Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Booth Ventures Limited

Harwood Quarry Landfill
Brookfold Lane
Harwood
Bolton
Greater Manchester
BL2 4LT

Variation application number

EPR/BV8741IL/V003

Permit number

EPR/BV8741IL

Harwood Quarry Landfill
Permit number EPR/BV8741IL

Introductory note

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

The following gives notice of the variation and consolidation of this environmental permit. We have issued this variation to consolidate the original permit and subsequent variations and to update some of the conditions following a statutory review of permits in the landfill sector. We have also converted the permit into the current EPR permit format using modern conditions.

The Environment Agency has a duty, under the Environmental Permitting (England and Wales) Regulations 2010, regulation 34(1), to periodically review permits. As a result of that review we have identified a number of necessary changes we must make to your permit to reflect current legislation and best practice. These changes principally relate to:

- The addition of a standard condition for landfill gas management at all landfills;
- A change to the hydrogeological risk assessment condition so that reviews are undertaken every 6 years rather than every 4 years;
- Standard leachate and groundwater quality monitoring tables (schedule 3); and
- A standard reporting table (schedule 4).

Schedule 1 to this notice summarises the changes we have made to this permit.

Status log of the permit		
Description	**Date**	**Comments**
Application received BV8741IL (EPR/BV8741IL/A001)	Duly Made 07/05/2004	
Permit determined EPR/BV8741IL	17/10/2005	Issued to Booths Ventures Limited
Variation XP3132LP notice issued (EPR/BV8741IL/V002)	28/11/2006	Update of permit to modern landfill template
Environment Agency Landfill Sector Review Permit reviewed Variation determined EPR/BV8741IL/V003 Permit EPR/BV8741IL Billing Ref: PP3536RN	21/03/2016	Varied and consolidated permit issued in modern condition format.

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2010

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies and consolidates

Permit number

EPR/BV8741IL

Issued to

Booth Ventures Limited ("the operator")

whose registered office is

78 Chorley New Road
Bolton
BL1 4BY

company registration number 05050715

to operate a regulated facility at

Harwood Quarry Landfill
Brookfold Lane
Harwood
Bolton
Greater Manchester
BL2 4LT

to the extent set out in the schedules.

The notice shall take effect from 21/03/2016

Name	Date
Anne Nightingale	**21/03/2016**

Authorised on behalf of the Environment Agency

Schedule 1

All conditions have been varied by the consolidated permit as a result of an Environment Agency initiated variation. The following table summarises the latest changes to the landfill permit template, however your permit may contain more changes than this where your permit has not been varied to recent template conditions.

Condition	Description of change
1.5	Generic condition to reflect the requirements of the Waste Framework Directive.
2.7.1(a)	Added reference to a specific table to clarify what wastes are permitted by which permitted activity.
2.7.2	Added to separately identify the waste types and quantities that can be accepted for restoration.
2.10	Revised gas management condition imposed for all landfills.
3.1.1	Generic condition imposed on all activities to simplify sub-conditions
3.1.2 to 3.1.3	Revised conditions to reflect the terminology used by the Groundwater Directive for 'hazardous substances' and to require hydrogeological risk assessment reviews are submitted every 6 years rather than every 4 years.
	Sub-condition that referred to emission of 'non-hazardous pollutants' deleted. Such emissions are regulated by condition 3.2.
	Two sub-conditions that referred to limits in specific tables in schedule 3 deleted as they are now covered by 3.1.1.
3.6	Revised generic pests condition imposed on all activities.
4.2.2	Amended to ensure that information on 'annual production/ treatment' (Schedule 4, Table S4.2) is provided in February each year where annual reports may be submitted at other times of the year.
4.2.2(a)	Text expanded to clarify the details we require in an annual report.
4.2.2(h)	New condition requiring annual submission of a plan of monitoring and extraction locations with reference to monitoring tables in schedule 3
4.3.1	Generic notifications condition added.
Schedules	
Table S1.1	Amended description of the landfill activity to clarify that this includes restoration. Activity references amended to reflect changes introduced by Industrial Emissions Directive (2010/75/EU).
Table S1.5	Amended to clarify that restoration is a separate part of the activity unrelated to landfill cover.
Schedule 2	Standard list of wastes added.
Schedule 3	Monitoring and compliance tables have been re-ordered so that those with compliance limits appear first. Standard monitoring frequency and parameters have been included for certain routine monitoring requirements
Table S4.1	Amended to only require regular reports of information that relate to compliance limits.
Table S4.2	Additional details of landfill gas extracted required to improve climate change data quality.
Table S4.3	Amended to include natural gas as an energy source for consistency with other sectors.
Schedule 6	Definitions added to clarify meaning of: Inert waste Exceeded Hazardous substance

Condition	Description of change
	Medicinal product Previous year Waste acceptance criteria Waste acceptance procedure

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/BV8741IL

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BV8741IL/V003 authorising,

Booth Ventures Limited ("the operator"),

whose registered office is

78 Chorley New Road
Bolton
BL1 4BY

company registration number 05050715

to operate an installation at

Harwood Quarry Landfill
Brookfold Lane
Harwood
Bolton
Greater Manchester
BL2 4LT

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

Name	Date
Anne Nightingale	**21/03/2016**

Authorised on behalf of the Environment Agency

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 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 No activities authorised by this permit shall be commenced unless the operator has secured a bond in compliance with the Agreement made between the Operator and the Environment Agency dated 17 October 2005, and the Operator has given prior written notice to the Environment Agency of the intention to commence operations at the site.

