

Variation with introductory note

Environmental Permitting (England & Wales) Regulations 2007

Port Clarence Hazardous Landfill
Site

Augean North Limited
Off Huntsman Drive
Stockton-on-Tees
TS2 1UE

Permit number

BV1399

Variation number

EPR/BV1399IT/V006

Port Clarence Hazardous landfill site

Permit Number BV1399

Introductory note

This introductory note does not form a part of the permit

The following notice, which is issued pursuant to regulation 20 and Part 1 of Schedule 5 of the Environmental Permitting (England and Wales) Regulations 2007 (S.I.2007 No. 3538) (the Regulations), gives notice of a variation of an environmental permit to operate a regulated facility. Schedule 1 of this notice lists any deleted conditions, schedule 2 lists any amended conditions and schedule 3 lists any conditions that have been added.

The Permit conditions have been varied in line with the conditions contained within the revised landfill template issued 22 November 2007. There is no significant change to the effect of the permit as a result of the variation. The variation incorporates all previous variations.

The main features of the installation are as follows.

The installation is located on the north bank of the River Tees in an area historically dominated by industrial use. The existing landfill is separated in to two installations comprising a hazardous and a non-hazardous landfill.

The activities that are permitted to take place at the installation are the disposal of hazardous waste. The permit requires that provision is made for the collection of leachate and for monitoring of landfill gas.

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

Status log of the permit		
Detail	Date	Response Date
Application BV1399 (reference EPR/BV1399IT/A001)	Received 09 /06/2003	-
Permit determined (reference EPR/BV1399IT/A001)	27/02/2004	-
Variation FP3833BC determined (reference EPR/BV1399IT/V002)	16/07/2004	-
Variation application HP3135SY received (reference EPR/BV1399IT/V003)	09/12/2004	-
Variation HP3135SY determined (reference EPR/BV1399IT/V003)	14/02/2005	-
Variation application KP3737SV received (reference EPR/BV1399IT/V004)	15/08/2005	-
Variation KP3737SV determined (reference EPR/BV1399IT/V004)	14/07/2006	-
Variation application XP3838ML received (reference EPR/BV1399IT/V005)	20/09/2006	-
Variation XP3838ML determined (reference EPR/BV1399IT/V005)	09/03/2007	-
Variation EPR/BV1399IT/V006 determined	11/02/2010	-

Superseded or partially superseded licences/authorisations/consents relating to this installation

Holder	Reference Number	Date of Issue	Fully or Partially Superseded
Zero Waste Limited	EAWML/66009	01/08/1999	Fully

End of Introductory Note

Variation Notice

Permit number

BV1399

Variation number

EPR/BV1399IT/V006

The Environment Agency (the Agency) in exercise of its powers under Regulation 20 of the Environmental Permitting (England and Wales) Regulations 2007 (SI 2007 No 3538) varies the permit as set out below.

Augean North Limited ("the operator"),

whose registered office (or principal office) is

4 Rudgate Court

Walton

Wetherby

West Yorkshire

LS23 7BF

Company registration number **3652506**

holds a permit to operate a regulated facility at

Port Clarence Hazardous Landfill Site

Off Huntsman Drive

Stockton-on-Tees

TS2 1UE

and that permit is varied to the extent set out in schedules 1 to 3 of this variation notice.

The notice shall take effect from 11th February 2010

Signed	Date
	11 th February 2010

Martin Jenkins

Authorised to sign on behalf of the Agency.

SCHEDULE 1 – CONDITIONS TO BE DELETED

1. All conditions and schedules of permit reference BV1399 are deleted.

SCHEDULE 2 – CONDITIONS TO BE AMENDED

2. None.

SCHEDULE 3 – CONDITIONS TO BE ADDED

3. The following conditions and schedules are added to the permit.

Conditions

1. Management

1.1 General management

- 1.1.1 The activities shall be managed and operated:
- (a) in accordance with a management system, which identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents and non-conformances and those drawn to the attention of the operator as a result of complaints; and
 - (b) by sufficient persons who are competent in respect of the responsibilities to be undertaken by them in connection with the operation of the activities.
- 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.

1.2 Accidents that may cause pollution

- 1.2.1 The operator shall:
- (a) maintain and implement an accident management plan;
 - (b) review and record at least every 4 years or as soon as practicable after an accident, (whichever is the earlier) whether changes to the plan should be made;
 - (c) make any appropriate changes to the plan identified by a review.

1.3 Finance

- 1.3.1 The financial provision for meeting the obligations under this permit set out in the agreement made between the operator and the Agency dated 16th December 2009 shall be maintained by the operator throughout the subsistence of this permit and the operator shall produce evidence of such provision whenever required by the Agency.
- 1.3.2 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.

1.4 Energy efficiency

- 1.4.1 The operator shall:
- (a) Review and record at least every 4 years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (b) Implement any appropriate measures identified by a review.

1.5 Site security

1.5.1 Site security measures shall prevent unauthorised access to the site, as far as practicable.

2. Operations

2.1 Permitted activities

2.1.1 The operator is 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 blue on the site plan at schedule 2 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 Agency.

2.4 Off-site conditions

There are no conditions in this permit to which regulation 15 of the EP Regulations apply.

2.5 Improvement programme

2.5.1 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 Agency.

2.5.2 Except in the case of an improvement which consists only of a submission to the Agency, the operator shall notify the Agency within 14 days of completion of each improvement.

2.6 Pre-operational conditions

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

2.7 Engineering

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

2.7.2 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 Agency.

- 2.7.3 No disposal of waste shall take place in a new cell until the operator has submitted a CQA Validation Report and the Agency has confirmed that it is satisfied with the CQA Validation Report.
- 2.7.4 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 Agency has confirmed that it is satisfied with the construction proposals.
- 2.7.5 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 Agency.
- 2.7.6 The operator shall submit a CQA Validation Report as soon as practicable following the construction of the relevant landfill Infrastructure.
- 2.7.7 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.7.4 and 2.7.5 do not apply and the relevant landfill Infrastructure may be constructed, provided that the construction proposals are submitted to the Agency as soon as practicable.
- 2.7.8 For the purposes of conditions 2.7.1, 2.7.3 and 2.7.4, the Agency shall be deemed to be satisfied where it has not, within the period of 4 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.

2.8 Waste acceptance

- 2.8.1 Wastes shall only be accepted for disposal if:
- (a) they are listed in schedule 3, tables S3.1 and S3.2, and
 - (b) they are hazardous waste, and
 - (c) they are not liquid waste (including waste waters but excluding sludge), and
 - (d) they are not waste which in the conditions of landfill is explosive, corrosive, oxidising, highly flammable or flammable, and
 - (e) they are not hospital and other clinical infectious wastes from medical or veterinary establishments, 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, except that the leaching limits set out in schedule 3 table S3.3 shall apply, 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 where treatment would not reduce its quantity or the hazards which it poses to human health or the environment, and
- (k) where the waste acceptance criteria is exceeded for wastes under code 17 05 03*, the operator shall submit to the Agency for approval a written report demonstrating compliance with the higher leaching limit for the substance(s) or component(s) detailed in schedule 3 table S3.2 prior to the acceptance of the waste. The report shall also demonstrate that alternative disposal options for the waste have been fully explored and that further treatment has been considered to allow the waste to meet the waste acceptance criteria limits. The waste shall not be accepted without written approval of the Agency.

