



This form will report compliance with your permit as determined by an NRW officer

Site	Hafod Quarry Landfill			Permit Ref	PP3139GB		
Operator/ Permit holder	Cory Environmental (Central) Ltd						
Date	20/05/2014			Time in	14:20	Out	17:20
What parts of the permit were assessed	Leachate and gas well improvements, temporary capping and Cell 3 western upper sidewall development.						
Assessment	Site Inspection	EPR Activity:	Installation	X	Waste Op	Water Discharge	
Recipient's name/position	Ian Craven - Site manager						
Officer's name	Ian Oakes, Matthew Kelk			Date issued	17/06/2014		

Section 1 - Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations. A detailed explanation and any action you may need to take are given in the "Detailed Assessment of Compliance" (section 3). This summary details where we believe any non-compliance with the permit has occurred, the relevant condition and how the non-compliance has been categorised using our Compliance Classification Scheme (CCS). CCS scores can be consolidated or suspended, where appropriate, to reflect the impact of some non-compliances more accurately. For more details of our CCS scheme, contact your local office.

Permit Conditions and Compliance Summary

Condition(s) breached

a) Permitted activities	1. Specified by permit	A	
Infrastructure	1. Engineering for prevention & control of pollution	A	
	2. Closure & decommissioning	NA	
	3. Site drainage engineering (clean & foul)	A	
	4. Containment of stored materials	N	
	5. Plant and equipment	A	
c) General management	1. Staff competency/ training	N	
	2. Management system & operating procedures	N	
	3. Materials acceptance	N	
	4. Storage handling, labelling, segregation	N	
d) Incident management	1. Site security	A	
	2. Accident, emergency & incident planning	N	
e) Emissions	1. Air	N	
	2. Land & Groundwater	N	
	3. Surface water	N	
	4. Sewer	NA	
	5. Waste	N	
f) Amenity	1. Odour	A	
	2. Noise	A	
	3. Dust/fibres/particulates	A	
	4. Pests, birds & scavengers	A	
	5. Deposits on road	A	
g) Monitoring and records, maintenance and reporting	1. Monitoring of emissions & environment	N	
	2. Records of activity, site diary, journal & events	N	
	3. Maintenance records	N	
	4. Reporting & notification	A	
h) Resource efficiency	1. Efficient use of raw materials	N	
	2. Energy	N	

KEY: C1, C2, C3, C4 = CCS breach category (* suspended scores are marked with an asterisk),

A = Assessed (no evidence of non-compliance), N = Not assessed, NA = Not Applicable, O = Ongoing non-compliance – not scored

Number of breaches recorded

0

Total compliance score
(see section 5 for scoring scheme)

0

If the Total No Breaches is greater than zero, then please see Section 3 for details of our proposed enforcement response

Section 2 – Compliance Assessment Report Detail

This section contains a report of our findings and will usually include information on:

- the part(s) of the permit that were assessed (e.g. maintenance, training, combustion plant, etc)
- where the type of assessment was 'Data Review' details of the report/results triggering the assessment
- any non-compliances identified
- any non-compliances with directly applicable legislation
- details of any multiple non-compliances
- information on the compliance score accrued inc. details of suspended or consolidated scores.
- details of advice given
- any other areas of concern
- all actions requested
- any examples of good practice.
- a reference to photos taken

This report should be clear, comprehensive, unambiguous and normally completed within 14 days of an assessment.

1 - Refer to quarterly CAR for monitoring returns.

2 - New leachate monitoring points MP1a and MP2a installed November 2013:

MP1a has developed a blockage and a camera survey has identified plastic bags and a bottle at around 10 m from the top of the well. A high suction tanker is to be arranged and a stable area provided to support it. MP2a differs from the usual head works (with a monitoring point and a 63 mm gas extraction point) as it has a pneumatic pump with associated 32 mm leachate line. Leachate exceedences continue to be reported.

3 - Gas engine volatile organic compounds (VOCs) and carbon monoxide monitoring data:

Following the exceedence of VOC's in the annual emissions monitoring on 19 September 2013, various tuning exercises have been undertaken. A boroscope resulted in the decision to rebuild the top end of the engine, including piston, liners and turbochargers (28 April to 21 May 2014). On the 27 May 2014 Catalyst Environmental repeated the emissions monitoring and reported that the engine had passed. The data will be forwarded to NRW as soon as the laboratory report is available.