1.2.2 The operator shall ensure that the charges it makes for the disposal of waste in the landfill cover the cost of operating the landfill, as far as possible the cost of the financial provision required by condition 1.3.1 and 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 activities;

(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 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 the Environment Agency.

2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency 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 the Environment Agency.

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 the Environment Agency.

2.5 Pre-operational conditions

2.5.1 The operations specified in schedule 1 table S1.4 shall not commence until the measures specified in that table have been completed.

2.6 Landfill Engineering

2.6.1 No construction of any new cell of the landfill shall commence until the operator has submitted construction proposals and the Environment Agency has confirmed that it is satisfied with the construction proposals.

2.6.2 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 the Environment Agency has confirmed that it is satisfied with the cell layout drawing.

2.6.3 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 the Environment Agency.

2.6.4 No disposal of waste shall take place in a new cell until the operator has submitted a CQA Validation Report and the Environment Agency has confirmed that it is satisfied with the CQA Validation Report.

2.6.5 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 the Environment Agency has confirmed that it is satisfied with the construction proposals.

2.6.6 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 the Environment Agency.

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

2.6.8 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.6.5 and 2.6.6 do not apply and the relevant landfill infrastructure may be constructed, provided that the construction proposals are submitted to the Environment Agency as soon as practicable.

2.6.9 For the purposes of conditions 2.6.1,2.6.2, 2.6.4 and 2.6.5, the Environment Agency 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.

2.6.10 Where the Environment Agency has required further information under condition 2.6.9(b), the Environment Agency 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.

2.7 Waste acceptance

2.7.1 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 excluding liquid waste accepted at a permitted leachate treatment activity), 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, or liquid waste accepted for treatment at a permitted leachate treatment activity, and

(k) 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.

2.7.2 Wastes shall only be accepted for restoration where:

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

(b) they are accepted in accordance with a restoration plan approved in writing by the Environment Agency.

2.7.3 The operator shall:

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

(b) be satisfied that the waste conforms to the requirements of condition 2.7.1.

2.7.4 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.

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

2.7.6 The total quantity of waste that shall be deposited or recovered in the landfill shall be limited by the pre-settlement levels shown on the drawing supplied to and approved by the Environment Agency, in accordance with Improvement Condition 8, Table S1.3.

2.7.7 The quantity of waste that is deposited or recovered in the landfill in any year shall not exceed the limits in schedule 1 table S1.5.

2.7.8 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.

2.8 Leachate levels

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

2.9 Closure and aftercare

2.9.1 The operator shall maintain a closure and aftercare management plan.

2.10 Landfill gas management

2.10.1 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.

2.10.2 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 use appropriate measures to flare or treat the gas in accordance with an approved landfill gas management plan.

2.10.3 The operator shall:

(a) if notified by the Environment Agency, submit to the Environment Agency 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 the Environment Agency.

3 Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 The limits in Schedule 3 shall not be exceeded.

3.1.2 The operator shall prevent the input of any hazardous substances from the activities into groundwater.

3.1.3 The operator shall submit to the Environment Agency a review of the Hydrogeological Risk Assessment:

(a) between nine and six months prior to the fourth anniversary of the granting of the permit, and

(b) between nine and six months prior to every subsequent six years after the fourth anniversary of the granting of the permit.

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 the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency 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 the Environment Agency.

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 the Environment Agency, 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 the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency 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 the Environment Agency.

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 the Environment Agency, 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 the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency 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 the Environment Agency.

3.5 Monitoring

3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, 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 S3.8;

(b) Point source emissions specified in table S3.2;

(c) Groundwater specified in tables S3.3 and S3.6;

(d) Landfill gas specified in tables S3.4, S3.5 and S3.7; and

(e) Surface water specified in table S3.9.

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 and shall be used to produce a plan of a scale adequate to show the surveyed features of the site:

(a) annually, and

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

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

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 the Environment Agency, submit to the Environment Agency 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 the Environment Agency.

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 the Environment Agency, 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) sub-surface landfill gas monitoring;

(iii) leachate levels, quality and quantities;

(iv) landfill gas generation and collection;

(v) waste types and quantities; and

(vi) 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 the Environment Agency.

4.2 Reporting

4.2.1 The operator shall send reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 A report or reports on the performance of the activities over the previous year ('the annual report') shall be submitted to the Environment Agency by 31st January each year or such other date as may be agreed in writing by the Agency, with the exception of 4.2.2(c) that must be provided by the end of February 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. The review will include written descriptions of the improvements made to operational performance during the year, action plans developed and planned improvements for the coming year;

(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 behaviour of the landfill body based on the difference between the most recent topographical survey and previous annual topographical survey for the areas of the landfill which did not receive waste between the surveys;

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

(h) a plan(s) ('the monitoring and extraction point plan – MEPP') showing the locations of leachate and landfill gas extraction and all monitoring points.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, 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) using the forms specified in schedule 4 table S4.4 or other reporting format as agreed in writing with the Environment Agency; 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 the Environment Agency 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 the Environment Agency, 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 the Environment Agency,

(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 the Environment Agency, 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 The Environment Agency 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.