2.8.2 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.

2.8.3 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.

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

2.8.5 The total quantity of waste that shall be deposited in the landfill shall be limited to 6,500,000 tonnes.

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

2.8.7 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.

2.8.8 The operator shall maintain and implement a system to record the disposal location of any hazardous waste.

2.9 Leachate levels

2.9.1 The limits for the level of leachate listed in schedule 4 table S4.1 shall not be exceeded.

2.10 Closure, aftercare and decommissioning

2.10.1 The operator shall maintain and operate the activities so as to prevent or where that is not practicable, to minimise, any pollution risk on closure and decommissioning.

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 4.
- 3.1.2 The limits given in that schedule shall not be exceeded, save that compliance with an emission limit shall include incorporation of the uncertainty allowance stated in Agency guidance LFTGN 05 and LFTGN 08.

3.2 Emissions to groundwater

- 3.2.1 There shall be no emission from the activities into groundwater of any substance in List I (as defined by the Groundwater Regulations) contrary to those regulations.
- 3.2.2 There shall be no emission from the activities into groundwater of any substance in List II (as defined in the Groundwater Regulations) so as to cause pollution (as defined in those regulations).
- 3.2.3 The trigger levels for emissions into groundwater for the parameter(s) and monitoring point(s) agreed in accordance with the submission made in accordance with the improvement programme requirement 1.4.1.3 of the permit shall not be exceeded.
- 3.2.4 The operator shall submit to the Agency a review of the Hydrogeological Risk Assessment:
- (a) between 9 and 6 months prior to the fourth anniversary of the granting of the permit, and
 - (b) between 9 and 6 months prior to every subsequent 4 years after the fourth anniversary of the granting of the permit.

3.3 Fugitive emissions of substances

- 3.3.1 Fugitive emissions of substances (excluding odour, noise and vibration) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.3.2 Litter or mud arising from the activities shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures have been used to prevent or where that is not practicable to minimise, the litter and mud.
- 3.3.3 Litter or mud arising from the activities shall be cleared from affected areas outside the site as soon as practicable.
- 3.3.4 All liquids, 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.
- 3.3.5 The limits for landfill gas arising from the installation set out in schedule 4 shall not be exceeded.
- 3.3.6 The limits for particulate matter arising from the installation set out in schedule 4 table S4.7 shall not be exceeded.

3.4 Odour

- 3.4.1 Emissions from the activities shall be free from odour at levels likely to cause annoyance outside the site, as perceived by an authorised officer of the Agency, unless the operator has used appropriate measures to prevent or where that is not practicable to minimise the odour.

3.5 Noise and vibration

- 3.5.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause annoyance outside the site, as perceived by an authorised officer of the Agency, unless the operator has used appropriate measures to prevent or where that is not practicable to minimise the noise and vibration.

3.6 Monitoring

- 3.6.1 The operator shall, unless otherwise agreed in writing by the Agency, undertake the monitoring and any other actions specified in the following tables in schedule 4 to this permit:
- (a) Leachate specified in tables S4.1 and S4.5;
 - (b) Groundwater specified in tables S4.2 and S4.6;
 - (c) Landfill gas specified in tables S4.3 and S4.4; and
 - (d) Particulate matter specified in table S4.7.
- 3.6.2 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.
- 3.6.3 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
 - (c) 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.

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 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;
 - (vi) the location of hazardous waste deposits; and
 - (vii) the specification and as built drawings of the basal, sidewall and capping engineering systems.

4.1.2. Any records required to be made by this permit shall be supplied to the Agency within 14 days where the records have been requested in writing by the Agency.

4.1.3 All records required to be held by this permit shall be held on site and shall be available for inspection by the Agency at any reasonable time.

4.2 Reporting

4.2.1 A report or reports on the performance of the activities over the previous year shall be submitted to the Agency by 31 January (or other date agreed in writing by the Agency) 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) where the operator's management system encompasses annual improvement targets, a summary report of the previous year's progress against such targets;
- (c) the energy consumed at the site, reported in the format set out in schedule 5 table S5.3;
- (d) the annual production/treatment set out in schedule 5 table S5.2;
- (e) details of any contamination or decontamination of the site which has occurred;

- (f) the topographical surveys required by condition 3.6.3 other than those submitted as part of a CQA validation report;
 - (g) 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;
 - (h) 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;
 - (i) a calculation of the remaining capacity (reported in cubic metres) derived from the pre-settlement contours and the most recent topographical survey;
- 4.2.2 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the 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 5 table S5.1;
 - (b) for the reporting periods specified in schedule 5 table S5.1 and using the forms specified in schedule 5 table S5.4; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.3 A summary report of the waste types and quantities accepted and removed from the site shall be made for each quarter. It shall be submitted to the Agency within one month of the end of the quarter and shall be in the format required by the Agency. The summary report shall include details of the alternative disposal or treatment options considered for the waste streams specified in schedule 3, table S3.2.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding 4 years, submit to the Agency, within 6 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.
- 4.2.5 All reports and notifications required by the permit shall be sent to the Agency using the contact details supplied in writing by the Agency.

4.3 Notifications

- 4.3.1 The Agency shall be notified without delay following the detection of:
- (a) any malfunction, breakdown or failure of equipment or techniques, accident, or fugitive emission which has caused, is causing or may cause significant pollution;
 - (b) the breach of a limit specified in the permit;
 - (c) any significant adverse environmental effects.
- 4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 6 to this permit within the time period specified in that schedule.
- 4.3.3. Prior written notification shall be given to the Agency of the following events and in the specified timescales:

- (a) as soon as practicable prior to the permanent cessation of any of the permitted activities;
 - (b) as soon as practicable prior to the cessation of the landfill disposal activities, for a period likely to exceed 1 month; and
 - (c) at least 7 days prior to the resumption of the landfill disposal activities after a cessation notified under (b) above.
- 4.3.5 Where the Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Agency when the relevant monitoring is to take place. The operator shall provide this information to the Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.6 The Agency shall be notified within 7 days of any changes in technically competent management and the name of any incoming person together with evidence that such person has the required technical competence.
- 4.3.7 The Agency shall be provided, within 14 days of the operator or any relevant person being convicted of a relevant offence, (unless such information has already been notified to the Agency), with details of the nature of the offence, the place and date of conviction, and the sentence imposed.
- 4.3.8 The Agency shall be notified within 14 days of the operator and/or any relevant person lodging an appeal against a conviction for any relevant offence and of the outcome when the appeal is decided.
- 4.3.9 The Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- (a) any change in the operator's trading name, registered name or registered office address;
 - (b) any change to particulars of the operator's ultimate holding company (including details of an ultimate holding company where an operator has become a subsidiary); and
 - (c) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

4.4 Interpretation

- 4.4.1 In this permit the expressions listed in schedule 7 shall have the meaning given in that schedule.

