

# Variation notice with introductory note

Environmental Permitting (England & Wales) Regulations 2007

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Morfa Tip

Corus (UK) Ltd.  
Morfa Tip  
Port Talbot Works  
Port Talbot  
Neath Port Talbot  
SA13 2NG

Variation notice number  
EPR/AP3292LT/V009

Permit number  
EPR/AP3292LT

# Morfa Tip

## Permit Number EPR/AP3292LT

### 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 S.I.2007 No. 3538 (the Regulations), gives notice of the variation of an environmental permit to operate a regulated facility.

This variation adds and formalises the monitoring and reporting regime discussed with the operator and includes an update to current conditions in line with the Environmental Permitting (England and Wales) Regulations 2007.

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 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
Control of Pollution Act 1974 Waste Disposal Licence (Reference: 1/77) was issued to British Steel Corporation for Landfilling of wastes at Port Talbot	19/05/77	
Variation to Waste Disposal Licence	01/10/77	
Variation to Waste Disposal Licence	10/01/78	
Variation to Waste Disposal Licence	20/04/78	
Variation to Waste Disposal Licence	12/06/78	
Variation to Waste Disposal Licence	01/01/84	
Variation to Waste Disposal Licence	27/07/87	
Waste Disposal Licence 1/77 converts to a Waste Management Licence (EAWML 34000)	01/05/94	
Notice of Modification Issued	31/03/99	
Notification of change of name	08/10/99	
Notice of Modification Issued	02/02/00	
Change of company name	17/04/00	
Application for a PPC permit (BV7311IE)	09/10/03	
Waste Management Licence partially superseded by PPC Permit BV7311IE	17/12/04	
Residual Waste Management Licence converts to an Environmental Permit (EPR/AP3293LT)	06/04/08	
Agency initiated variation request submitted	16/04/08	
Agency initiated variation issued (EPR/AP3292LT/V009)	09/10/09	

End of Introductory Note

Notice of variation

Environmental Permitting  
(England and Wales) Regulations 2007

Permit number

**EPR/AP3292LT**

The Environment Agency in exercise of its powers under Regulation 20 of the Environmental Permitting (England and Wales) Regulations 2007 (SI 2000 No 3538) varies the permit as set out below.

**Corus (UK) Ltd.** ("the operator"),

whose registered office is

**30 Millbank**

**London**

**SW1P 4WY**

company registration number **02280000**

holds a permit to operate a regulated facility at

**Morfa Tip**

**Port Talbot Works**

**Port Talbot**

**Neath Port Talbot**

**SA13 2NG**

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

The notice shall take effect from 09 October 2009

Name	Date
	09 October 2009

Authorised on behalf of the Agency

## **Schedule 1 – conditions to be deleted**

1. All

## **Schedule 2 – conditions to be amended**

2. None

## **Schedule 3 – conditions to be added**

3. The following conditions are added to the permit

# **1 Management**

## **1.1 General management**

- 1.1.1 The activities shall be managed and operated:
  - (a) in accordance with the documents referenced in schedule 1, table S1.2 and any revision thereof agreed in writing with the Agency, which identify and minimise risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances and closure 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.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme or shall hold an appropriate certificate of technical competence or other approval issued by the Agency.

## **1.2 Accident management plan**

- 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.

## **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 shaded in yellow on the site plan attached to schedule 2 of this permit.

### **2.3 Operating techniques**

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

2.3.2 No waste shall be accepted for disposal at the landfill. Waste may be accepted for restoration in accordance with the agreed Closure and Aftercare Plan.

### **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 Agency.

2.4.2 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.

### **2.5 Closure and aftercare**

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

### **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 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.

- 2.7.2 The construction of the Landfill Infrastructure shall take place only in accordance with the approved Construction Proposals unless:
- (a) any change to the approved Construction Proposals would have no impact on the performance of any element of the design; or
  - (b) a change has otherwise been agreed in writing by the Agency.
- 2.7.3 The Operator shall submit a CQA Validation Report as soon as practicable following the construction of the relevant Landfill Infrastructure.
- 2.7.4 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.7.1 and 2.7.2 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.
- 2.7.5 For the purposes of conditions 2.7.1 and 2.7.3, 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.