4.3.4 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) the Environment Agency shall be notified at least 14 days before making the change; and

(b) the notification shall contain a description of the proposed change in operation.

4.4 Interpretation

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

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities				
Activity reference	**WFD Annex I and II operations (where applicable)**	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity**	**Limits of specified activity**
A1	D5 –Specially engineered landfill; R5 - the recycling or reclamation of inorganic material and R10 – Land treatment resulting in benefit to agriculture or ecology	Section 5.2 Part A(1) (a) , The disposal of waste in a landfill.	Landfill for non-hazardous waste and landfill restoration	Receipt, handling, storage and disposal of wastes, consisting of the types and quantities specified in conditions 2.7, as an integral part of landfilling.
Directly Associated Activities				
A2	D6 – release to water body except seas/ oceans		Discharges of site drainage from the landfill.	From surface water management system to point of entry to controlled waters.
A3	N/A		Storage of fuel for operation of plant and equipment.	Fuel storage tank.

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application	The response to questions 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8 and 2.9 in Part B of the Application Form and in the Stablility Risk Assessment, dated April 2004 and Nuisance and Health Risk Assessment dated April 2004, excluding the following sections: 2.2.5, 2.2.23, 2.2.38, 2.2.42, 2.2.53 and 2.2.79 to 2.2.81.	07/05/2004
Application	ESID report dated April 2004 excluding sections 2.2.5, 2.4.2 and 3.7.3 (paragraphs referring to the installation of passive gas vents) and Table 4A (WAC).	07/05/2004
Application	Hydrogeological Risk Assessment dated April 2004, excluding sections 2.3, 3.1 and 3.1.2.	07/05/2004

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application	Landfill Gas Risk Assessment, dated May 2004, excluding section 3.1	07/05/2004
TerraConsult letter (ref: 355/050L) regarding requests for information dated 18/02/2005	Excluding points 1, 3 and 11.	22/04/2005
TerraConsult letter (ref: 355/055L) and supporting documentation regarding requests for information dated 18/02/2005 and 28/04/2005	All	24/06/2005
TerraConsult letter (ref: 355/067L) regarding request for information dated 11/07/2005	Excluding section on WAC which has been updated by TerraConsult letter dated 12/10/2005 (ref: 355/065L).	28/07/2005
TerraConsult email dated 26/09/2005 regarding waste types	HQ2-1 Appendix C (Proposed Waste Types) Rev 5.	26/09/2005
TerraConsult emails dated 07/10/2005 regarding request for information and dated 22/08/2005 and additional information	Engineered Construction Specification (Doc Ref: 03-355-GB rev 1, Oct 2005). Revised Requisite Surveillance Section to HRA (Doc Ref: rev sec 3v2 HQ3-1 HRA, October 2005). Landfill Gas Management and Monitoring Action Plan (Doc Ref: Rev HQ2-1 ESID Landfill Gas v2). ESID technical tables for surface and groundwater monitoring.	07/10/2005
TerraConsult letter (ref: 355/085L) regarding request for information dated 22/08/2005	All	12/10/2005
Document reference 0355/1.4.1.1	Maintenance of groundwater and sough drains	24/08/2006
TerraConsult letter (ref: 0355/105L) dated 03/10/2006	Proposals for ground investigation, Chloride control and trigger levels	05/10/2006
TerraConsult submissions for improvement conditions	Groundwater contingency action plan (version 2), Installation of monitoring wells (version 2), Drawing 355/098B and drawing ESID 14 rev. B.	20/10/2006

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
6	The Operator shall submit to the Agency for approval a report containing proposed control and trigger levels for chloride for emissions into groundwater to be applied to borehole R3 (TCL). The report shall contain full justification for the control and trigger levels and any required amendments to the groundwater contingency action plan. Once agreed these levels shall be incorporated into the requirements of condition 2.2.3.4 and 2.2.3.5 unless otherwise agreed with the Agency.	Within 3 months of the commencement of deposition of waste
7	The Operator shall submit for to the Environment Agency in writing for approval a restoration plan for the site which includes waste quantities, waste types and waste acceptance criteria for wastes for restoration	Within 12 months of the commencement of deposition of waste
8	The Operator shall submit a drawing showing the pre-settlement levels at the site	Within 3 months of the commencement of deposition of waste
9	The Operator shall submit in writing to the Environment Agency for approval, limits for both Carbon Dioxide and Methane in external monitoring boreholes for inclusion in Table S3.5 of the Permit	Within 6 months of the commencement of the deposition of waste at the site

