parameter**	**Limit (including unit)**	**Reference Period**	**Monitoring Frequency**	**Monitoring Standard or Method**
B1 (flare located in proposed gas compound) Flare on site plan 22734 – S02 dated October 2008	Flare for landfill gas collected from the Hafod Quarry Landfill site	Nitrogen Oxides (NO_x)	150 mg/m^3	Hourly mean	Annual	As detailed in per M2 version 12 issued August 2017 'Monitoring of stack emissions to air'. or such other guidance as may be agreed in writing with Natural Resources Wales
		Carbon monoxide (CO)	50 mg/m3			
		Total Volatile Organic Compounds (VOCs)	10 mg/m^3			
		Temperature	None set	None set	Weekly (when flare is operational) unless otherwise agreed in writing with Natural Resources Wales.	
E1, E2, E3 and E4 (Exhaust from landfill gas engine commissioned post 31/12/2005) Landfill Gas Plant on site plan 22734 – S02 dated October 2008	Landfill gas engine for landfill gas collected from the Hafod Quarry Landfill site	Nitrogen Oxides (NO_x)	500 mg/m^3	Hourly mean	Annual	As detailed in M2 version 12 issued August 2017 'Monitoring of stack emissions to air'. or such other guidance as may be agreed in writing with Natural Resources Wales
		Carbon monoxide (CO)	1400 mg/m^3			
		Total Volatile Organic Compounds (VOCs)	1000 mg/m^3			

Table S3.3 Point source emissions to water (other than sewer) – emission limits and monitoring requirements						
Emission point Ref. & Location	**Source**	**Parameter**	**Limit (incl unit)**	**Reference Period**	**Monitoring Frequency**	**Monitoring Standard or Method**
SW1A NGR SJ 3079 4593 as shown on Figure 25	Site drainage from the surface water management system	Ammonical Nitrogen	1.8 mg/l	Spot Sample	Monthly	As detailed in LFTGN02 issued February 2003 'Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water', or such other guidance as may be agreed in writing with Natural Resources Wales
		Chloride	101 mg/l			
		Oil or grease	None visible			
		Suspended Solids	50 mg/l		Quarterly	
		BOD	14 mg/l			
		Iron	0.17 mg/l			
		pH	Minimum permitted is 6 Maximum perrmitted is 9			
SW2 NGR SJ 3117 4565 as shown on Figure 25	Site drainage from the surface water management system	Ammonical Nitrogen	1.8 mg/l	Spot Sample	Monthly	As detailed in LFTGN02 issued February 2003 'Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water', or such other guidance as may be agreed in writing with Natural Resources Wales
		Chloride	67 mg/l			
		Oil or grease	None visible			
		Suspended Solids	50 mg/l		Quarterly	
		BOD	14 mg/l			
		Iron	0.17 mg/l			
		pH	Minimum permitted is 6 Maximum perrmitted is 9			

Table S3.4 Point source emissions to sewer, effluent treatment plant or by tankering or other transfer off-site– emission limits and monitoring requirements						
Emission point Ref. & Location	**Source**	**Parameter**	**Limit (incl unit)**	**Reference Period**	**Monitoring Frequency**	**Monitoring Standard or Method**
None unless agreed in writing with Natural Resources Wales	None set	None set	None set	None set	None set	None set