## **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 tables S4.1, S4.2, S4.3, S4.4, S4.5, S4.6 and S4.7.
- 3.1.2 The limits given in schedule 4 shall not be exceeded.
- 3.1.3 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.
- 3.1.4 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).
- 3.1.5 The trigger levels for emissions into groundwater for the parameter(s) and monitoring point(s) set out in schedule 4 Table S4.3 shall not be exceeded.

### **3.2 Fugitive emissions of substances**

- 3.2.1 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, including those specified in any approved fugitive 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 Agency that the activities are giving rise to pollution, submit to the Agency for approval within the period specified, a fugitive emissions management plan;

- (b) implement the approved fugitive emissions management plan, from the date of approval, unless otherwise agreed in writing by the Agency.
- 3.2.3 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.
- 3.2.3 The limits for landfill gas arising from the installation set out in schedule 4, table S4.1 shall not be exceeded.

### **3.3 Odour**

- 3.3.1 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, including 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 annoyance outside the site due to odour, submit to the Agency for approval within the period specified, an odour management plan;
  - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the 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 annoyance outside the site, as perceived by an authorised officer of the Agency, unless the operator has used appropriate measures, including 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 Agency that the activities are giving rise to annoyance outside the site due to noise and vibration, submit to the Agency for approval within the period specified, a noise and vibration management plan;
  - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Agency.

### **3.5 Monitoring**

- 3.5.1 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) Point source emissions specified in tables S4.1 and S4.2;
  - (b) Groundwater specified in tables S4.3 and S4.7;
  - (c) Landfill gas specified in tables S4.4, S4.5;
  - (d) Surface water specified in table S4.6

- 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 annually (unless otherwise agreed in writing with the Agency). The topographical survey shall be used to produce a plan of a scale adequate to show the surveyed features of the site.
- 3.5.4 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing by the Agency.
- 3.5.5 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 4 tables S4.1, S4.2, S4.3, S4.4, S4.5, S4.6 and S4.7 unless otherwise specified in that schedule.

## **3.6 Pests**

- 3.6.1 Scavenging animals, scavenging birds and other pests shall not cause nuisance, unless the operator has used appropriate measures to prevent or where that is not practicable, to minimise, such nuisance.

# **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) off-site environmental effects; and
    - (ii) matters which affect the condition of the land and groundwater.
    - (iii) the results of groundwater monitoring;
    - (iv) sub-surface landfill gas monitoring;
    - (v) leachate levels, quality and quantities;
    - (vi) landfill gas generation and collection;
    - (vii) waste types and quantities; and

(viii) the location of hazardous waste deposits;

4.1.2 All records, plans and the management system required to be maintained by this permit shall be held on the site.

## 4.2 Reporting

4.2.1 All reports and notifications required by the permit shall be sent to the Agency using the contact details supplied in writing by the Agency

4.2.2 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) the topographical surveys required by condition 3.5.3;
- (c) an assessment of the settlement behavior of the landfill body based on the difference between the most recent topographical survey and previous annual topographical surveys;

4.2.3 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 S5.2; 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 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 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.

4.2.6 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; or
- (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 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.

4.3.4 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:

Where the operator is a registered company:

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

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

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

In any other case:

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

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

- (a) the 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 7 shall have the meaning given in that schedule.

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

# Schedule 1 - Operations

Table S1.1 activities for landfill		
Facility Type	Description of activities for waste operations	Limits of activities
A7 Industrial Waste Landfill	Disposal of waste by landfill	<ol style="list-style-type: none"><li>1. No waste shall be accepted for disposal at the site.</li><li>2. Waste may only be accepted for restoration in accordance with the documents referenced in schedule 1, table S1.2.</li></ol>