Table S1.4 Pre-operational measures for future development		
Reference	**Operation**	**Pre-operational Measures**
1	Deposit of waste adjacent to the engineered separation zone (ESZ).	No waste shall be deposited in any cell adjacent to the ESZ, as shown on drawing reference ESID 4A, unless the ESZ has been defined on the ground for the full length of the cell in accordance with the plans submitted as part of the application and the Environment Agency has confirmed in writing that is has no objection to it becoming operational.
2	Construction of the engineered separation zone (ESZ).	Prior to the commencement of construction the Operator shall submit to the Environment Agency in writing the detailed design and construction quality assurance programme (CQA) for the engineering of the ESZ, acceptance criteria for all engineering materials used within the ESZ, together with sampling frequencies and methods. Construction of the ESZ shall not commence until it is confirmed in writing by the Environment Agency that these are in conformance with the relevant specifications set out in section 2 of Part B of the Application Form and in Table S1.2 of this Permit.
3	Construction of the engineered separation zone (ESZ).	The Operator shall notify the Environment Agency in writing of any changes in the detailed design and the CQA programme that are made during the construction and within 5 working days of those changes.
4	Deposit waste within 5m of the engineered separation zone (ESZ) or sidewall geological barrier.	No waste shall be deposited in any cell unless the ESZ or sidewall geological barrier is at least 2 metres higher than any waste deposited within 5m of the ESZ and sidewall geological barrier in that cell, until the ESZ or sidewall geological barrier reaches final levels or unless otherwise agreed in writing with the Environment Agency.
5	Deposit of waste in any cell adjacent to the ESZ and sidewall geological barrier.	Any waste deposited in any cell adjacent to the ESZ and sidewall geological barrier shall be compacted to a specification adequate to ensure the long-term stability of the ESZ and sidewall geological barrier. This compaction specification shall form part of the CQA programme for the construction of the ESZ and sidewall geological barrier.
6	Prior to acceptance of waste with EWC code 01.04.10 for disposal.	Waste with EWC code 01 04 10 shall not be accepted for disposal unless a risk assessment has been submitted to and approved by the Environment Agency. This risk assessment shall consider as a minimum, dust suppression measures to be used when handling the waste and particulate matter monitoring in accordance with the Environment Agency's Technical Guidance document on monitoring of particulate matter in ambient air (M17).

7	**Prior to acceptance and deposition of any waste at the site.**	**The Operator shall submit in writing to the Environment Agency for approval waste acceptance criteria for wastes accepted at the site.**
8	**Prior to acceptance and deposition of any waste at the site.**	**The Operator shall submit to the Environment Agency for approval, a revised Surface Water Management Plan. The Plan shall take into account the requirements of the Environment Agency's Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water (LFTGN02) and include as a minimum:** • **Assessment and compliance limits for a range of indicator parameters to provide an assessment of the surface water discharge (SW2). Once agreed, these parameters shall be included within condition 2.2.2.4;** • **A compliance action plan for surface water assessment and compliance;** • **Precipitation and flood risk calculations and connection and pipework configurations as listed in section 2.2.3.3 of Part B of the application form.** **Following the submission of the report required by this Improvement Condition, the Operator shall undertake any measures notified in writing by the Environment Agency to the timescales indicated in the notification.**
9	**Prior to acceptance and deposition of any waste at the site.**	**The Operator shall submit to the Agency for approval a scheme detailing the maintenance requirements for the groundwater drain and the sough drain, as shown on drawing ESID 6A. This scheme shall include details of routine inspection, maintenance and repair of the groundwater drainage system at the site.** **Following the submission of the scheme required by this condition the Operator shall undertake any measures notified in writing by the Agency to the timescales indicated in the notification.**
10	**Prior to acceptance and deposition of any waste at the site.**	**The Operator shall submit proposals for the ground investigation to be undertaken as part of the development of phase 6 of the landfill (phases as shown on drawing ESID 4A). The investigation shall be carried out in the location of the vehicle maintenance area to identify any substance in, on or under the land that may constitute a pollution risk. The Operator shall submit a report to the Agency for approval detailing the results of the investigation and plans for remediation prior to the deposit of waste in this area of the site.** **Following the submission of the report required by this condition the Operator shall undertake any measures notified in writing by the Agency to the timescales indicated in the notification.**

11	**Prior to acceptance and deposition of any waste at the site.**	**The Operator shall submit to the Agency for approval a Groundwater Contingency Action Plan in accordance with the Agency's Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water (LFTGN02). The plan shall detail the actions to be taken if the control levels for groundwater are breached.** **Following the submission of the plan required by this condition the Operator shall undertake any measures notified in writing by the Agency to the timescales indicated in the notification.**
12	**Prior to acceptance and deposition of any waste at the site.**	**The Operator shall submit to the Agency for approval proposals for the installation of one internal gas monitoring well in phases 2 and 4 and two internal gas monitoring wells in each of phases 3, 5 and 6, the phases of the site being as shown on drawing ESID 4A. The proposals shall include design drawings, details of the well specification and a proposed timetable for installation. At least one monitoring well in each phase shall be a combined gas and leachate well and all monitoring wells shall be designed so that they are sealed to the atmosphere in order to prevent the venting of landfill gas.** **Following the submission of the proposals required by this condition the Operator shall undertake any measures notified in writing by the Agency to the timescales indicated in the notification.**

Table S1.5 Annual waste input limits	
Category	**Limit Tonnes/ Year**
Non-hazardous waste	200,000
Inert waste	100,000
Waste for restoration	As agreed in accordance with the Restoration Plan submitted and approved by the Environment Agency in accordance with Improvement Condition 7.