Table S3.5 Groundwater – emission limits and monitoring requirements					
Monitoring point reference	**Parameter**	**Limit (including unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
HA01A(T) HA01B(B)H A09A(B) HA11A(B)	Ammoniacal nitrogen	2 mg/l	Spot sample	Quarterly until otherwise agreed in writing with Natural Resources Wales	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), or such other guidance as may be agreed in writing with Natural Resources Wales
	Chloride	200 mg/l			
	Chromium	0.05 mg/l			
	Copper	1 mg/l			
	Lead	0.042 mg/l			
	Nickel	0.05 mg/l			
	Zinc	1 mg/l			
HA12A(T) HA12A(M)	Ammoniacal nitrogen	2 mg/l	Spot sample	Quarterly until otherwise agreed in writing with Natural Resources Wales	
	Chloride	450 mg/l			
	Chromium	0.05 mg/l			
	Copper	1 mg/l			
	Lead	0.042 mg/l			
	Nickel	0.05 mg/l			
	Zinc	1 mg/l			
HA01B(M) HA09B(M)	Ammoniacal nitrogen	4 mg/l	Spot sample	Quarterly until otherwise agreed in writing with Natural Resources Wales	
	Chloride	200 mg/l			
	Chromium	0.05 mg/l			
	Copper	1 mg/l			
	Lead	0.042 mg/l			
	Nickel	0.05 mg/l			
	Zinc	1 mg/l			
HA11B(M)	Ammoniacal nitrogen	4 mg/l	Spot sample	Quarterly until otherwise agreed in writing with Natural Resources Wales	
	Chloride	200 mg/l			
	Chromium	0.05 mg/l			
	Copper	1 mg/l			
	Lead	0.15 mg/l			
	Nickel	0.1 mg/l			
	Zinc	1 mg/l			
HA09A(T)	Ammoniacal nitrogen	2 mg/l	Spot sample	Quarterly until otherwise agreed in writing with Natural Resources Wales	
	Chloride	200 mg/l			
	Chromium	0.05 mg/l			
	Copper	1 mg/l			
	Lead	0.15 mg/l			
	Nickel	0.2 mg/l			
	Zinc	1 mg/l			
HA11B(T)	Ammoniacal nitrogen	2 mg/l	Spot sample		
	Chloride	200 mg/l			
	Chromium	0.05 mg/l			
	Copper	1 mg/l			
	Lead	0.15 mg/l			

Table S3.5 Groundwater – emission limits and monitoring requirements					
Monitoring point reference	**Parameter**	**Limit (including unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
	Nickel	0.15 mg/l		Quarterly until otherwise agreed in writing with Natural Resources Wales	
	Zinc	1 mg/l			
HA12C(B)	Ammoniacal nitrogen	2 mg/l ***Note 1***	Spot sample	Quarterly until otherwise agreed in writing with Natural Resources Wales	
	Chloride	200 mg/l ***Note 1***			
	Chromium	0.05 mg/l ***Note 1***			
	Copper	1 mg/l ***Note 1***			
	Lead	0.042 mg/l ***Note 1***			
	Nickel	0.05 mg/l ***Note 1***			
	Zinc	1 mg/l ***Note 1***			

Note 1: Until otherwise agreed in writing with Natural Resources Wales

Table S3.6 Landfill gas in external monitoring boreholes – limits and monitoring requirements				
Monitoring point Ref. /description	**Parameter**	**Limit (including units)**	**Monitoring frequency**	**Monitoring standard or method**
BH HA 10(B), BH HA 10(M) BH HA 10(T), BH HA 11A(B) BH HA 11B(M),BH HA 11B(T) BH HA 12A(M), BH HA 12A(T) BH HA 1A(T), BH HA 1B(B) BH HA 1B(M), BH HA 2A(M) BH HA 2A(T), BH HA 2B(B) BH HA 4B, BH HA 5(B) BH HA 5(T), BH HA 6A(B) BH HA 6A(M), BH HA 6B(T) BH HA 9A(B), BH HA 9A(T) BH HA 9B(M), HAF GB01 HAF GB02, HAF GB03 HAF GB04a, HAF GB04b HAF GB05, HAF GB06a HAF GB06b, HAF GB07a HAF GB07b, HAF GB08 HAF GB09, HAF GB10a HAF GB10b, HAF GB11 HAF GB12, HAF GB13 HAF GB14, HAF GB15 HAF GB16, HAF GB17 HAF GB18, HAF GB19 HAF GB20	Methane	1%	Monthly	As specified in LFTGN 03 issued September 2004 'Guidance on the management of landfill gas', or such other guidance as may be agreed in writing with Natural Resources Wales
	Carbon Dioxide	None		
	Oxygen	None		
	Atmospheric Pressure	None		
	Pressure difference	None		
	Meteorological and ground condition data	None		

Table S3.7 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[2]	Where a rate of 0.001 mg/m^2/second is exceeded appropriate measures must be taken to reduce the rate[2].	Annually	Flame ionisation detector walkover, flux box or as otherwise agreed in writing with Natural Resources Wales[1].
Temporarily capped zone	Average Methane flux[2]	Where a rate of 0.1 mg/m^2/second is exceeded appropriate measures must be taken to reduce the rate[2].		Flame ionisation detector walkover, flux box or as otherwise agreed in writing with Natural Resources Wales[1].