**Table S1.2 Operating techniques**

<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Hydrogeological Risk Assessment	Geotechnology report 403.2/0/1205. Hydrogeological Risk Assessment. Dated: December 2005	
Closure Report	Geotechnology report 498.1/0/1106. Closure Report. 7 December 2006	8 <sup>th</sup> December 2006
Closure Report (further Information)	Geotechnology letter response (ref: 498 letter response/BR/kp). 6 June 2007	20 <sup>th</sup> June 2006
Recharge Trench Design	Geotechnology report 495.1/0/1206. Recharge Trench Design Report. 18 December 2006	20 <sup>th</sup> December 2006
Closure Report (further Information)	Geotechnology letter response (ref: 498lt1/ET/kp). 16 February 2007	February 2007
Recharge Trench Design (further Information)	Geotechnology letter response (ref: 542/Recharge Trench Report/lt1 ( <i>Note: This letter was incorrectly dated 11 July 2006 – should have read 2007</i> ).	12 <sup>th</sup> July 2007
Amendment to Closure Report (Monitoring)	Geotechnology report <i>Aftercare Monitoring Plan</i> Report Number 498.1/1/0907 Appendix 2 (Revision 1)	23 <sup>rd</sup> November 2007
Addendum to Closure Report (Additional Monitoring Points)	Geotechnology report <i>Identification of new monitoring locations</i> Report Number 651.1/0/0408 April 08	25 <sup>th</sup> April 2008
Addendum to Recharge Trench Design	Geotechnology Report: Morfa Non Hazardous Landfill Cell 1 Restoration Scheme Report Number 629.1/0/1207 December 07. Only section 2.2.2 and section 5 of the report apply to this permit.	13 <sup>th</sup> February 2008
CQA Specification Phase 1 Capping	<ul style="list-style-type: none"> <li>Geotechnology Report <i>CQA plan Capping Phase 1</i>. Report Number 347.2/0/0904</li> <li>Geotechnology Report <i>CQA Specification Capping Phase 1</i>. Report Number 347.1/0/0904. Dated 25<sup>th</sup> September 2004</li> </ul>	1 <sup>st</sup> November 2004
CQA Plan & Specification Phase 2 Capping	<ul style="list-style-type: none"> <li>Geotechnology Report <i>CQA Plan Capping Phase 2</i>. Report Number 378.2 Issue 1. Dated: July 2005.</li> <li>Geotechnology Report <i>CQA Specification Capping Phase 2</i>. Report Number 378.1 Issue 1. Dated: July 2005</li> </ul>	29 <sup>th</sup> July 2005
CQA Plan & Specification Phase 3 & 4 Capping	<ul style="list-style-type: none"> <li>Geotechnology Report <i>CQA Plan Capping Phase 3 &amp; 4</i>. Report Number 467.3 Issue 1. Dated: July 2006</li> <li>Geotechnology Report <i>CQA Specification Capping Phase 3 &amp; 4</i>. Report Number 467.1 Issue 1. Dated: July 2006</li> </ul>	11 <sup>th</sup> August 2006
Review of Hydrogeological Risk Assessment	<ul style="list-style-type: none"> <li>Geotechnology Report 795r2v1d0409, April 2009.</li> </ul>	April 2009
CQA Plan & Specification Preparatory Earthworks for Phase 5 Capping	<ul style="list-style-type: none"> <li>Geotechnology Report <i>CQA Plan and Specification Preparatory Earthworks for Phase 5 Capping</i>. Report Number 873R1V1D0709</li> </ul>	28 <sup>th</sup> July 2009
Improvement Programme	All reports and plans submitted and agreed with the Environment Agency as part the Improvement Programme detailed in Table S1.3 shall form part of the site's operating techniques.	See Improvement Programme Requirements detailed in