Schedule 1 - Operations

Table S1.1 Activities

Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
Section 5.2 Part A(1) (a), The disposal of waste in a landfill.	Landfill for hazardous waste (landfill classification under the Landfill Directive 1999).	Receipt, handling, storage and disposal of wastes, consisting of the types and quantities specified in conditions 2.8, as an integral part of landfilling.
Directly Associated Activity		
Leachate management.	Collection of leachate prior to removal by tanker.	Leachate arising from the landfill.
Landfill gas management	Collection of landfill gas prior to treatment off-site	Landfill gas arising from the landfill

Table S1.2 Operating techniques

Description	Parts	Date Received
Application.	The response to questions 1.2, 2.1, 2.2, 2.3, 2.4 and 2.5 in part B of the Application Form. Excluding the responses to the following: 1.2.21, 2.1.2, 2.2.1, 2.2.3, 2.2.4, 2.3.30, 2.3.40, 2.3.45 – 2.3.47, 2.3.68, 4.1.3 – 4.1.23.	09/06/2003
Letter from Golder Associates (UK) Limited Dated 11 November 2003.	All parts.	13/11/2003
Supplementary Stability Risk Assessment Report.	All parts.	18/11/2003
A revised surface water monitoring protocol.	All parts.	03/12/2003
A revised list of waste types.	All parts.	11/12/2003
Stability Risk Assessment of the bund between the Hazardous and Non-Hazardous Installations.	All parts.	21/01/2004
Drawings showing site access and boundary fence.	All parts.	18/02/2004
Golder Associates (UK) Ltd Report 05529573.500 "Leachate Management Plan."	All parts.	31/03/2006
Report AU/PC/NH/5232/01/ESID.	All parts.	01/11/2006
Report AUPC/PDH/2603/01/HRA.	All parts.	01/11/2006
Compliance with improvement condition: Landfill Gas Management Plan	All parts.	July 2007
Particulates Monitoring Action Plan, dated 01/02/2010	All parts.	01/02/2010

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
1.4.1.10	The operator shall submit a drawing showing the pre-settlement contours for the installation.	30/04/2010

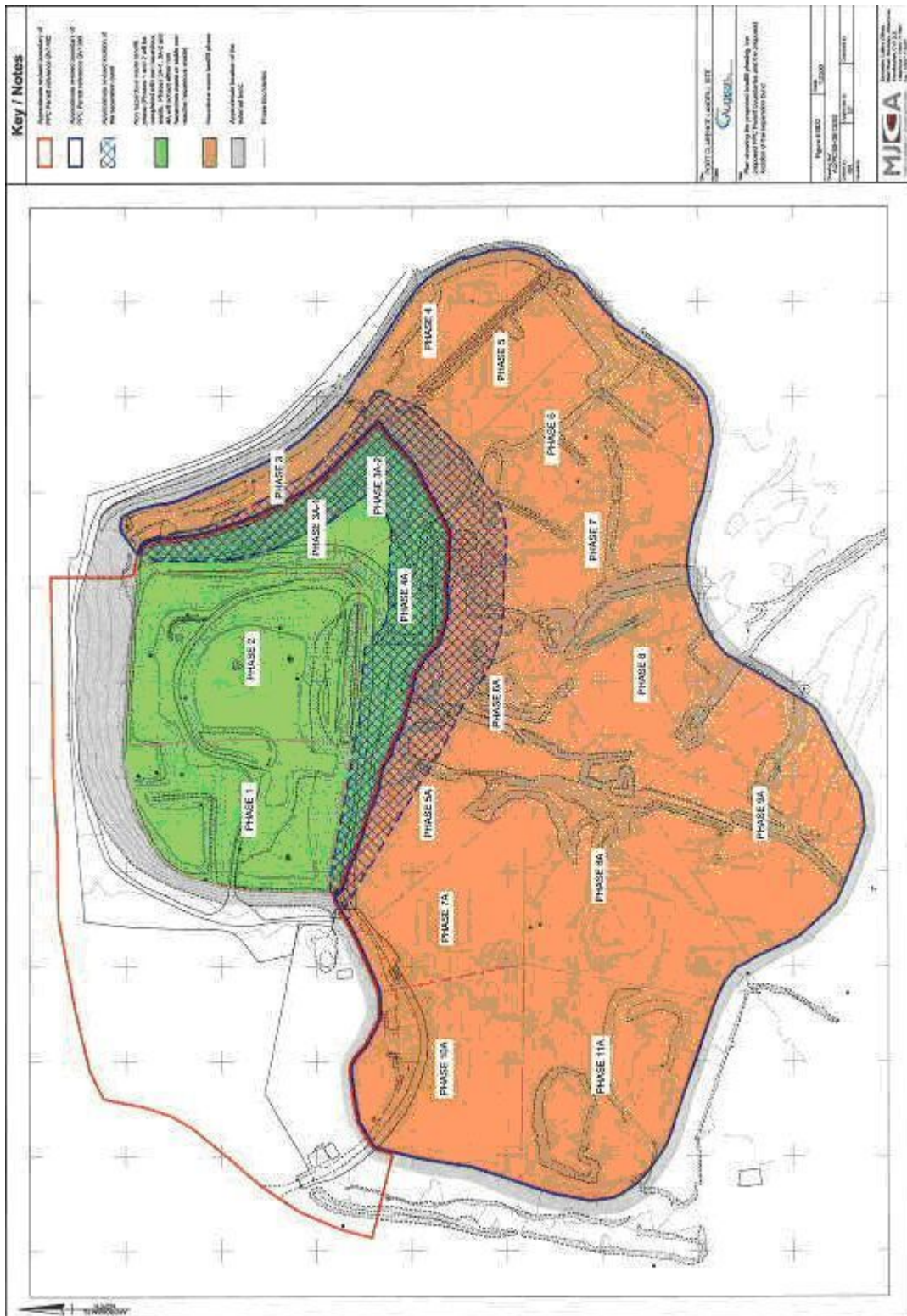
Table S1.4 Pre-operational measures for future development

Reference	Operation	Pre-operational Measures
1	Prior to the installation of the leachate collection pipework.	<p>The operator shall submit to the Agency for approval details of inspection and maintenance of the leachate drainage pipework within each cell where waste deposits commence after the issue of this Permit.</p> <p>The operator shall undertake any measures approved in writing by the Agency to the timescales indicated in the approval.</p>