Note 1 If a cap has previously been shown compliant and there have been no significant physical changes in the gas management during the year, a detailed walkover survey with an FID can be used to demonstrate that the surface emissions are under control. If this survey shows no change in the pattern of methane emission, it may be used as the annual survey. The values for flux and total methane emissions measured in the previous year may be reported and a fresh flux box survey is not necessary.

Note 2: An alternative method of monitoring landfill gas emissions from capped area can also be agreed in writing with Natural Resources Wales. For example the operator can use methane surface concentrations surveys, although separate limits will need to be agreed (e.g. methane concentration in ppm).

Table S3.8 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**
Leachate monitoring points Shown on drawing reference 2425/2/021	Methane, carbon dioxide, oxygen, temperature, atmospheric pressure	Monthly	In accordance with operating techniques or other method agreed in writing with Natural Resources Wales	
One in waste borehole or one leachate well per cell.	Trace gas analysis in accordance with LFTGN04.	Annually	Trace gas analysis in accordance with LFTGN04 (version 3 dated 2010) or a trace gas characterisation method agreed with Natural Resources Wales or other guidance as may be agreed in writing with Natural Resources Wales	The concentration of trace gas components shall be assessed against the assumptions made in the Landfill gas risk assessment and dispersion modelling.
In waste gas monitoring boreholes or sealed leachate wells or sacrificial gas extraction system in cells or phases which have no active gas extraction system.	Methane, Carbon Dioxide, Oxygen, Carbon Monoxide, Atmospheric pressure, Differential pressure, Meteorological Data	Monthly unless otherwise agreed in writing with Natural Resources Wales	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 (version 3 dated 2010) or other such subsequent guidance as may be agreed in writing with Natural Resources Wales or other method agreed in writing with Natural Resources Wales.	Gas extraction system shall be installed and extraction commenced once monitoring shows onset of methane production in waste at a rate that can be sustainably extracted.

Table S3.8 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**
	Hydrogen sulphide	Six monthly unless otherwise agreed in writing with Natural Resources Wales	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 (version 3 dated 2010) or other such subsequent guidance as may be agreed in writing with Natural Resources Wales or other method agreed in writing with Natural Resources Wales.	Concentrations of hydrogen sulphide shall be assessed in accordance with the gas and odour management plans
Gas collection system at all well control valves, manifolds (if applicable) and strategic points on gas system	Methane, Carbon Dioxide, Oxygen, Carbon monoxide, Gas flow rate or suction, % Balance Gas (calculated as the difference between the sum of measured gases and 100%)	Monthly or at such other frequency as may be agreed in writing with Natural Resources Wales.	In accordance with LFTGN03 issued September 2004 'Guidance on the management of landfill gas' or other such guidance as may be agreed in writing with Natural Resources Wales or other method agreed in writing with Natural Resources Wales.	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 100ppm then further investigation shall be undertake Record the ambient air temperature and whether the ground is: waterlogged frozen snow covered.
Gas collection system at all well control valves, manifolds (if applicable) and strategic points on gas system	Hydrogen sulphide	Six monthly	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 (version 3 dated 2010) or other such guidance as may be agreed in writing with Natural Resources Wales or a method agreed with Natural Resources Wales.	Concentrations of hydrogen sulphide shall be assessed in accordance with the gas and odour management plans

Table S3.8 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**
Output to flare or LFG eUtilisation Compound	Trace gas	Annually	Trace gas analysis in accordance with LFTGN04 (version 3 dated 2010) or such other guidance as may be agreed in writing with Natural Resources Wales or a trace gas characterisation method agreed with Natural Resources Wales.	The concentration of trace gas components shall be assessed against the assumptions made in the Landfill gas risk assessment and dispersion modelling.
Output to flare or LFG Utilisation Compound	Methane Carbon Dioxide Oxygen Gas flow rate Suction % Balance Gas (calculated as the difference between the sum of measured gases and 100%)	Weekly	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 (version 3 dated 2010) or other such guidance as may be agreed in writing with Natural Resources Wales or a method agreed with Natural Resources Wales.	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.