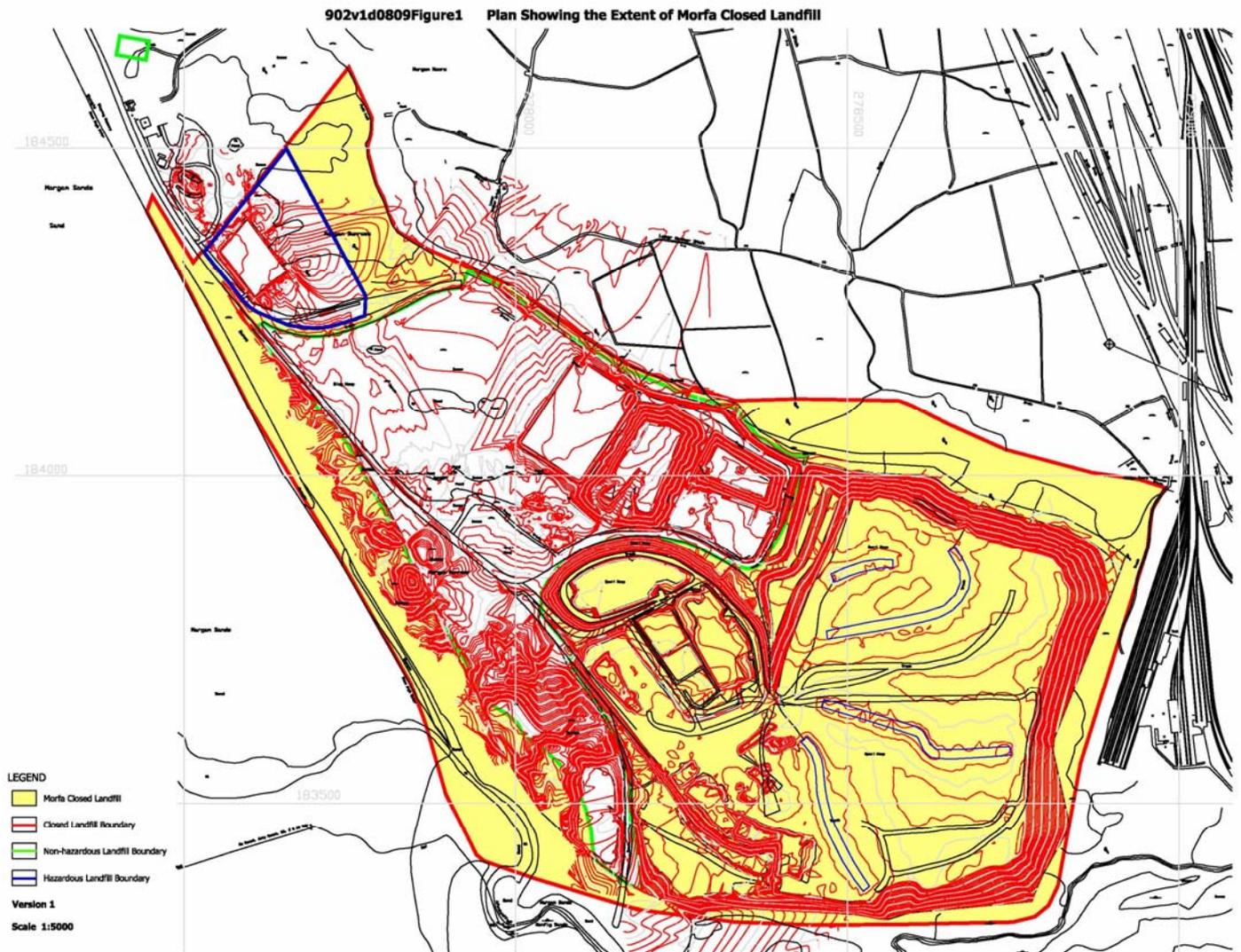
**Table S1.3 Improvement programme requirements**

Reference	Requirement	Date
1	<p>The operator shall review all available groundwater monitoring data and produce a written report which shall include, but not be limited to, the following issues:</p> <ul style="list-style-type: none"> <li>• An assessment of the choice of substances used to derive control and trigger levels.</li> <li>• The setting of specific trigger and control levels for all down gradient boreholes. Trigger and control levels shall be derived in accordance with Agency guidance document 'Hydrogeological Risk Assessment for Landfills' (LFTGN01).</li> </ul> <p>The operator shall implement any improvements or measures as agreed in writing with the Environment Agency.</p>	09 <sup>th</sup> February 2010
2	<p>The operator shall review and consolidate all the changes to the site's Environmental Management and Monitoring Programme (EMMP) into a revised Closure and Aftercare Plan.</p> <p>The review should include (but not be limited to) the following issues: the review and consolidation of the monitoring frequencies, monitoring locations, monitoring determinands and contingency plans, relevant to this permit.</p>	09 <sup>th</sup> January 2010
3	<p>The remaining uncapped areas of the landfill shall be restored to the deadline specified in this table.</p> <p>The Construction Quality Assurance for the restoration of these remaining areas shall be undertaken in accordance with the provisions of Condition 2.6 of this permit.</p>	31 <sup>st</sup> January 2012
4	<p>The operator shall submit a CQA Validation report which encompasses the construction and engineering of the Phase 1, Phase 2 and Phases 3 &amp; 4, capping undertaken on 2004, 2005 and 2006 respectively.</p>	To be submitted on completion of the next phase of capping works.
5	<p>The Operator shall undertake permanent repairs to the existing surface water balancing ponds. Specifically: at various locations within the affected ponds, the Geomembrane and drainage geocomposite has been exposed due to the overlying sand protection layer been eroded (by wind and rain). The operator shall undertake mitigation works which should also attempt to reduce the risk of any further erosion.</p> <p>The repairs shall be undertaken and supervised in accordance with the CQA provisions of this permit. Details of the final repairs shall be included in the CQA Validation report for the capping of Phase 5</p>	To be completed during the next phase of capping works
6	<p>The operator shall construct the first phase of the engineered water recharge trench system, which will be constructed to ensure that along the edge of the landfill, the existing groundwater levels are maintained and groundwater chemistry remains suitable for the fen systems of the Margam Moors SSSI.</p> <p>This first phase shall be defined as the construction of recharge trenches A and B (as outlined in <i>Figure 8, Recharge Trench Alignment</i> Revision 0, Dated 12.07) and associated infrastructure.</p>	09 <sup>th</sup> October 2011