Table S1.5 Annual waste input limits

Category	Limit Tonnes/ Year
Hazardous waste	500,000

Schedule 2 - Site plan



Not to scale

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Schedule 3 - List of permitted wastes

Table S3.1 Permitted wastes	
EWC	Description
01 03	wastes from physical and chemical processing of metalliferous minerals
01 03 05*	other tailings containing dangerous substances
01 03 07*	other wastes containing dangerous substances from physical and chemical processing of metalliferous minerals
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 07*	wastes containing dangerous substances from physical and chemical processing of non-metalliferous minerals
01 05	drilling muds and other drilling wastes
01 05 05*	oil-containing drilling muds and wastes
01 05 06*	drilling muds and other drilling wastes containing dangerous substances
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 08*	agrochemical waste containing dangerous substances
03 01	wastes from wood processing and the production of panels and furniture
03 01 04*	sawdust, shavings, cuttings, wood, particle board and veneer containing dangerous substances
04 02	wastes from the textile industry
04 02 14*	wastes from finishing containing organic solvents
04 02 16*	dye-stuffs and pigments containing dangerous substances
05 01	wastes from petroleum refining
05 01 03*	tank bottom sludges
05 01 06*	oily sludges from maintenance operations of the plant or equipment
05 01 07*	acid tars
05 01 08*	other tars
05 01 11*	wastes from cleaning of fuels with bases
05 01 12*	oil containing acids
05 01 15*	spent filter clays
05 06	wastes from the pyrolytic treatment of coal
05 06 01*	acid tars
05 06 03*	other tars
05 07	wastes from natural gas purification and transportation
05 07 01*	wastes containing mercury
06 03	wastes from the MFSU of salts and their solutions and metallic oxides
06 03 11*	solid salts and solutions containing cyanides
06 03 13*	solid salts and solutions containing heavy metals
06 03 15*	metallic oxides containing heavy metals
06 04	metal-containing wastes other than those mentioned in 06 03
06 04 03*	wastes containing arsenic
06 04 04*	wastes containing mercury
06 04 05*	wastes containing other heavy metals
06 06	wastes from the MFSU of sulphur chemicals, sulphur chemical processes and desulphurisation processes
06 06 02*	wastes containing dangerous sulphides
06 07	wastes from the MFSU of halogens and halogen chemical processes
06 07 01*	wastes containing asbestos from electrolysis
06 08	wastes from the MFSU of silicon and silicon derivatives
06 08 02*	wastes containing dangerous silicones

Table S3.1 Permitted wastes

EWC	Description
06 09	wastes from the MSFU of phosphorous chemicals and phosphorous chemical processes
06 09 03*	calcium-based reaction wastes containing or contaminated with dangerous substances
06 10	wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture
06 10 02*	wastes containing dangerous substances
06 13	wastes from inorganic chemical processes not otherwise specified
06 13 01*	inorganic plant protection products, wood-preserving agents and other biocides.
06 13 02*	spent activated carbon (except 06 07 02)
06 13 04*	wastes from asbestos processing
06 13 05*	soot
07 01	wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals
07 01 08*	other still bottoms and reaction residues
07 02	wastes from the MFSU of plastics, synthetic rubber and man-made fibres
07 02 10*	other filter cakes and spent absorbents
07 02 11*	sludges from on-site effluent treatment containing dangerous substances
07 02 14*	wastes from additives containing dangerous substances
07 02 16*	wastes containing dangerous silicones
07 03	wastes from the MFSU of organic dyes and pigments (except 06 11)
07 03 08*	other still bottoms and reaction residues
07 03 10*	other filter cakes and spent absorbents
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 07*	halogenated still bottoms and reaction residues
07 04 11*	sludges from on-site effluent treatment containing dangerous substances
07 05	wastes from the MFSU of pharmaceuticals
07 05 08*	other still bottoms and reaction residues
07 05 10*	other filter cakes and spent absorbents
07 05 13*	solid wastes containing dangerous substances
07 06	wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics
07 06 07*	halogenated still bottoms and reaction residues
07 06 08*	other still bottoms and reaction residues
07 06 10*	other filter cakes and spent absorbents
07 07	wastes from the MFSU of fine chemicals and chemical products not otherwise specified
07 07 08*	other still bottoms and reaction residues
07 07 09*	halogenated filter cakes and spent absorbents
07 07 10*	other filter cakes and spent absorbents
08 01	wastes from MFSU and removal of paint and varnish
08 01 13*	sludges from paint or varnish containing organic solvents or other dangerous substances
08 01 17*	wastes from paint or varnish removal containing organic solvents or other dangerous substances
08 03	wastes from MFSU of printing inks
08 03 12*	waste ink containing dangerous substances
08 03 17*	waste printing toner containing dangerous substances
08 04	wastes from MFSU of adhesives and sealants (including waterproofing products)
08 04 09*	waste adhesives and sealants containing organic solvents or other dangerous substances
08 04 11*	adhesive and sealant sludges containing organic solvents or other dangerous substances

Table S3.1 Permitted wastes

EWC	Description
08 05	wastes not otherwise specified in 08
08 05 01*	waste isocyanates
09 01	wastes from the photographic industry
09 01 06*	wastes containing silver from on-site treatment of photographic wastes
09 01 11*	single-use cameras containing batteries included in 16 06 01, 16 06 02 or 16 06 03
10 01	wastes from power stations and other combustion plants (except 19)
10 01 04*	oil fly ash and boiler dust
10 01 13*	fly ash from emulsified hydrocarbons used as fuel
10 01 14*	bottom ash, slag and boiler dust from co-incineration containing dangerous substances
10 01 16*	fly ash from co-incineration containing dangerous substances
10 01 18*	wastes from gas cleaning containing dangerous substances
10 01 20*	sludges from on-site effluent treatment containing dangerous substances
10 02	wastes from the iron and steel industry
10 02 07*	solid wastes from gas treatment containing dangerous substances
10 02 11*	wastes from cooling-water treatment containing oil
10 03	wastes from aluminium thermal metallurgy
10 03 04*	primary production slags
10 03 08*	salt slags from secondary production
10 03 09*	black drosses from secondary production
10 03 17*	tar-containing wastes from anode manufacture
10 03 19*	flue-gas dust containing dangerous substances
10 03 21*	other particulates and dust (including ball-mill dust) containing dangerous substances
10 03 23*	solid wastes from gas treatment containing dangerous substances
10 03 25*	sludges and filter cakes from gas treatment containing dangerous substances
10 03 29*	wastes from treatment of salt slags and black drosses containing dangerous substances
10 04	wastes from lead thermal metallurgy
10 04 01*	slags from primary and secondary production
10 04 02*	dross and skimmings from primary and secondary production
10 04 03*	calcium arsenate
10 04 04*	flue-gas dust
10 04 05*	other particulates and dust
10 04 06*	solid wastes from gas treatment
10 04 07*	sludges and filter cakes from gas treatment
10 05	wastes from zinc thermal metallurgy
10 05 03*	flue-gas dust
10 05 05*	solid waste from gas treatment
10 05 06*	sludges and filter cakes from gas treatment
10 06	wastes from copper thermal metallurgy
10 06 03*	flue-gas dust
10 06 06*	solid wastes from gas treatment
10 06 09*	wastes from cooling-water treatment containing oil
10 07	wastes from silver, gold and platinum thermal metallurgy
10 07 07*	wastes from cooling-water treatment containing oil
10 08	wastes from other non-ferrous thermal metallurgy
10 08 08*	salt slag from primary and secondary production
10 08 12*	tar-containing wastes from anode manufacture
10 08 15*	flue-gas dust containing dangerous substances
10 08 17*	sludges and filter cakes from flue-gas treatment containing dangerous substances