Schedule 2 – List of permitted wastes

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste	
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
01 04 10	dusty and powdery wastes 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
10	**Wastes from thermal processes**
10 09	**wastes from casting of ferrous pieces**
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 10	**wastes from casting of non-ferrous pieces**
10 10 06	casting cores and moulds which have not undergone pouring, other than those mentioned in 10 10 05
10 10 08	casting cores and moulds which have undergone pouring, other than those mentioned in 10 10 07
10 11	**wastes from manufacture of glass and glass products**
10 11 03	waste glass-based fibrous materials
10 11 12	waste glass other than those mentioned in 10 11 11
10 12	**wastes from manufacture of ceramic goods, bricks, tiles and construction products**
10 12 06	discarded moulds
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
10 13	**wastes from manufacture of cement, lime and plaster and articles and products made from them**
10 13 14	waste concrete and concrete sludge
16	**Wastes not otherwise specified in the list**

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste	
Waste code	**Description**
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 20	glass
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 02	glass
17 02 03	plastic
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 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
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 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 12	**wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 05	glass
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 02	glass
20 02	**garden and park wastes (including cemetery waste)**
20 02 02	soil and stones

Table S2.2 Permitted waste types for restoration	
Waste code	**Description**
[redacted]	
	Wastes accepted in accordance with Table S1.3 Improvement Condition 2 as agreed in writing with the Environment Agency.

Schedule 3 – Emissions and monitoring

Table S3.1 Leachate level limits and monitoring requirements			
Monitoring point reference/Description	**Limit**	**Monitoring frequency**	**Monitoring standard and method**
Operational Cells or Phases (Any cells or phases that do not have a final engineered cap agreed in accordance with the landfill engineering condition, 2.6)			
-	no limit	Monthly	As specified in Environment Agency Guidance TGN02 (February 2003) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Or as otherwise agreed with the Agency as part of a leachate monitoring plan.
Non Operational Cells or Phases (Any cells or phases that have a final engineered cap agreed in accordance with the landfill engineering condition, 2.6)			
-	no limit	Quarterly	As specified in Environment Agency Guidance TGN02 (February 2003) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Or as otherwise agreed with the Agency as part of a leachate monitoring plan.

Table S3.2 Point source emissions to water (other than sewer) – emission limits and monitoring requirements						
Emission point Ref. & Location	**Parameter**	**Source**	**Limit (incl unit)**	**Reference Period**	**Monitoring Frequency**	**Monitoring Standard or Method**
SW2 (as identified on drawing number ESID14 rev A)	Suspended Solids	Site Drainage from the site surface water drainage system and groundwater drainage system	50 mg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3, version 2.1, Dec 2011) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	pH		>5 and <9 pH units			
	Oil and Grease		None visible			
	Additional parameters agreed in accordance with Improvement Condition 1		To be agreed in accordance with Improvement Condition 1	To be agreed in accordance with Improvement Condition 1	To be agreed in accordance with Improvement Condition 1	

Table S3.3 Groundwater – emission limits and monitoring requirements					
Monitoring point reference	**Parameter**	**Limit (including unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
R3 (TCL) as detailed on drawing reference ESID 14 rev A	Mercury	0.01 µg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3, version 2.1, Dec 2011) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Ammonia	0.39 mg/l			
	Arsenic	0.01 mg/l			
	Copper	2 mg/l			
	Sulphate	250 mg/l			
	Chloride	434 mg/l			
R4 (TCL) as detailed on drawing reference ESID 14 rev A	Mercury	0.01 µg/l			
	Ammonia	0.39 mg/l			
	Arsenic	0.01 mg/l			
	Copper	2 mg/l			
	Sulphate	250 mg/l			
	Chloride	250 mg/l			
R3 and R4 (TCL) as detailed on drawing reference ESID 14 rev A	Naphthalene	0.5 µg/l		Annually	

Table S3.4 Landfill gas in external monitoring boreholes – limits and monitoring requirements				
Monitoring point Ref. /description	**Parameter**	**Limit (including units)**	**Monitoring frequency**	**Monitoring standard or method**
R1(TCL), R2(TCL), R3(TCL) and R4(TCL) as identified on drawing ESID 14 rev A	Methane	To be agreed with the Environment Agency in accordance with Improvement Condition 9, table S1.3	Monthly	As per LFTGN03 (September 2004) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Record whether the ground is: waterlogged frozen snow covered
	Carbon Dioxide			
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential Pressure	no limit		

Table S3.5 Landfill gas emissions from capped surfaces for cells that have accepted non hazardous biodegradable waste – monitoring requirements			
Monitoring point Ref. /description	**Parameter**	**Monitoring frequency**	**Monitoring Standard or method**
Permanently capped zone	Methane concentration	Every 12 months	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
Temporarily capped zone	Methane concentration	Every 12 months	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
Whole site	Total methane emission	As agreed with the Environment Agency	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
Uncapped areas	Methane concentration	Every 12 months	As agreed with the Environment Agency based on the wording of revised LFTGN 07 or landfill sector guidance or such other subsequent guidance as may be agreed in writing with the Environment Agency.