**Table S1.4 Pre-operational Measures for Future Development**

Reference	Operation	Pre-operational Measures
1	Three Months prior to the construction of Recharge Trenches A and B (as shown on drawing reference: Figure 8 Recharge Trench Alignment Revision 0, Dated 12.07)	<p>The operator shall review all relevant monitoring data and produce a written report which shall include, but not be limited to, the following issues:</p> <ul style="list-style-type: none"><li>• An assessment of the choice of substances to derive control and emission Limits for each of the Recharge Trench discharges;</li><li>• The setting of specific emission limits and control levels for the Recharge Trench discharges.</li></ul> <p>The operator shall implement any improvements or measures as agreed in writing with the Environment Agency.</p>
2	Three Months prior to the construction of Recharge Trenches A and B (as shown on drawing reference: Figure 8 Recharge Trench Alignment Revision 0, Dated 12.07)	<p>The operator shall review all relevant monitoring data and produce a written report which shall propose:</p> <ul style="list-style-type: none"><li>• Upper and Lower Groundwater Levels for each of the two respective Recharge Trenches</li></ul> <p>The operator shall implement any improvements or measures as agreed in writing with the Environment Agency.</p>

# Schedule 2 - Site plan



## Schedule 3 – Permitted Waste Types

**Table S3.1 Permitted waste types and quantities for landfill**

No waste shall be accepted for disposal at the site.

Waste may be accepted for restoration in accordance with the documents referenced in Schedule 1, Table S1.2.

## Schedule 4 – Emissions and monitoring

**Table S4.1 Point source emissions to air – emission limits and monitoring requirements**

Monitoring point Ref. /description	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard or method
1. GV1, GV2, GV3 and GV4 as shown on drawing reference: Figure 2 <i>Proposed Gas Vents for Monitoring on Surface of Morfa Closed Landfill</i> , Revision 0, 651.1/080408	Methane	1% v/v above background concentrations unless otherwise agreed in writing with the Agency.	Quarterly, unless otherwise agreed in writing with the Environment Agency	Unless otherwise agreed in writing with the Agency, monitoring methods used shall be in accordance with Environment Agency document "Guidance on the management of landfill gas. LFTGN03".
	Carbon Dioxide	1.5% v/v above background concentrations unless otherwise agreed in writing with the Agency.		
2. any additional monitoring points agreed in writing with the Environment Agency.				

**Table S4. 2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements**

Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
1. Recharge Chamber A as shown on drawing reference: Figure 8 Recharge Trench Alignment Revision 0, Dated 12.07	Water Level	Surface Water Ponds	In accordance with Pre Operational Condition references 1 of Table S1.4	Continuous	24 hour	-
2. Recharge Chamber B as shown on drawing reference: Figure 8 Recharge Trench Alignment Revision 0, Dated 12.07	Water Level	Surface Water Ponds	In accordance with Pre Operational Condition references 1 of Table S1.4	Continuous	24 hour	-
3. Recharge Chamber A and B as shown on drawing reference: Figure 8 Recharge Trench Alignment Revision 0, Dated 12.07	In accordance with Improvement Condition references 3 of Table S1.3	Surface Water Ponds	In accordance with Pre Operational Condition references 2 of Table S1.4	In accordance with Improvement Condition references 3 of Table S1.3	In accordance with Improvement Condition reference s3 of Table S1.3	