4 - Geotechnical response to developing Cell 3 western upper sidewall additional information (Stability Risk Assessment Review for Side-Slope Lining System at Hafod Landfill Site).

Further to your instruction, we have examined the stability report submitted by Cory for the problematic western upper side slope. This area had been identified many years ago as being problematic due to groundwater seepage and associated instability. Since the site was first trimmed to profile, this area has changed significantly due to the effects of water related slope failures. A few years ago, we met with Cory's engineers to look at this problem and an informal drainage system comprising a gravel blanket and a geotextile drainage layer was placed. This seems to have had a favourable effect on the side-slope, but we do not feel that this is sufficient evidence for the system to be deployed across the whole slope. Consequently, we met with Stratus, Cory's project engineers on site last December to discuss how things should move forward.

We are pleased that the submission Cory has made has followed the strategy we discussed in December's meeting. A series of piezometers have been driven into the slope prior to the placement of a series of planned counterfort drains and an upslope cut-off drain. Monitoring water pressures within the slope commenced prior to drainage works so that existing slope conditions could be determined. The effectiveness of firstly the upslope cut-off drain and secondly the upslope cut-off drain in combination with counterfort drains has been evaluated. Groundwater pressure monitoring continued until drainage works were completed so that the effect of the drains on moderating groundwater pressures could be determined.

The stability risk assessment has been carried out using the finite element package Plaxis which has allowed complex relationships between groundwater pressures, groundwater flow and short and long term strength to be examined. The use of the model is appropriate and the various slope scenarios that have been considered we are satisfied properly represent the slope in the short and long term. The parameters used in the analysis have been based on previous work and have been shown to be appropriate by conducting back analysis of the slope in its current condition. We are satisfied that this is a competent and justifiable approach to the issue of slope stability in this area.

The results of the stability risk assessment show that in order to develop a landfill lining system over this problematic area, a combination of engineering works will be required. Firstly, cut-off and counterfort drains will be needed to moderate groundwater pressures within the slope. Engineering fill will need to be placed to re-establish the side slope profile and under-drainage geocomposite will be needed beneath the AEGB. The stability risk assessment does not provide specifications and CQA details and we would expect these to follow (please provide as

available).

The SRA also includes a discussion on the need to provide a geocomposite drainage layer between the AEGB and ASL. The original design rationale has been examined and Stratus has been able to confirm that in this part of the landfill the drainage layer between the ASL and AEGB is not required. I am content therefore to accept that the ASL should be constructed directly onto the AEGB.

5 - Proposed works and timescale for developing Cell 3 western upper sidewall:

Works will include further counterfort drains extending northwards, clay to formation, groundwater protection geotextile and 2 m of engineered clay. The intention is to carry this extension out in 2 lifts approximately 10 m in height to the tarmac road over the summer period. Waste will be tipped on the western upper reaches in anticipation of completion of the first lift such that this void can be filled straight away to put load on the engineering and to protect it from the weather.

6 – Associated works:

Simultaneously, tipping will continue to final levels in the south eastern corner of Cells 2 and 3. Gas infrastructure is already being moved to facilitate a further 10,000 m² capping of this area to mate up with the previous capping of Cell 1. The intermediate leachate tank will need to be moved closer to the New Hall road boundary.

An engineering proposal is expected in Q3 for Cell 4 with development expected to start in Q3 / 4 weather permitting. Further infrastructure improvements could include a concrete bund for the current main leachate tanks.

7 - Gas engine siloxane removal from landfill gas:

The activated carbon filter has been replaced with a chilling unit which is continuing to be developed. The optimisation is considered to be approaching completion though (currently 80% removal) and as the engine has now been completely rebuilt the performance can be more critically assessed.

8 - Gull culling:

The licence expires on the 31 May (from 5 June 2013) without the full uptake of 150 birds though approaching it. Cory is to apply for an extension.