Table S3.9 Leachate – other monitoring requirements			
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**
All Cells or Phases			
All Leachate monitoring points	Depth to base (mAOD)	Annually	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), or such other guidance as may be agreed in writing with Natural Resources Wales
Operational Cells or Phases **(Any cell or phases that do not have a final engineered cap agreed in accordance with condition 2.6)**			

Table S3.9 Leachate – other monitoring requirements			
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**
Representative sample from each cell	pH, electrical conductivity, total alkalinity, ammonical nitrogen, Chloride, COD, BOD, cadmium, chromium, copper, lead, nickel, iron, arsenic, magnesium, total sulphates, calcium, sodium, zinc, manganese	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), or such other guidance as may be agreed in writing with Natural Resources Wales
	Hazardous substances	Annually	
Non Operational Cells or Phases (Any cell or phases that have a final engineered cap agreed in accordance with condition 2.6)			
Representative sample from each cell	pH, electrical conductivity, total alkalinity, ammonical nitrogen, Chloride, COD, BOD, cadmium, chromium, copper, lead, nickel, iron, arsenic, magnesium, total sulphates, calcium, sodium, zinc, manganese	Annually	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), or such other guidance as may be agreed in writing with Natural Resources Wales
	Hazardous substances	Once every 4 years	

Table S3.10 Surface water – other monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Reference period**	**Monitoring standard or method**
SW1, SW1A, SW2, SW3, SW4	pH, temperature, electrical conductivity, dissolved oxygen, ammoniacal nitrogen, chloride, COD, suspended solids, turbidity	Monthly	Spot sample	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003) or such other guidance as may be agreed in writing with Natural Resources Wales.

Table S3.10 Surface water – other monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Reference period**	**Monitoring standard or method**
SW1, SW1A, SW2, SW3, SW4	Sulphate, total alkalinity, TON, TOC, sodium, potassium, calcium, magnesium, iron, manganese, cadmium, chromium, copper, nickel, lead, zinc, mercury, phenols, ionic balance	Quarterly	Spot sample	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003) or such other guidance as may be agreed in writing with Natural Resources Wales.

Table S3.11 Groundwater – other monitoring requirements			
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**
C1 Drift HA01A(T), HA02A(T), HA02A(M), HA04(B), HA05(T), HA06A(M), HA06B(T), HA09A(T), HA11B(T), HA12A(T), HA12A(M) Upper Ruabon Marl HA01B(B), HA02B(B), HA05(B), HA06A(B), HA09A(B), HA11A(B), HA12C(B) URM Limestone HA01B(M), HA09B(M), HA11B(M)	Dip to water (m) Water level (mAOD)	Monthly until closure and then quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), or such other guidance as may be agreed in writing with Natural Resources Wales.
	pH, electrical conductivity, ammoniacal nitrogen, chloride	Quarterly until closure and then six monthly	
	Total alkalinity, magnesium, potassium, total sulphates, calcium, sodium, chromium, copper, iron, lead, nickel, zinc, manganese	Six monthly	
	Priority Hazardous substances identified within the leachate	Annually	

Table S3.12 Particulate matter in ambient air - monitoring requirements					
Monitoring Point Ref. /Description	**Parameter**	**Limit**	**Reference Period**	**Monitoring Frequency**	**Monitoring Standard or Method**
NW boundary as described in section 2.10.8 of consolidated application	Deposited particulate matter	200 mg/m^2/day	24 hours	Quarterly	As detailed in M17 Version 2, issued July 2013 'Monitoring Particulate Matter in ambient air around waste facilities'.
SE boundary as described in section 2.10.8 of consolidated application	Deposited particulate matter	200 mg/m^2/day	24 hours	Quarterly	