**Table S4.3 Trigger levels for emissions into groundwater and monitoring requirements**

Monitoring point reference	Parameter	Limit (including unit)	Monitoring frequency	Reference Period	Monitoring standard or method
1. Downgradient Monitoring Points Northern Boundary e.g. BH 17,18, 19 and 20 (Deep and Shallow Aquifer)	In accordance with Improvement Condition references 1 of Table S1.3	In accordance with Improvement Condition references 1 of Table S1.3	In accordance with Improvement Condition references 1 of Table S1.3		
2. Other boundaries: BH15, BH16 BH8 and BH9 (Deep and Shallow Aquifer where applicable) as shown on drawing reference: Figure 3 Landfill Monitoring Network, Revision 0, 498.1/0/1106					

**Table S4.4 Landfill gas in external monitoring boreholes – limits and monitoring requirements**

Monitoring point Ref. /description	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard or method
1. BH 9,14,15,16 and 17 as shown on drawing reference: Figure 3 <i>Landfill Monitoring Network</i> , Revision 0, 498.1/0/1106	Methane	1% v/v above background concentrations unless otherwise agreed in writing with the Agency.	Quarterly, unless otherwise agreed in writing with the Environment Agency	Unless otherwise agreed in writing with the Agency, monitoring methods used shall be in accordance with Environment Agency document "Guidance on the management of landfill gas. LFTGN03".
	2. any additional monitoring points agreed in writing with the Environment Agency.	Carbon Dioxide		
	Hydrogen Sulphide	-		
	Carbon monoxide	-		
	Oxygen	-		
	Atmospheric pressure	-		
	Differential Pressure	-		
	Temperature	-		
	Meteorological data	-		

**Table S4.5 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
1. GV1, GV2, GV3 and GV4 as shown on drawing reference: Figure 2 <i>Proposed Gas Vents for Monitoring on Surface of Morfa Closed Landfill</i> , Revision 0, 651.1/080408	Oxygen	Quarterly unless otherwise agreed in writing with the Environment Agency	v/v $\pm$ 0.1%	-
	Atmospheric pressure		$\pm$ 1mb	
	Differential pressure		$\pm$ 1mb	
	Temperature		$\pm$ 1°C	
	Hydrogen Sulphide		ppm	
	Carbon Monoxide		ppm	
	Meteorological Data		As per LFTGN03	
2. any additional monitoring points agreed in writing with the Environment Agency.				

**Table S4.6 Surface water – other monitoring requirements**

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
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**Table S4.6 Surface water – other monitoring requirements**

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications	
1. Pond 1, Pond 2, Pond 3, Pond 4 as identified on plan reference as shown on drawing reference: MSP M02 Plan Showing location of all environmental monitoring locations and survey base stations, Revision 0	Water Level	Continuous <sup>1</sup>	Unless otherwise agreed in writing with the Agency, monitoring methods used shall be in accordance with Environment Agency document 'Guidance on monitoring of landfill leachate, groundwater and surface water' (LFTGN02)	Monthly visual cross check	
	pH	Quarterly			
	Ammoniacal Nitrogen				
	Chloride				
	Total Suspended Solids				
	Temperature				
	Electrical Conductivity 20°C				
2. any additional monitoring points agreed in writing with the Environment Agency.	Dissolved Oxygen				
	Total Organic Nitrogen				
	Calcium				
	Magnesium				
	Nitrate				
	Nitrite				
	Sodium				
	Potassium				
	Sulphate				
	Total Alkalinity				
	Chloride				
3. SW Gauge 1, SW Gauge 2, SW Gauge 3, SW Gauge 4 as identified on plan reference Figure 3 <i>Landfill Monitoring Network</i> , Revision 0, 498.1/0/1106	Water Level	Monthly (unless otherwise agreed in writing with the Agency)			
4. Surface water at New Dune Slack at the Kenfig National Nature Reserve (Easting 2786, Northing 1826).	pH	Quarterly for 12 months			
	Ammoniacal Nitrogen				
	Chloride				
	Total Suspended Solids				
5. Surface water at Old Dune Slack at the Kenfig National Nature Reserve (Easting 2800, Northing 1820).	Temperature				
	Biochemical Oxygen Demand				
	Chemical Oxygen Demand				
	Electrical Conductivity 20°C				
	Phosphate				
	Dissolved Oxygen				