Table S3.1 Permitted wastes

EWC	Description
10 08 19*	wastes from cooling-water treatment containing oil
10 09	wastes from casting of ferrous pieces
10 09 05*	casting cores and moulds which have not undergone pouring containing dangerous substances
10 09 07*	casting cores and moulds which have undergone pouring containing dangerous substances
10 09 09*	flue-gas dust containing dangerous substances
10 09 11*	other particulates containing dangerous substances
10 09 13*	waste binders containing dangerous substances
10 09 15*	waste crack-indicating agent containing dangerous substances
10 10	wastes from casting of non-ferrous pieces
10 10 05*	casting cores and moulds which have not undergone pouring, containing dangerous substances
10 10 07*	casting cores and moulds which have undergone pouring, containing dangerous substances
10 10 09*	flue-gas dust containing dangerous substances
10 10 11*	other particulates containing dangerous substances
10 10 13*	waste binders containing dangerous substances
10 10 15*	waste crack-indicating agent containing dangerous substances
10 11	wastes from manufacture of glass and glass products
10 11 09*	waste preparation mixture before thermal processing, containing dangerous substances
10 11 11*	waste glass in small particles and glass powder containing heavy metals (for example from cathode ray tubes)
10 11 13*	glass-polishing and -grinding sludge containing dangerous substances
10 11 15*	solid wastes from flue-gas treatment containing dangerous substances
10 11 17*	sludges and filter cakes from flue-gas treatment containing dangerous substances
10 11 19*	solid wastes from on-site effluent treatment containing dangerous substances
10 12	wastes from manufacture of ceramic goods, bricks, tiles and construction products
10 12 09*	solid wastes from gas treatment containing dangerous substances
10 12 11*	wastes from glazing containing heavy metals
10 13	wastes from manufacture of cement, lime and plaster and articles and products made from them
10 13 09*	wastes from asbestos-cement manufacture containing asbestos
10 13 12*	solid wastes from gas treatment containing dangerous substances
10 14	waste from crematoria
10 14 01*	waste from gas cleaning containing mercury
11 01	wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphatising, alkaline degreasing, anodising)
11 01 08*	phosphatising sludges
11 01 09*	sludges and filter cakes containing dangerous substances
11 01 13*	degreasing wastes containing dangerous substances
11 01 15*	eluate and sludges from membrane systems or ion exchange systems containing dangerous substances
11 01 16*	saturated or spent ion exchange resins
11 01 98*	other wastes containing dangerous substances
11 02	wastes from non-ferrous hydrometallurgical processes
11 02 02*	sludges from zinc hydrometallurgy (including jarosite, goethite)
11 02 05*	wastes from copper hydrometallurgical processes containing dangerous substances

Table S3.1 Permitted wastes

EWC	Description
11 02 07*	other wastes containing dangerous substances
11 03	sludges and solids from tempering processes
11 03 01*	wastes containing cyanide
11 03 02*	other wastes
11 05	wastes from hot galvanising processes
11 05 03*	solid wastes from gas treatment
11 05 04*	spent flux
12 01	wastes from shaping and physical and mechanical surface treatment of metals and plastics
12 01 12*	spent waxes and fats
12 01 14*	machining sludges containing dangerous substances
12 01 16*	waste blasting material containing dangerous substances
12 01 18*	metal sludge (grinding, honing and lapping sludge) containing oil
12 01 20*	spent grinding bodies and grinding materials containing dangerous substances
12 03	wastes from water and steam degreasing processes (except 11)
12 03 02*	steam degreasing wastes
13 04	bilge oils
13 04 01*	bilge oils from inland navigation
13 04 02*	bilge oils from jetty sewers
13 04 03*	bilge oils from other navigation
13 05	oil/water separator contents
13 05 01*	solids from grit chambers and oil/water separators
13 05 02*	sludges from oil/water separators
13 05 03*	interceptor sludges
13 05 06*	oil from oil/water separators
13 05 08*	mixtures of wastes from grit chambers and oil/water separators
13 08	oil wastes not otherwise specified
13 08 01*	desalter sludges or emulsions
14 06	waste organic solvents, refrigerants and foam/aerosol propellants
14 06 04*	sludges or solid wastes containing halogenated solvents
14 06 05*	sludges or solid wastes containing other solvents
15 01	packaging (including separately collected municipal packaging waste)
15 01 10*	packaging containing residues of or contaminated by dangerous substances
15 01 11*	metallic packaging containing a dangerous solid porous matrix (for example asbestos), including empty pressure containers
15 02	absorbents, filter materials, wiping cloths and protective clothing
15 02 02*	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances
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 07*	oil filters
16 01 08*	components containing mercury
16 01 11*	brake pads containing asbestos
16 01 21*	hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14
16 02	wastes from electrical and electronic equipment
16 02 12*	discarded equipment containing free asbestos
16 02 13*	discarded equipment containing hazardous components other than those mentioned in 16

Table S3.1 Permitted wastes

EWC	Description
	02 09 to 16 02 12
16 02 15*	hazardous components removed from discarded equipment
16 03	off-specification batches and unused products
16 03 03*	inorganic wastes containing dangerous substances
16 03 05*	organic wastes containing dangerous substances
16 05	gases in pressure containers and discarded chemicals
16 05 06*	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals
16 05 07*	discarded inorganic chemicals consisting of or containing dangerous substances
16 05 08*	discarded organic chemicals consisting of or containing dangerous substances
16 06	batteries and accumulators
16 06 01*	lead batteries
16 06 02*	Ni-Cd batteries
16 06 03*	mercury-containing batteries
16 07	wastes from transport tank, storage tank and barrel cleaning (except 05 and 13)
16 07 08*	wastes containing oil
16 07 09*	wastes containing other dangerous substances
16 08	spent catalysts
16 08 02*	spent catalysts containing dangerous transition metals or dangerous transition metal compounds
16 08 05*	spent catalysts containing phosphoric acid
16 08 07*	spent catalysts contaminated with dangerous substances
16 11	waste linings and refractories
16 11 01*	carbon-based linings and refractories from metallurgical processes containing dangerous substances
16 11 03*	other linings and refractories from metallurgical processes containing dangerous substances
16 11 05*	linings and refractories from non-metallurgical processes containing dangerous substances
17 01	concrete, bricks, tiles and ceramics
17 01 06*	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing dangerous substances
17 02	wood, glass and plastic
17 02 04*	glass, plastic and wood containing or contaminated with dangerous substances
17 03	bituminous mixtures, coal tar and tarred products
17 03 01*	bituminous mixtures containing coal tar
17 03 03*	coal tar and tarred products
17 04	metals (including their alloys)
17 04 09*	metal waste contaminated with dangerous substances
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03*	soil and stones containing dangerous substances
17 05 05*	dredging spoil containing dangerous substances
17 05 07*	track ballast containing dangerous substances
17 06	insulation materials and asbestos-containing construction materials
17 06 01*	insulation materials containing asbestos
17 06 03*	other insulation materials consisting of or containing dangerous substances
17 06 05*	construction materials containing asbestos
17 08	gypsum-based construction material
17 08 01*	gypsum-based construction materials contaminated with dangerous substances