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 required by condition 3.5.1	Leachate monitoring points	Quarterly	1 January 1 April 1 July 1 October
Emissions to air Parameters as required by condition 3.5.1	Landfill gas flare	Quarterly for temperature and annually for other parameters	1 January 1 April 1 July 1 October
Emissions to water Parameters as required by condition 3.5.1	SW1A and SW2	Quarterly	1 January 1 April 1 July 1 October
Emissions to sewer, effluent treatment plant, etc. Parameters as required by condition 3.5.1	None	Annually	1 January
Groundwater Parameters as required by condition 3.5.1	All groundwater monitoring points listed in Table S3.5	Annually	1 January
Landfill gas lateral migration Parameters as required by condition 3.5.1	All landfill gas monitoring points listed in Table S3.6	Quarterly	1 January 1 April 1 July 1 October
Landfill gas surface emissions Parameters as required by condition 3.5.1	All monitoring undertaken in accordance with table S3.7	Annually	1 January
Other Landfill gas monitoring Parameters as required by condition 3.5.1	All monitoring undertaken in accordance with table S3.8	Quarterly	1 January 1 April 1 July 1 October
Other leachate monitoring Parameters as required by condition 3.5.1	All monitoring undertaken in accordance with table S3.9	Annually for all quarterly and annual results and with the soonest available annual report for the “once every 4 years” results	1 January
Other surface water monitoring Parameters as required by condition 3.5.1	All monitoring undertaken in accordance with table S3.10	Quarterly	1 January 1 April 1 July 1 October

Table S4.1 Reporting of monitoring data			
Parameter	**Emission or monitoring point/reference**	**Reporting period**	**Period begins**
Other groundwater monitoring Parameters as required by condition 3.5.1	All monitoring undertaken in accordance with table S3.11	Parameters monitored monthly and parameters monitored quarterly shall be reported quarterly, all other parameters shall be reported annually	For parameters reported quarterly: 1 January, 1 April, 1 July, 1 October For parameters reported annually: 1 January
Particulate matter Parameters as required by condition 3.5.1	All monitoring undertaken in accordance with table S3.12	Quarterly	1 January 1 April 1 July 1 October

Table S4.2: Annual production/treatment	
Leachate: Disposed of off site; 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
Average methane content entering the landfill gas utilisation or treatment compound (based on the annual average of Table S3.10 monitoring)	% methane v/v
Methane generation rate (50%ile from a representative model)	Cubic metres /hour

Table S4.3 Performance Parameters		
Parameter	**Frequency of assessment**	**Unit**
Energy used (including for leachate treatment)	Annually	MWh of electricity

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	27/11/18
Air	Form Air 1 or other reporting format to be agreed in writing with Natural Resources Wales	27/11/18
Controlled water	Form Water 1 or other reporting format to be agreed in writing with Natural Resources Wales	27/11/18

Table S4.4 Reporting Forms		
Media/parameter	**Reporting Format**	**Date of Form**
Groundwater	Form Groundwater 1 or other reporting format to be agreed in writing with Natural Resources Wales	27/11/18
Sewer	Form Sewer 1 or other reporting format to be agreed in writing with Natural Resources Wales	27/11/18
Landfill gas	Form LFG 1 or other reporting format to be agreed in writing with Natural Resources Wales	27/11/18
Particulate matter	Form Particulate 1 or other reporting format to be agreed in writing with Natural Resources Wales	27/11/18
Waste Return	Waste tonnage return form from the Natural Resources Wales website or other form as agreed in writing by Natural Resources Wales	27/11/18
Landfill topographical surveys and interpretation	Reporting format to be agreed in writing with Natural Resources Wales	27/11/18

Schedule 5 - Notification

This page outlines 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 activity that gives rise to an incident or accident which significantly affects or may significantly affect the environment	
To be notified Immediately	
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 permit condition	
To be notified immediately	
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) 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:	
To be notified immediately	
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 supplied 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.

"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.

"Cell layout drawing" means:

(a) A drawing or drawings of the proposed new cell that illustrate(s) in sufficient detail:

i. the location of the new cell on the site;

ii. the proposed level (Above Ordnance Datum) of the base of the excavation;

iii. the proposed finished levels of all containment and leachate drainage layers;

iv. the positions of leachate management infrastructure; and

v. the positions of landfill gas infrastructure (if appropriate).

(b) A detailed written explanation of any minor design changes from the most recently approved cell that result from the new cell layout. This would include, for example:

i. changes to slope length and gradient within the cell;

ii. new leachate or landfill gas infrastructure construction design;

iii. slope stability issues such as new basal excavation level; and/or

iv. depth of waste.