**Table S4.6 Surface water – other monitoring requirements**

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
	Calcium			
	Magnesium			
	Nitrate			
	Sodium			
	Potassium			
	Sulphate			
	Total Alkalinity			
	Chloride			
6. River Kenfig: SW 11 and SW 12 as identified on plan reference Figure 3 <i>Landfill Monitoring Network</i> , Revision 0, 498.1/0/1106	Temperature	Quarterly		
	pH	y		
	Electrical Conductivity			
	Dissolved Oxygen			
	Ammoniacal Nitrogen			
7. Margam Moors: SW2 to SW10 as identified on plan reference Figure 3 <i>Landfill Monitoring Network</i> , Revision 0, 498.1/0/1106	Cadmium			
	Copper			
	Mercury			
	Calcium			
	Total Alkalinity			
	Chloride			
	Total Nitrogen	Six Monthly		
	Total Organic Carbon			
	Biochemical Oxygen Demand			
	Chemical Oxygen Demand			
	Aluminium			
	Arsenic			
	Boron			
	Chromium			
	Chromium (vi)			
	Iron			
	Lead			
	Manganese			
	Nickel			
	Phosphorous			
	Silica			
	Titanium			
	Tin			
	Vanadium			
	Zinc			
	Magnesium			
	Nitrate			
	Nitrite			
	Sodium			
	Potassium			
	Phosphate			
	Sulphate			
	Organohalogenes (VOC's)			

**Table S4.6 Surface water – other monitoring requirements**

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Semi VOC's				
8. Recharge Chamber and B as shown on drawing reference: Figure 8 <i>Recharge Trench Alignment</i> Revision 0, Dated 12.07	pH	Monthly for 1 <sup>st</sup> 12 months of operation. Quarterly thereafter		
	Ammoniacal Nitrogen			
	Chloride			
	Total Suspended Solids			
	Temperature			
	Electrical Conductivity 20°C			
	Dissolved Oxygen			
	Total Organic Nitrogen			
	Calcium			
	Magnesium			
	Nitrate			
	Nitrite			
	Sodium			
	Potassium			
	Sulphate			
Total Alkalinity				
Chloride				

1. This will be undertaken via visual assessment, until the construction of the Intake Chambers. Once the Intake Chambers have been constructed water level will be monitored via remote continuous monitors.

**Table S4 .7 Groundwater – other monitoring requirements**

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Piezometers P7 to P22 as shown on drawing reference: MSP M02 Plan Showing location of all environmental monitoring locations and survey base stations, Revision 0,	Water Level	Monthly (unless otherwise agreed in writing with the Agency).	Unless otherwise agreed in writing with the Agency, monitoring methods used shall be in accordance with Environment Agency	
Where applicable, shallow and deep aquifer: BH8, BH9, BH15, BH16, BH10, 14, 17,19,20 as shown on drawing reference: Figure 3 Landfill Monitoring Network, Revision 0, 498.1/0/1106	Dissolved Oxygen	Six Monthly	document 'Guidance on monitoring of landfill leachate, groundwater and surface water' (LFTGN02)	
	Total Oxidised Nitrogen			
	Total Suspended Solids			
	BOD			
	COD			
	Total Organic Carbon			
	Aluminium			
	Arsenic			
	Boron			
	Chromium			
	Chromium (vi)			
	Iron			
	Lead			
	Manganese			
	Mercury			
	Nickel			
	Phosphate			
	Silica			
	Titanium			
	Tin			
	Vanadium			
	Zinc			
	Calcium			
	Magnesium			
	Nitrate			
	Nitrite			
	Sodium			
	Potassium			
	Sulphate			
	Total Alkalinity			
	Chloride			

**Table S4 .7 Groundwater – other monitoring requirements**

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
	Organohalogenes (VOCs)			
	Semi VOCs			
	Water Level	Quarterly		
	Temperature			
	pH			
	Electrical Conductivity			
	Ammoniacal Nitrogen			
	Cadmium			
	Copper			
	Mercury			
	Calcium			
	Total Alkalinity			
	Chloride			
	Selenium	Quarterly		
	Antimony	(unless		
	Molybdenum	otherwise		
		agreed in		
		writing with		
		the		
		Agency)		