9 - Site inspection:

Mild odours were noticed from Cell 3 tipping face and the gas compound. An odour complaint was received whilst on site in the direction of the prevailing wind, which is considered to be substantiated. A drive around the site environs an hour later (prior to liaison meeting) did not indicate any significant odour off site.

10 - Gas audit actions from December 2013:

Twelve new landfill gas wells have been installed and the northern slope of Cell 3 is being temporarily capped in 0.75 mm plastic membrane. A follow up landfill gas audit by Natural Resources Wales has been arranged for 2 - 3 July 2014.



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Section 3- Enforcement Response

Only one of the boxes below should be ticked

You must take immediate action to rectify any non-compliance and prevent repetition.

Non-compliance with your permit conditions constitutes an offence and can result in criminal prosecutions and/or suspension or revocation of a permit. Please read the detailed assessment in Section 2 and the steps you need to take in Section 4 below.

Other than the provision of advice and guidance, at present we do not intend to take further enforcement action in respect of the non-compliance identified above. This does not preclude us from taking enforcement action if further relevant information comes to light or advice isn't followed.	X
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In respect of the above non-compliance you have been issued with a warning. At present we do not intend to take further enforcement action. This does not preclude us from taking additional enforcement action if further relevant information comes to light or offences continue.

We will now consider what enforcement action is appropriate and notify you, referencing this form.

Section 4- Action(s)

Where non-compliance has been detected and an enforcement response has been selected above, this section summarises the steps you need to take to return to compliance and also provides timescales for this to be done.

Criteria Ref.	CCS Category	Action Required/Advised	Due Date
See Section 1 above			

Section 5 - Compliance notes for the Operator

To ensure you correct actual or potential non-compliance we may

- advise on corrective actions verbally or in writing
- require you to take specific actions in writing
- issue a notice
- require you to review your procedures or management system
- change some of the conditions of your permit
- decide to undertake a full review of your permit

Any breach of a permit condition is an offence and we may take legal action against you.

● We will normally provide advice and guidance to assist you to come back into compliance either after an offence is committed or where we consider that an offence is likely to be committed. This is without prejudice to any other enforcement response that we consider may be required.

● Enforcement action can include the issue of a formal caution, prosecution, the service of a notice and or suspension or revocation of the permit.

● **our Enforcement and Civil Sanctions guidance for further information**

This report does not relieve the site operator of the responsibility to

- ensure you comply with the conditions of the permit at all times and prevent pollution of the environment
- ensure you comply with other legislative provisions which may apply.

Non-compliance scores and categories

CCS category	Description	Score
C1	A non-compliance which could have a major environmental effect	60
C2	A non-compliance which could have a significant environmental effect	31
C3	A non-compliance which could have a minor environmental effect	4
C4	A non-compliance which has no potential environmental effect	0.1

Operational Risk Appraisal (Opra) - Compliance assessment findings may affect your Opra score and/or your charges. This score influences the resource we use to assess permit compliance.

Section 6 – General Information

Data protection notice

The information on this form will be processed by the Natural Resources Wales (NRW) to fulfill its regulatory and monitoring functions and to maintain the relevant public register(s). The NRW may also use and/or disclose it in connection with:

- offering/providing you with its literature/services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law and taking any resulting action
- preventing breaches of environmental law
- assessing customer service satisfaction and improving its service
- Freedom of Information Act/Environmental Information Regulations request.

The NRW may pass it on to its agents/representatives to do these things on its behalf. You should ensure that any persons named on this form are informed of the contents of this data protection notice.

Disclosure of information

The NRW will provide a copy of this report to the public register(s). However, if you consider that any information contained in this report should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within twenty working days of receipt of this form indicating which information it concerns and why it should not be released, giving your reasons in full.

Customer charter

What can I do if I disagree with this compliance assessment report?

If you are unable to resolve the issue with your site officer, you should firstly discuss the matter with the officer's line managers. If you wish to raise your dispute further through our official Complaints and Commendations procedure, phone our general enquiry number 0300 065 3000 (Mon to Fri 08.00–18.00) and ask for the Customer Contact team or send an email to enquiries@naturalresourceswales.gov.uk. If you are still dissatisfied you can make a complaint to the Public Services Ombudsman for Wales. For advice on how to complain to the Ombudsman phone their helpline on 0845 607 0987.