Table S3.6 Groundwater – other monitoring requirements			
Monitoring Point Ref./Description	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**
Up gradient MEPP	Water level, electrical conductivity, chloride, ammoniacal nitrogen, pH	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3, version 2.1, Dec 2011), or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	total alkalinity, magnesium, potassium, total sulphates, calcium, sodium, chromium, copper, iron, lead, nickel, zinc, manganese	Annually	
	Hazardous substances	Annually for first six years of operation	
Down or cross gradient MEPP	Water level, electrical conductivity, chloride, ammoniacal nitrogen, pH,	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3, version 2.1, Dec 2011), or such other subsequent guidance as may be agreed in writing with the Environment Agency. After the initial 6 year monitoring period for hazardous substances, if the results of quarterly or annual monitoring suggest an increase in contamination, the operator shall also undertake a full leachate hazardous substances screen.
	total alkalinity, magnesium, potassium, total sulphates, calcium, sodium, chromium, copper, iron, lead, nickel, zinc, manganese	Annually	
	Hazardous substances detected in leachate	Annually for first six years of operation then every two years	
MEPP	Base of monitoring point (mAoD)	Annually	

Table S3.7 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
In waste gas monitoring boreholes or sealed leachate wells or sacrificial gas extraction system	Methane Carbon Dioxide Oxygen Carbon Monoxide Differential pressure Atmospheric pressure	Monthly until gas extraction commences	Calibrated handheld monitoring instrument	For cells or phases which have no active gas extraction. 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. Once gas extraction has commenced in a particular cell or phase, there is no longer a requirement to carry out this monitoring.
	Hydrogen sulphide	Quarterly	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 (v3 2010) or other such subsequent guidance as may be agreed in writing with the Environment Agency or a method agreed with the Environment Agency.	For cells or phases which have no active gas extraction. Once gas extraction has commenced in a particular cell or phase, there is no longer a requirement to carry out this monitoring. Concentrations of hydrogen sulphide shall be assessed in accordance with the gas and odour management plans

Table S3.7 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Gas collection system at well control valve, manifolds (if applicable) and strategic points on gas system	Methane Carbon Dioxide Oxygen Carbon Monoxide Atmospheric pressure 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 the Environment Agency.	Calibrated handheld monitoring instrument	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 well control valve	Hydrogen sulphide	Six monthly	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 (V3 2010) or other such subsequent guidance as may be agreed in writing with the Environment Agency or a method agreed with the Environment Agency.	Concentrations of hydrogen sulphide shall be assessed in accordance with the gas and odour management plans

Table S3.8 Leachate – other monitoring requirements				
Monitoring point reference or description	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Operational Cells or Phases **(Any cell or phases that do not have a final engineered cap agreed in accordance with condition 2.6)**			At leachate compliance point as listed in table S3.1. As specified in Environment Agency Guidance TGN02 (February 2003) and Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3, version 2.1, Dec 2011) with one sampling point per cell / phase or such other subsequent guidance as may be agreed in writing with the Environment Agency.	
MEPP	pH, EC, total alkalinity, ammoniacal nitrogen, Chloride, COD, BOD, cadmium, chromium, copper, lead, nickel, iron, arsenic, magnesium, potassium, total sulphates, calcium, sodium, zinc, manganese	Quarterly		None
MEPP	Hazardous substances	Annually		None
MEPP	Depth to base (mAoD)	Annually		None
Non Operational Cells or Phases **(Any cell or phases that have a final engineered cap agreed in accordance with condition 2.6)**				
MEPP	pH, EC, total alkalinity, ammoniacal nitrogen, Chloride, COD, BOD, cadmium, chromium, copper, lead, nickel, iron, arsenic, magnesium, potassium, total sulphates, calcium, sodium, zinc, manganese	Annually		
MEPP	Hazardous substances	Once every four years		None
MEPP	Depth to base (mAoD)	Annually		

Table S3.9 Surface water – other monitoring requirements				
Monitoring Point Ref. /Description	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
MEPP	Ammoniacal nitrogen Chloride Suspended Solids Visual Oil and Grease pH electrical conductivity	Monthly	Spot sample	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003) and Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, (Annex J3, version 2.1, Dec 2011) or such other subsequent guidance as may be agreed in writing with the Environment Agency.