Table S3.1 Permitted wastes

EWC	Description
17 09	other construction and demolition wastes
17 09 01*	construction and demolition wastes containing mercury
17 09 03*	other construction and demolition wastes (including mixed wastes) containing dangerous substances
18 01	wastes from natal care, diagnosis, treatment or prevention of disease in humans
18 01 06*	chemicals consisting of or containing dangerous substances
18 01 10*	amalgam waste from dental care
18 02	wastes from research, diagnosis, treatment or prevention of disease involving animals
18 02 05*	chemicals consisting of or containing dangerous substances
19 01	wastes from incineration or pyrolysis of waste
19 01 05*	filter cake from gas treatment
19 01 07*	solid wastes from gas treatment
19 01 10*	spent activated carbon from flue-gas treatment
19 01 11*	bottom ash and slag containing dangerous substances
19 01 13*	fly ash containing dangerous substances
19 01 15*	boiler dust containing dangerous substances
19 01 17*	pyrolysis wastes containing dangerous substances
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 04*	premixed wastes composed of at least one hazardous waste
19 02 05*	sludges from physico/chemical treatment containing dangerous substances
19 02 07*	oil and concentrates from separation
19 02 09*	solid combustible wastes containing dangerous substances
19 02 11*	other wastes containing dangerous substances
19 03	stabilised/solidified wastes
19 03 04*	wastes marked as hazardous, partly stabilised
19 03 06*	wastes marked as hazardous, solidified
19 04	vitrified waste and wastes from vitrification
19 04 02*	fly ash and other flue-gas treatment wastes
19 04 03*	non-vitrified solid phase
19 08	wastes from waste water treatment plants not otherwise specified
19 08 06*	saturated or spent ion exchange resins
19 08 07*	solutions and sludges from regeneration of ion exchangers
19 08 08*	membrane system waste containing heavy metals
19 08 10*	grease and oil mixture from oil/water separation other than those mentioned in 19 08 09
19 08 11*	sludges containing dangerous substances from biological treatment of industrial waste water
19 08 13*	sludges containing dangerous substances from other treatment of industrial waste water
19 10	wastes from shredding of metal-containing wastes
19 10 03*	fluff-light fraction and dust containing dangerous substances
19 10 05*	other fractions containing dangerous substances
19 11	wastes from oil regeneration
19 11 01*	spent filter clays
19 11 02*	acid tars
19 11 04*	wastes from cleaning of fuel with bases
19 11 05*	sludges from on-site effluent treatment containing dangerous substances
19 11 07*	wastes from flue-gas cleaning

Table S3.1 Permitted wastes

EWC	Description
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 06*	wood containing dangerous substances
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing dangerous substances
19 13	wastes from soil and groundwater remediation
19 13 01*	solid wastes from soil remediation containing dangerous substances
19 13 03*	sludges from soil remediation containing dangerous substances
19 13 05*	sludges from groundwater remediation containing dangerous substances
20 01	separately collected fractions (except 15 01)
20 01 21*	fluorescent tubes and other mercury-containing waste
20 01 26*	oil and fat other than those mentioned in 20 01 25
20 01 27*	paint, inks, adhesives and resins containing dangerous substances
20 01 29*	detergents containing dangerous substances
20 01 33*	batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries
20 01 35*	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components
20 01 37*	wood containing dangerous substances

Table S3.2 Specified Granular Wastes with elevated WAC limits

List of Waste classification	Description	Component
05 01 03*	tank bottom sludges	Antimony
05 01 09*	sludges from on-site effluent treatment containing dangerous substances	Chloride
08 01 11*	waste paint and varnish containing organic solvents or other dangerous substances	Lead, Antimony
10 01 18*	wastes from gas cleaning containing dangerous substances	Nickel
11 01 09*	sludges and filter cakes containing dangerous substances	Nickel
13 05 03*	interceptor sludges	Sulphate
16 08 07*	spent catalysts contaminated with dangerous substances	Antimony
17 05 03*	soil and stones containing dangerous substances	Arsenic, Barium, Cadmium, Chromium, Copper, Mercury, Molybdenum, Nickel, Lead, Antimony, Zinc, Chloride, Fluoride, Sulphate, TDS
19 01 07*	solid wastes from gas treatment	Nickel, Lead, Antimony
19 01 11*	bottom ash and slag containing dangerous substances	Sulphate
19 01 13*	fly ash containing dangerous substances	Sulphate, TDS
19 02 05*	sludges from physico/chemical treatment containing dangerous substances	Sulphate
19 03 04*	wastes marked as hazardous, partly stabilised	Chloride, TDS
19 11 05*	sludges from on-site effluent treatment containing dangerous substances	Lead

Table S3.2 Specified Granular Wastes with elevated WAC limits

List of Waste classification	Description	Component
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing dangerous substances	Arsenic, Chromium, Mercury, Zinc

Table S3.3 WAC Limits for Specified Granular Wastes

Component	L/S = 10 l/kg Leaching limit (mg/kg dry substance)
Arsenic (As)	75
Barium (Ba)	900
Cadmium (Cd)	15
Chromium (Cr)	210
Copper (Cu)	300
Mercury (Hg)	6
Molybdenum (Mo)	90
Nickel (Ni)	120
Lead (Pb)	150
Antimony (Sb)	15
Selenium (Se)	21
Zinc (Zn)	600
Chloride (Cl)	75,000
Fluoride (F)	1,500
Sulphate (SO ₄)	150,000
Total Dissolved Solids (TDS)	300,000

Schedule 4 – Emissions and monitoring

Table S4.1 Leachate level limits and monitoring requirements

Monitoring point reference/ Description	Limit	Monitoring frequency	Monitoring method
Two leachate monitoring points in each hydraulically separate cell.	1m above the basal liner	Monthly	In accordance with the application, or otherwise as agreed with the Agency in writing, with an accuracy of +/- 0.05m.