"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 New Cell or Landfill Infrastructure.

"CQA Validation Report" means the final "as built" construction and engineering details of the New Cell or 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 New Cell or 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 2016 No.1154 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.
- "*hazardous property*" has the meaning in Annex lll of the Waste Framework Directive
- "*hazardous waste*" has the meaning given in the Hazardous Waste (Wales) Regulations 2005 (as amended)
- "*hazardous substance*" means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008

"Landfill Infrastructure" means any specified element of the:

- permanent capping;
- temporary capping (i.e. engineered temporary caps not cover materials);
- 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;
- lining within the installation.

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.

"MCERTS" means the Environment Agency's Monitoring Certification Scheme.

"Medicinal product" means any medicine licensed by the Medicines and Healthcare products Regulatory Agency (MHRA) of their predecessors under the Medicines Act 1968, section 130.

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

"New Cell" means any new cell, part of a cell or other similar new area of the site where waste deposit is

to commence after issue of this permit and can comprise:

- groundwater under-drainage system;
- permanent geophysical leak location system;
- leak detection layer;
- sub-grade;
- barriers;
- liners;
- leachate collection system;
- leachate abstraction system;
- separation bund/layer;
- cell or area surface water drainage system;
- side wall subgrade and containment systems;

for the New Cell.

"No impact" means that the change made to the construction process will not affect the agreed design criteria, specification or performance in a way that has a negative effect.

"Pests" means Birds, Vermin and Insects.

"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.

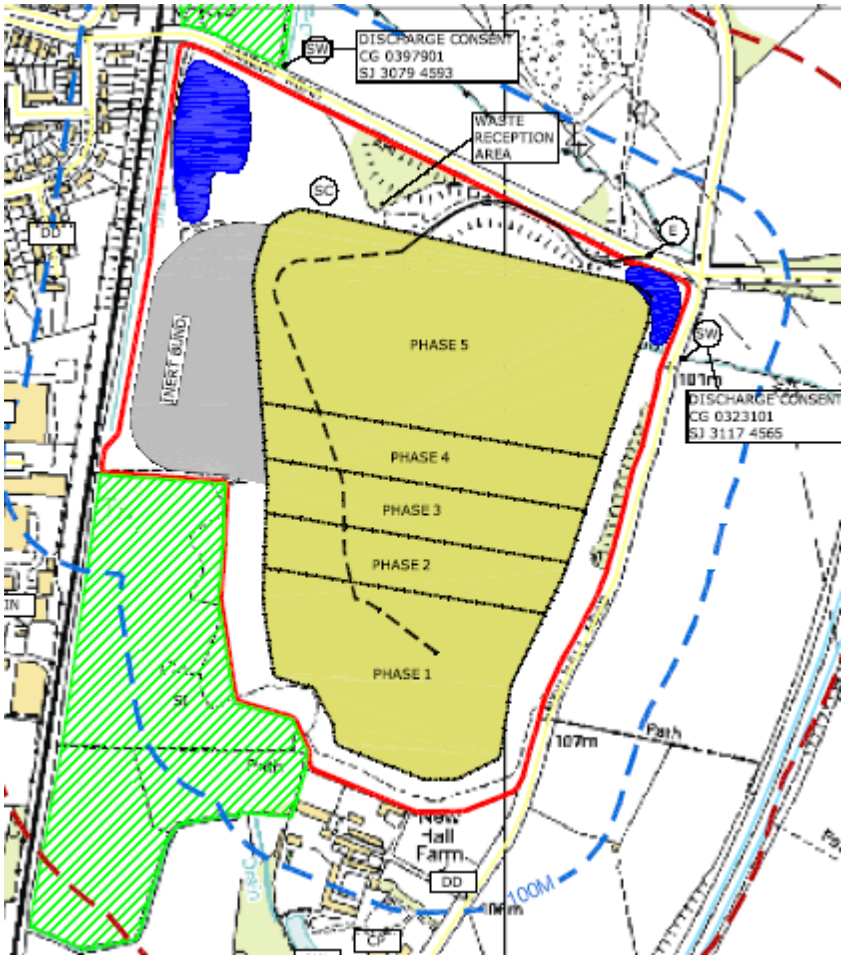
Waste Framework Directive" or "WFD" means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste.