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	**Reporting period**	**Period ends**
Leachate and/ or groundwater level As specified by schedule 3, table S3.1	Every 3 months	31 March, 30 June, 30 September, 31 December
Point source emission to air As specified by schedule 3, table S3.2	Every 12 months	31 December
Point source emission to water (other than sewer) As specified by schedule 3, table S3.2	Every 3 months	31 March, 30 June, 30 September, 31 December
Emission to groundwater As specified by schedule 3, table S3.3	Every 3 months	31 March, 30 June, 30 September, 31 December
Landfill gas in external monitoring boreholes As specified by schedule 3, table S3.4	Every 3 months	31 March, 30 June, 30 September, 31 December
Emission of landfill gas from capped surfaces As specified by schedule 3, table S3.5	Every 12 months	31 December
Other groundwater monitoring As specified by schedule 3, table S3.6	Every 3 months	31 March, 30 June, 30 September, 31 December
Other Landfill gas monitoring As specified by schedule 3, table S3.7 Trace gas monitoring	Every 3 months Every 12 months	31 March, 30 June, 30 September, 31 December 31 December
Other leachate monitoring As specified by schedule 3, table S3.8	Every 12 months	31 December
Other surface water monitoring As specified by schedule 3, table S3.9	Every 12 months	31 December
Meteorological data Landfill Directive, annex III, section 2	Every 12 months	31 December

* - where the reporting period is 12 months, you may submit this information as part of the 'annual report' required by condition 4.2.2.

Table S4.2: Annual production/treatment	
Leachate: Disposed of off site; Disposed of to any onsite effluent treatment plant; Recirculated into the waste mass.	Cubic metres/year
Landfill gas: Other methods of gas utilisation. Average methane content entering the landfill gas utilisation or treatment compound (based on the annual average of Table S3.7 monitoring) Methane generation rate (50%ile from a representative model)	Normalised cubic metres/year % methane v/v m3 /hr

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

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 the Environment Agency	15/12/2015
Air	Form Air 1 or other reporting format to be agreed in writing with the Environment Agency	15/12/2015
Controlled water	Form Water 1 or other reporting format to be agreed in writing with the Environment Agency	15/12/2015
Groundwater	Form Groundwater 1 or other reporting format to be agreed in writing with the Environment Agency	15/12/2015
Landfill gas	Form LFG 1 or other reporting format to be agreed in writing with the Environment Agency	15/12/2015

Table S4.4 Reporting Forms		
Media/parameter	**Reporting Format**	**Date of Form**
Waste Return	Waste Return Form RATS2E	15/12/2015
Landfill topographical surveys and interpretation	Reporting format to be agreed in writing with the Environment Agency	15/12/2015

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 malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and Time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Measures taken, or intended to be taken, to stop the emission	

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

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

Part B to be 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.

“annually” means once every year.

“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 the Environment Agency 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.

(a) “Cell layout drawing” means: 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 2010, SI 2010 No.675. Words and expressions used in this permit which are also used in those 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.

“exceeded” means that a value is above a permitted limit, or where a range of values or a minimum value is set as a permitted limit it means a value outside that range or below the minimum value, whichever is applicable.

“Hazardous property” has the meaning in Annex III of the Waste Framework Directive.

“Hazardous substances” as defined by the Environmental Permitting (England and Wales) Regulations 2010, SI 2010 No.675, schedule 22 and listed in our Hydrogeological risk assessment guidance, annex J to our H1 risk assessment guidance.

“Hazardous waste”’ has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended).

“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.

“List of Wastes” means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time.

“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.

“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.

"inert waste" means waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater

“Medicinal product” means any medicine licensed by the Medicines and Healthcare products Regulatory Agency (MHRA) or 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.

“MEPP” Monitoring and extraction point plan, required by condition 4.2.2(h) to specify extraction points and routine monitoring locations.

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

“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.

“Previous year” means the 12 month period preceding the month the annual report is submitted in.

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

“Relevant waste acceptance procedures” means the procedure for the acceptance of waste at landfills and the associated sampling and test methods specified in the Council Decision Annex (2003/33/EC, European Council of 19 December 2002).

“Relevant waste acceptance criteria” means the waste acceptance criteria and the associated sampling and test methods specified in the Council Decision Annex (2003/33/EC, European Council of 19 December 2002).

“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.

‘Sustainably extracted’ means where suction can be applied to the extraction wells such that a flow rate of landfill gas, with a methane content capable of either being combusted, or treated by bio-oxidation, can be extracted without increasing the risk of air ingress to the waste or inducing aerobic degradation within the waste.

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk.

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

Where the following terms appear in the waste code list in Tables S2.1, they have the meaning given below:

‘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;

‘heavy metal’ means any compound of antimony, arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, selenium, tellurium, thallium and tin, as well as these materials in metallic form, as far as these are classified as hazardous substances;

‘polychlorinated biphenyls and polychlorinated terphenyls’ (‘PCBs’) means PCBs as defined in Article 2(a) of Council Directive 96/59/EC’.
Article 2(a) says that ‘PCBs’ means:

- polychlorinated biphenyls
- polychlorinated terphenyls
- monomethyl-tetrachlorodiphenyl methane, Monomethyl-dichloro-diphenyl methane, Monomethyldibromo-diphenyl methane
- any mixture containing any of the above mentioned substances in a total of more than 0,005 %by weight;