Table S4.2 Landfill gas in external monitoring boreholes – limits and monitoring requirements

Monitoring point Ref. /description	Parameter	Limit (incl. unit)	Monitoring frequency	Monitoring standard or method
PC05a	Methane	1% v/v	Weekly	In accordance with LFTGN03 Guidance on the management of landfill gas, Environment Agency, September 2004
	Carbon dioxide	6% v/v		
	Oxygen, Atmospheric pressure	No limit set		
PC10b	Methane	1% v/v	Weekly	In accordance with LFTGN03 Guidance on the management of landfill gas, Environment Agency, September 2004
	Carbon dioxide	4% v/v		
	Oxygen, Atmospheric pressure	No limit set		
PC11a	Methane	1% v/v	Weekly	In accordance with LFTGN03 Guidance on the management of landfill gas, Environment Agency, September 2004
	Carbon dioxide	8.5% v/v		
	Oxygen, Atmospheric pressure	No limit set		
PC18b	Methane	2% v/v	Weekly	In accordance with LFTGN03 Guidance on the management of landfill gas, Environment Agency, September 2004
	Carbon dioxide	2.5% v/v		
	Oxygen, Atmospheric pressure	No limit set		
PC21	Methane	No limit set	Weekly	In accordance with LFTGN03 Guidance on the management of landfill gas, Environment Agency, September 2004
	Carbon dioxide	No limit set		
	Oxygen, Atmospheric pressure	No limit set		
PC22	Methane	No limit set	Weekly	In accordance with LFTGN03 Guidance on the management of landfill gas, Environment Agency, September 2004
	Carbon dioxide	2.5% v/v		
	Oxygen, Atmospheric pressure	No limit set		

Table S4.2 Landfill gas in external monitoring boreholes – limits and monitoring requirements

Monitoring point Ref. /description	Parameter	Limit (incl. unit)	Monitoring frequency	Monitoring standard or method
PC01a, PC01b, PC02a, PC02b, PC03a, PC03b, PC04a, PC04b, PC05b, PC06, PC07, PC08, PC09, PC10a, PC11b, PC12a, PC12b, PC14, PC15, PC16a, PC16b, PC17, PC18a, PC19a, PC19b, PC20, PC23.	Methane	1% v/v	Weekly	In accordance with LFTGN03 Guidance on the management of landfill gas, Environment Agency, September 2004
	Carbon dioxide	2.5% v/v		
	Oxygen,	No limit set		
	Atmospheric			
	pressure			

Table S4.3 Landfill gas from capped surfaces - monitoring requirements

Monitoring point Ref. /description	Parameter	Monitoring frequency	Other specifications	Monitoring Standard or method
Permanently capped zone.	Average methane flux and total methane emission	Annually*	Where the average zone emission rate of 0.001 mg/m ² /second is exceeded appropriate measures must be taken to reduce the rate.	As per LFTGN 07 or as otherwise agreed in writing by the Agency.
Temporarily capped zone.	Average methane flux and total methane emission	Annually*	Where the average zone emission rate of 0.1 mg/m ² /second is exceeded appropriate measures must be taken to reduce the rate.	As per LFTGN 07 or as otherwise agreed in writing by the Agency.

Footnote *: 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 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 and the values for average methane flux and total methane emissions measured in the previous year may be reported. A quantitative survey is not necessary. If the zone remains stable, the results of a detailed walkover survey will be acceptable for the annual report for a period of four years before a further quantitative survey is required.

Table S4.4 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
All gas monitoring points and all gas extraction points within the cells.	Methane, Carbon dioxide, Oxygen, Atmospheric pressure, Temperature.	Monthly	In accordance with LFTGN03 "Guidance on the management of landfill gas", Environment Agency, September 2004.	None

Table S4.4 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
One gas monitoring point and one gas extraction point in each cell.	Trace gases as specified in LFTGN04 "Guidance for monitoring trace components in landfill gas", Environment Agency, September 2004.	Annually	In accordance with LFTGN04 "Guidance for monitoring trace components in landfill gas", Environment Agency, September 2004.	The minimum detection limits shall be as Appendix 3 of LFTGN04 "Guidance for monitoring trace components in landfill gas", Environment Agency, September 2004, with the exception of: benzene 50 µg/l arsenic 0.1 µg/l trichloroethene 50 µg/l methanal 50 µg/l mercury 10 µg/l

Table S4.5 Leachate – other monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Collection sump in each hydraulically separate cell (or monitoring point during periods of leachate abstraction).	Conductivity, Temperature, pH	Monthly	In accordance with the Agency's LFTGN02 "Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water", dated June 2002.	The operator shall assess the results against the following compliance limits, unless otherwise agreed in writing with the Agency: Chloride 1500 mg/l Ammoniacal nitrogen 600 mg/l Cadmium 1.7 mg/l Mecoprop 0.14 mg/l Toluene 1.29 mg/l Biphenyl 8.6 µg/l
	Ammoniacal nitrogen, Chloride, Sulphate, Alkalinity (CaCO ₃), Phenols, COD, BOD, TOC, TON, Sodium, Potassium, Calcium, Magnesium, Chromium, Cadmium, Manganese, Iron, Copper, Nickel, Zinc, Lead	Quarterly		
	Mecoprop, Toluene, Biphenyl	Annually		

Table S4.5 Leachate – other monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Representative sample from each hydraulically separate cell.	List I/II screen	Annually	In accordance with LFTGN01 "Hydrogeological risk assessments for landfills", Environment Agency, March 2003.	None
Leachate monitoring points.	Base	Annually	In accordance with the Agency's LFTGN02 "Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water", dated June 2002.	None

Table S4.6 Groundwater – other monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
PC5.1, PC5.2, PC6.1, PC6.2, PC7, PC8, PC9, PC10.1, PC10.2, PC11.1, PC11.2, PC12.1, PC12.2, GA01, GA02, GA03, GA04 (as shown on plan Figure 3 of the Groundwater Risk Assessment dated May 2003).	Water level	Monthly	In accordance with the Agency's LFTGN02 "Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water", dated June 2002.	None
	Depth to base	Annually		
PC5.1, PC5.2, PC6.1, PC6.2, PC7, PC8, PC9, PC10.1, PC10.2, PC11.1, PC11.2, PC12.1, PC12.2, GA01, GA02, GA03, GA04 (as shown on plan Figure 3 of the Groundwater Risk Assessment dated May 2003)	pH, Conductivity, Ammonium, Chloride, Oxidised carbon, Iron, Copper, Cadmium, Lead, Zinc.	Quarterly	In accordance with the Agency's LFTGN02 "Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water", dated June 2002.	None