"year" means calendar year ending 31 December.

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.

Schedule 7 - Site plan



END OF PERMIT

Permit Number: PP3139GB Operator: Enovert North Limited

Facility: Hafod Quarry Landfill Form Number: Air1 / 27/11/18

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

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
B1	Nitrogen Oxides (NOx)	150 mg/m3	Hourly mean				
	Carbon monoxide (CO)	50 mg/m3	Hourly mean				
	Total Volatile Organic Compounds (VOCs)	10 mg/m3	Hourly mean				
	Temperature						
E1, E2, E3 and E4	Nitrogen Oxides (NOx)	500 mg/m3	Hourly mean				
	Carbon monoxide (CO)	1400 mg/m3	Hourly mean				
	Total Volatile Organic Compounds (VOCs)	500 mg/m3	Hourly mean				

[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 …… Date……..
(Authorised to sign as representative of Operator)

Permit Number: PP3139GB Operator: Enovert North Limited

Facility: Hafod Quarry Landfill Form Number: Water1 / 27/11/18

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 Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
SW1A NGR SJ 3079 4593 as shown on Figure 25	Amonical Nitrogen	1.8 mg/l	Spot Sample				
	Chroride	101 mg/l	Spot Sample				
	Oil or grease	None visible	Spot Sample				
	Suspended Solids	50 mg/l	Spot Sample				
	BOD	14 mg/l	Spot Sample				
	Iron	0.17 mg/l	Spot Sample				
	pH	Minimum permitted is 6	Spot Sample				
SW2 NGR SJ 3117 4565 as shown on Figure 25	Amonical Nitrogen	1.8 mg/l	Spot Sample				
	Chroride	67 mg/l	Spot Sample				
	Oil or grease	None visible	Spot Sample				
	Suspended Solids	50 mg/l	Spot Sample				
	BOD	14 mg/l	Spot Sample				
	Iron	0.17 mg/l	Spot Sample				
	pH	Minimum permitted is 6	Spot Sample				

[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 …… Date……..
(Authorised to sign as representative of Operator)

Permit Number: PP3139GB Operator: Enovert North Limited

Facility: Hafod Quarry Landfill Form Number: Sewer1 / 27/11/18

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

Emission Point	Substance / Parameter	Emission Limit Value	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 …… Date……..

(Authorised to sign as representative of Operator)

Permit Number: PP3139GB Operator: Enovert North Limited

Facility: Hafod Quarry Landfill Form Number: Energy1 / 27/11/18

Reporting of Energy Usage for the year

Energy Source	Energy Usage Quantity	Primary Energy (MWh)	Specific Usage (MWh/unit output)
Electricity *	MWh		
TOTAL	-		

* Conversion factor for delivered electricity to primary energy = 2.4

Operator's comments :

Signed …… Date……..
(Authorised to sign as representative of Operator)

Permit Number: PP3139GB Operator: Enovert North Limited

Facility: Hafod Quarry Landfill Form Number: Leachate 1 / 27/11/18

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]
LMP2a, LC3, LC4, LMP4a, LMP4b, and any other wells to be installed as agreed in writing with Natural Resources Wales	leachate head	2m above cell base	Monthly (unless otherwise agreed in writing with Natural Resources Wales				
Representative sample from each cell	pH, electrical conductivity, total alkalinity, ammonical nitrogen, Chloride, COD, BOD, cadmium, chromium, copper, lead, nickel, iron, arsenic, magnesium, total sulphates, calcium, sodium, zinc, manganese						
	Hazardous substances						

[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 ……. Date……..
(Authorised to sign as representative of Operator)

Permit Number: PP3139GB Operator: Enovert North Limited

Facility: Hafod Quarry Landfill Form Number: Groundwater1 27/11/18

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]
HA01A(T) HA01B(B)HA 09A(B) HA11A(B)	Ammoniacal nitrogen	2 mg/l					
	Chloride	200 mg/l					
	Chromium	0.05 mg/l					
	Copper	1 mg/l					
	Lead	0.042 mg/l					
	Nickel	0.05 mg/l					
	Zinc	1 mg/l					
HA12A(T) HA12A(M)	Ammoniacal nitrogen	2 mg/l					
	Chloride	450 mg/l					
	Chromium	0.05 mg/l					
	Copper	1 mg/l					
	Lead	0.042 mg/l					
	Nickel	0.05 mg/l					
	Zinc	1 mg/l					
HA01B(M) HA09B(M)	Ammoniacal nitrogen	4 mg/l					
	Chloride	200 mg/l					
	Chromium	0.05 mg/l					
	Copper	1 mg/l					
	Lead	0.042 mg/l					