## Schedule 5 - Reporting

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

<b>Table S5.1 Reporting of monitoring data</b>			
<b>Parameter</b>	<b>Emission or monitoring point/reference</b>	<b>Reporting period</b>	<b>Period begins</b>
Landfill Gas Surface Emissions Parameters as required by condition 3.5.1.	Points specified in table S4.1	Every 3 months	09/10/09
Emissions to water (other than sewer) and land Parameters as required by condition 3.5.1	Points specified in tables S4.2, s4.3	Every 6 months	09/10/09
Groundwater monitoring Parameters as required by condition 3.5.1	Points specified in table S4.7	Every 3 months	09/10/09
Landfill gas monitoring Parameters as required by condition 3.5.1	Points specified in tables S4.4 and S4.5	Every 3 months	09/10/09
Surface water monitoring Parameters as required by condition 3.5.1	Points specified in table S4.6	Every 3 months	09/10/09

<b>Table S5.2 Reporting forms</b>		
<b>Media/parameter</b>	<b>Reporting format</b>	<b>Date of form</b>
Water and Land	Form water 1 or other form as agreed in writing by the Agency	09/10/09
Groundwater	Form Groundwater 1 or other reporting format to be agreed in writing with the Agency	09/10/09
Landfill gas	Form LFG 1 or other reporting format to be agreed in writing with the Agency	09/10/09

## Schedule 6 - Notification

These pages outline the information that the operator must provide.

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

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

### Part A

Permit Number	<b>(1/77) EPR/AP3292LT</b>
Name of operator	<b>Corus (UK) Limited</b>
Location of Facility	<b>Morfa Closed Landfill</b>
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**

<b>To be notified within 24 hours of detection</b>	
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**

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

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

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

**Part B - to be submitted as soon as practicable**

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

<b>Name*</b>	
<b>Post</b>	
<b>Signature</b>	
<b>Date</b>	

\* authorised to sign on behalf of *Corus UK Ltd*

## 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 5 to the EP 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.

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

- The results of all testing required by the CQA programme - this must include the records of any failed tests with a written explanation, details of the remedial action taken, referenced to the appropriate secondary testing;
- Plans showing the location of all tests;
- "As-built" plans and sections of the works;
- Copies of the site engineer's daily records;
- Records of any problems or non-compliances and the solution applied;
- Any other site specific information considered relevant to proving the integrity of the 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.

"*Duty of Care*" As set out in section 34 of the Environmental Protection Act 1990 and expanded in Environmental Protection (Duty of Care) Regulations 1991 (amended)

"*emissions to land*", includes emissions to groundwater.

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

"*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;
- recharge trench (water distributor trench);
- lining within the installation.

within the site.

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

*“LFTGN01”* means Environment Agency Guidance Hydrogeological risk assessment for landfills and the derivation of control and trigger levels, March 2003

*“LFTGN02”* means Environment Agency Guidance for monitoring of landfill leachate, groundwater and surface water, February 2003

*“LFTGN03”* means Environment Agency Guidance on the management of landfill gas, September 2004

*“LFTGN 04”* means Environment Agency Guidance for monitoring trace components in landfill gas, September 2004

*“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.

*“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.

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

*“Review of the Hydrogeological Risk Assessment”* means a written review of the hydrogeological risk assessment included in the Application, together with any other parts of the Application that addressed the requirements of the 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.

*“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

Permit Number: 1/77(EPR/AP3292LT)

Operator: Corus UK Limited

Facility: Morfa Closed Landfill

Form Number: Water1

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

Emission Point	Emission		Reference Period	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Uncertainty <sup>[4]</sup>
	Substance / Parameter	Limit Value					

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.

Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. gas chromatography.

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.

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

Signed .....  
(Authorised to sign as representative of Corus UK Limited)

Date.....

Permit Number: 1/77(EPR/AP3292LT) Operator: Corus UK Limited  
 Facility: Morfa Closed Landfill Form Number: Groundwater1

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

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

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.

Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. gas chromatography.

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.

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

Signed .....  
 (Authorised to sign as representative of Corus UK Limited)

Date.....

Permit Number: 1/77(EPR/AP3292LT) Operator: Corus UK Limited

Facility: Morfa Closed Landfill Form Number: LFG1

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

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

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.

Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. gas chromatography.

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.

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

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

Date.....