Table S4.6 Groundwater – other monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
PC5.1, PC5.2, PC6.1, PC6.2, PC7, PC8, PC9, PC10.1, PC10.2, PC11.1, PC11.2, PC12.1, PC12.2, GA01, GA02, GA03, GA04 (as shown on plan Figure 3 of the Groundwater Risk Assessment dated May 2003).	Nitrate, Sulphate, COD, BOD, TOC, Alkalinity, Sodium, Potassium, Calcium, Magnesium, Nickel, Manganese, Phenols, GCMS.	Annually	In accordance with the Agency's LFTGN02 "Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water", dated June 2002.	None
PC1.1, PC1.2, PC2.1, PC2.2, PC3.1, PC3.2, PC4.1, PC4.2, PC13.1, PC13.2 (as shown on plan Figure 3 of the Groundwater Risk Assessment dated May 2003).	pH, Conductivity, Ammonium, Chloride, Oxidised Carbon, Iron, Cadmium, Copper, Lead, Zinc.	Annually	In accordance with the Agency's LFTGN02 "Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water", dated June 2002.	None

Table S4.7 Particulate matter in ambient air - limits and monitoring requirements

Monitoring Point Ref. /Description	Parameter	Limit (Incl. Unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
PCASB02, PCASB04, PCASB05	Asbestos fibres	0.02 fibres/ml	4 to 8 hours	Monthly	In accordance with the Particulates Monitoring Action Plan dated 01/02/2010.
PCPM01, PCPM04, PCPM05	Suspended Particulate PM ₁₀	Not to exceed 50 µg/m ³ more than 35 times per annum 40 µg/m³	Measured as a 24 hour mean. Measured as an annual mean.	Annually, unless otherwise agreed in writing with the Agency.	In accordance with the Particulates Monitoring Action Plan dated 01/02/2010.
PCDS08, PCDS02, PCDS03, PCDS04, PCDS05, PCDS06	Deposited dust	200 mg/m ²	Weekly average	Weekly	In accordance with the Particulates Monitoring Action Plan dated 01/02/2010.

Schedule 5 - Reporting

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

Table S5.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Leachate levels As required by condition 3.6.1	Two leachate monitoring points in each hydraulically separate cell.	Quarterly	27/02/2004
Groundwater Parameters as required by condition 3.6.1	PC5.1, PC5.2, PC6.1, PC6.2, PC7, PC8, PC9, PC10.1, PC10.2, PC11.1, PC11.2, PC12.1, PC12.2, GA01, GA02, GA03, GA04, PC1.1, PC1.2, PC2.1, PC2.2, PC3.1, PC3.2, PC4.1, PC4.2, PC13.1, PC13.2.	Quarterly Annually for annual parameters	27/02/2004
Landfill gas surface emissions Parameters as required by condition 3.6.1	Permanently and temporary capped zones.	Annually	From date of completion of cap
Particulate matter Parameters as required by condition 3.6.1	PCDS08, PCDS02, PCDS03, PCDS04, PCDS05, PCDS06, PCASB02, PCASB04, PCASB05, PCPM01, PCPM04, PCPM05	Quarterly	27/02/2004
Landfill gas lateral migration Parameters as required by condition 3.6.1	PC01a, PC01b, PC02a, PC02b, PC03a, PC03b, PC04a, PC04b, PC05a, PC05b, PC06, PC07, PC08, PC09, PC10a, PC10b, PC11a, PC11b, PC12a, PC12b, PC14, PC15, PC16a, PC16b, PC17, PC18a, PC18b, PC19a, PC19b, PC20, PC21, PC22, PC23.	Quarterly	27/02/2004
Other Landfill gas monitoring Parameters as required by condition 3.6.1	All gas monitoring points and all gas extraction points within the cells	Quarterly Annually for annual parameters	27/02/2004
Other leachate monitoring Parameters as required by condition 3.6.1	Collection sump in each hydraulically separate cell (or monitoring point during periods of leachate abstraction).	Quarterly Annually for annual parameters.	27/02/2004
List 1 Screen	Representative sample from each hydraulically separate cell.		
Compliance with leaching and quantity limits for the granular wastes specified in table S3.2.	Limits and quantities as detailed in tables S3.2 and S3.3.	Annually	31/01/2007

Table S5.2 Annual production/treatment

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

Table S5.3 Performance Parameters

Parameter	Frequency of assessment	Annual total	Unit
Energy used (including for leachate treatment).	Annually		MWh of electricity

Table S5.4 Reporting Forms

Media/parameter	Reporting Format	Date of Form
Leachate	Form leachate 1 or other reporting format to be agreed in writing with the Agency.	11/02/2010
Groundwater	Form Groundwater 1 or other reporting format to be agreed in writing with the Agency.	11/02/2010
Landfill gas	Form LFG 1 or other reporting format to be agreed in writing with the Agency.	11/02/2010
Particulate matter	Form Particulate 1 or other reporting format to be agreed in writing with the Agency.	11/02/2010
Waste Return	Waste Return Form RATS2E.	
Landfill topographical surveys and interpretation	Reporting format to be agreed in writing with the Agency.	

Schedule 6 - 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 Installation	
Time and date of the detection	

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

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

(b) Notification requirements for the breach of a limit

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

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

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

Part B to be 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 installation in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of Augean North Limited.

Schedule 7 - 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 4 to the PPC Regulations.

“*Authorised Officer*” means any person authorised by the 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.

“*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.

“*EP Regulations*” means The Environmental Permitting (England and Wales) Regulations SI 2007 No.3538 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“*Fugitive emission*” means an emission to air, water or land from the activities which is not controlled by an emission or background concentration limit.

“*Groundwater Regulations*” means the Groundwater Regulations SI 1998 No. 2746, and words and expressions used in this permit which are also used in the Regulations shall have the same meanings as in those Regulations.

“*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;

within the site.

“*Land Protection Guidance*” means Agency guidance “H7 - Guidance on the protection of land under the PPC Regime: Application site report and site protection monitoring programme”.

“*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, September 2004.

“*LFTGN 08*” means Environment Agency Guidance for monitoring landfill gas engines, September 2004.

“*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.

“*Notify without delay*” and “*notified without delay*” means that a telephone call can be used, whereas all other reports and notifications must be supplied in writing, either electronically or on paper.

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

“*Relevant person*” and “*relevant conviction*” shall have the meanings given to them in the Environmental Protection Act 1990.

“*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 Groundwater 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 Groundwater Regulations.

“*Site Protection and Monitoring Programme*” means a document which meets the requirements for Site Protection and Monitoring Programmes described in the Land Protection Guidance.

“*Technically competent management*” and “*technical competence*” shall have the meanings given to them in the Environmental Protection Act 1990.

“*Waste code*” means the six digit code referable to a type of waste in accordance with the List of Wastes (England) Regulations 2005, or List of Wastes (Wales) Regulations 2005, List of Wastes (Northern Ireland) Regulations 2005 (as amended), or The Special Waste Amendment (Scotland) Regulations 2004 as appropriate, and in relation to hazardous waste, includes the asterisk.

“*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.

END OF PERMIT