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
	Nickel	0.05 mg/l					
	Zinc	1 mg/l					
HA11B(M)	Ammoniacal nitrogen	4 mg/l					
	Chloride	200 mg/l					
	Chromium	0.05 mg/l					
	Copper	1 mg/l					
	Lead	0.15 mg/l					
	Nickel	0.1 mg/l					
	Zinc	1 mg/l					
HA09A(T)	Ammoniacal nitrogen	2 mg/l					
	Chloride	200 mg/l					
	Chromium	0.05 mg/l					
	Copper	1 mg/l					
	Lead	0.15 mg/l					
	Nickel	0.2 mg/l					
	Zinc	1 mg/l					
HA11B(T)	Ammoniacal nitrogen	2 mg/l					
	Chloride	200 mg/l					
	Chromium	0.05 mg/l					
	Copper	1 mg/l					
	Lead	0.15 mg/l					
	Nickel	0.15 mg/l					

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
	Zinc	1 mg/l					
HA12C(B)	Ammoniacal nitrogen	2 mg/l ***Note 1**					
	Chloride	200 mg/l ***Note 1**					
	Chromium	0.05 mg/l ***Note 1**					
	Copper	1 mg/l ***Note 1**					
	Lead	0.042 mg/l ***Note 1**					
	Nickel	0.05 mg/l ***Note 1**					
	Zinc	1 mg/l ***Note 1**					

[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 ……. Date……..
(Authorised to sign as representative of Operator)

Permit Number: PP3139GB Operator: Enovert North Limited

Facility: Hafod Quarry Landfill Form Number: LFG1 / 27/11/18

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]
BH HA 10(B), BH HA 10(M) BH HA 10(T), BH HA 11A(B) BH HA 11B(M),BH HA 11B(T) BH HA 12A(M), BH HA 12A(T) BH HA 1A(T), BH HA 1B(B) BH HA 1B(M), BH HA 2A(M) BH HA 2A(T), BH HA 2B(B) BH HA 4B, BH HA 5(B) BH HA 5(T), BH HA 6A(B) BH HA 6A(M), BH HA 6B(T) BH HA 9A(B), BH HA 9A(T) BH HA 9B(M), HAF GB01 HAF GB02, HAF GB03 HAF GB04a, HAF GB04b	Methane	1%					
	Carbon Dioxide	None					
	Oxygen	None					
	Atmospheric Pressure	None					
	Pressure difference	None					
	Meteorological and ground condition data	None					

Monitoring Point	Substance / Parameter	Compliance limit	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
HAF GB05, HAF GB06a HAF GB06b, HAF GB07a HAF GB07b, HAF GB08 HAF GB09, HAF GB10a HAF GB10b, HAF GB11 HAF GB12, HAF GB13 HAF GB14, HAF GB15 HAF GB16, HAF GB17 HAF GB18, HAF GB19 HAF GB20							

[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 …… Date……..
(Authorised to sign as representative of Operator)

Permit Number: PP3139GB Operator: Enovert North Limited

Facility: Hafod Quarry Landfill Form Number: Particulate1 / 27/11/18

Reporting of particulates for the period from DD/MM/YYYY **to** DD/MM/YYYY

Monitoring Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
NW boundary as described in section 2.10.8 of consolidated application	Particulate Matter	200 mg/m^2/day	24 hours		As detailed in M17 Version 2, issued July 2013 'Monitoring Particulate Matter in ambient air around waste facilities'.		
SE boundary as described in section 2.10.8 of consolidated application	Particulate Matter	200 mg/m^2/day	24 hours		As detailed in M17 Version 2, issued July 2013 'Monitoring Particulate Matter in ambient air around waste facilities'		

[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 ……. Date……..
(Authorised to sign as representative of Operator)