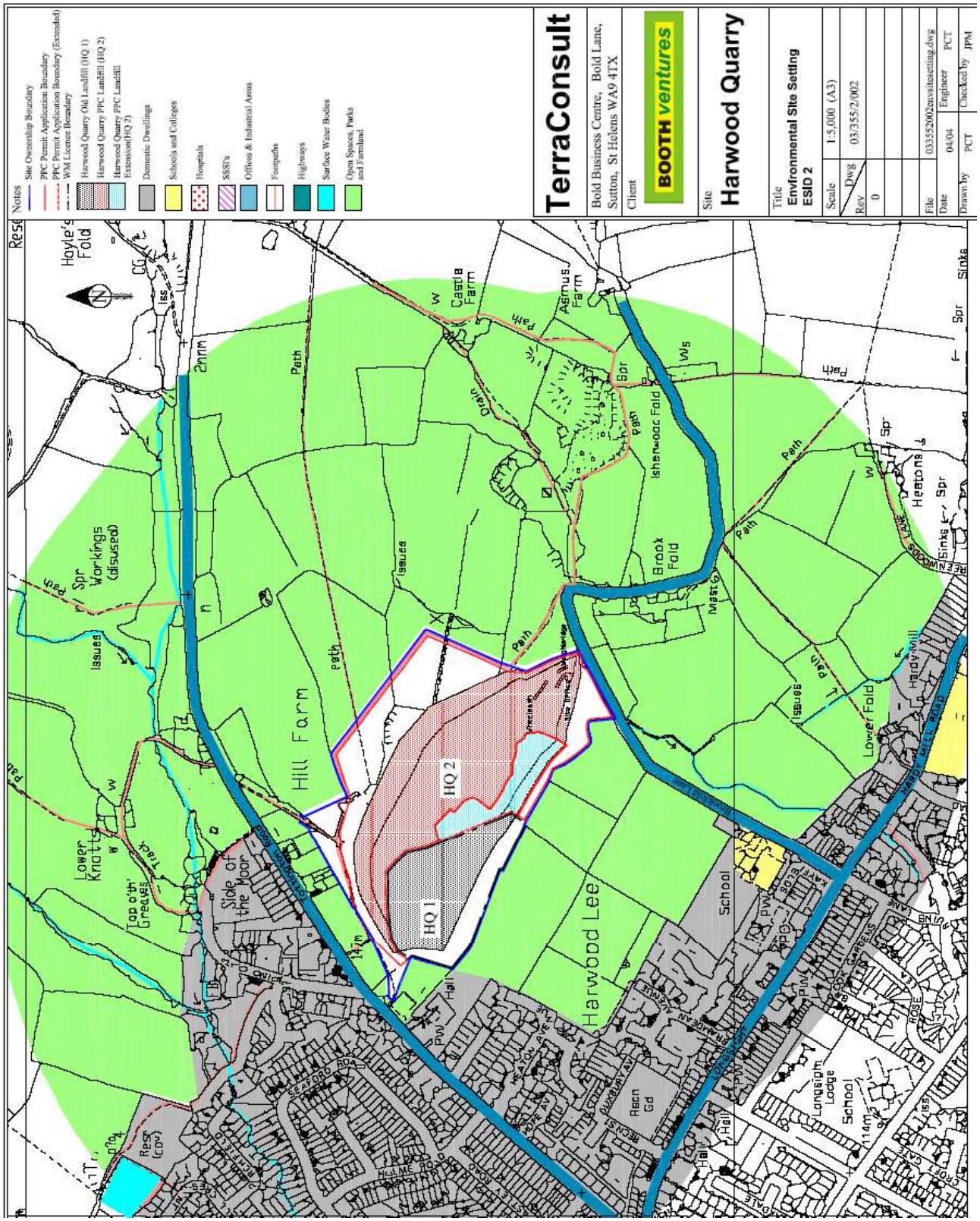
‘transition metals’ means any of the following metals: any compound of scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel, zinc, zirconium, molybdenum and tantalum, as well as these materials in metallic form, as far as these are classified as hazardous substances;

‘stabilisation’ means processes which change the hazardousness of the constituents in the waste and transform hazardous waste into non-hazardous waste;

‘solidification’ means processes which only change the physical state of the waste by using additives without changing the chemical properties of the waste;

‘partly stabilised wastes’ means wastes containing, after the stabilisation process, hazardous constituents which have not been changed completely into non-hazardous constituents and could be released into the environment in the short, middle or long term.

Schedule 7 – Site plan



END OF PERMIT

Permit Number: EPR/BV8741IL Operator: Booth Ventures Limited

Facility: Harwood Quarry Landfill Form Number: Air1 / 15/12/2015

Reporting of emissions to air for the period from to

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 the Environment Agency 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: EPR/BV8741IL Operator: Booth Ventures Limited

Facility: Harwood Quarry Landfill Form Number: Water1 / 15/12/2015

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

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 the Environment Agency 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: EPR/BV8741IL Operator: Booth Ventures Limited

Facility: Harwood Quarry Landfill Form Number: Leachate 1 / 15/12/2015

Reporting of leachate monitoring for the period from to

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

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

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency 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:	EPR/BV8741IL	Operator:	Booth Ventures Limited
Facility:	Harwood Quarry Landfill	Form Number:	Groundwater1 / 15/12/2015

Reporting of groundwater monitoring for the period from to

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

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

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency 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:	EPR/BV8741IL	Operator:	Booth Ventures Limited
Facility:	Harwood Quarry Landfill	Form Number:	LFG1 / 15/12/2015

Reporting of landfill gas monitoring for the period from **to**

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

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

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency 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)