

## Compliance Assessment Report CAR\_NRW0044583

**Permit being assessed:** PP3139GB.

**For:** Hafod Quarry Landfill Site, **held by:** Enovert North Limited

**At:** Hafod Quarry Landfill Bangor Road, Johnstown, Wrexham, LL14 6ET.

**Type of assessment:** Report/Data Review,

**Reason:** Routine.

**On:** 24/06/2024.

**Parts of permit assessed:** Q1 (January -March) 2024 monitoring returns .

**NRW Lead Officer:** Jamie Blythin.

**Report sent to:** Regional Manager, Regional Manager, on 25/07/2024.

### 1. Summary of our findings (full details in section 4)

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
IR2I - Installations - Operations - Leachate levels (only applicable to landfill)	C3 Minor	2.7.1
IR2K - Installations - Operations - Landfill gas management (only applicable to landfill)	C3 Minor	3.5.1
IR4B - Installations - Information - Reporting	C3 Minor	3.5.1
IR3A - Installations - Emissions and monitoring - Emissions to water, air or land	C3 Minor	3.1.1
IR3A - Installations - Emissions and monitoring - Emissions to water, air or land	Action only (X)	

Result types are explained in more detail in the 'Important Information' section below.

Total non-compliances recorded	Total non-compliance score
4	16

How we use the non-compliance score to calculate your annual fee is explained in the 'Important Information' section below.

## 2. What action is required?

Criteria	Action needed	Complete by
IR2I	Action1- provide a written update to NRW detailing progress against each of the 10 actions specified in the Leachate Management Action Plan submitted to NRW on 30/01/24.	12/08/2024
IR2K	Action 2- The operator needs to consider all reasonable options to increase gas control and prevent potential landfill gas migration into the perimeter wells. Provide an updated Action Plan to NRW detailing how this will be achieved.	16/09/2024
IR4B	Action 3- Operator to ensure all monitoring, as required by the permit, is completed.	01/08/2024
IR3A	ACTION 5- Operator to continue to monitor surface water monitoring results. If elevated Ammoniacal Nitrogen levels persist then the operator will need to carry out further investigations into the root cause and resolution of this issue.	01/08/2024
IR3A	Action 4- Operator to continue to monitor groundwater monitoring results. If elevated chloride levels persist then the operator will need to carry out further investigations to determine the root cause and resolution of this issue.	01/08/2024

Compliance criteria codes are listed in the 'Important information' section below.

## 3. What will happen next?

Any non-compliance we have identified and recorded on this form is an offence. It can result in criminal prosecution and/or suspension or revocation of your permit.

**You are non-compliant with your permit.**

**We are currently considering taking enforcement action against you for the non-compliance recorded above. We will contact you in due course.**

## 4. Details of our assessment

This Compliance Assessment Report (CAR) follows the review of Q1 2024 (January-March) monitoring returns and schedule 5 notifications. Monitoring data was submitted to Natural Resources Wales (NRW) on 29/04/24 in accordance with permit condition 4.2.3.

### Leachate

Leachate levels were monitored monthly in accordance with permit condition 3.5.1(a) and Table S31. (Leachate level limits and monitoring requirements). Transducer readings were provided for some monitoring wells. The operator stated that they were unable to take readings at LMP4a and LC5 as the chambers were too high to obtain a dip.

During Q1 a total of 8,464m<sup>3</sup> was tankered offsite for treatment. Leachate heads between

0.10m and 28.79 m were recorded against a compliance limit of 2m.

With reference to Schedule 5 notifications HAF356 (January), HAF359 (February) and HAF364(March), there were 14 instances reported where the recorded leachate level was greater than the compliance limit of 2m. NRW considers this a breach of permit condition 2.7.1 and a non-compliance score has been applied (IR21-Leachate levels-C3).

On 30/01/24, the operator submitted a Leachate Management Action Plan to NRW, outlining how they will achieve compliance with the permitted leachate level limits (2m) by 28/06/24. This Action Plan was submitted in response to Action 5 of the Statutory Notice that was served on the operator 21/12/23.

Action1- provide a written update to NRW detailing progress against each of the 10 actions specified in the Leachate Management Action Plan submitted to NRW on 30/01/24.

### **Landfill gas**

Perimeter gas monitoring was undertaken in accordance with Condition 3.5.1(d) and Table 3.6 (Landfill gas in external boreholes).

With reference to Schedule 5 notifications HAF 354(January), HAF357 (February) and HAF361 (March), there were 26 instances during Q1 where methane (CH<sub>4</sub>) levels in perimeter gas wells exceeded the 1% permitted Emission Limit Value (ELV). Values between 1.3-75.8% methane were recorded during Q1. NRW considers this a breach of permit condition 3.1.7 and a non-compliance score has been applied (IR3A-Emissions to water, air or land-C3).

The Operator contends that the results from the perimeter wells are being influenced by the migration of methane from the underlying coal measures and they have completed investigations into this, including isotope analysis (as stated in annual report 2023).

Action 3 in CAR\_NRW0042993 required the operator to 'provide NRW with the results of your investigation into the origin of the gas contained in the southern perimeter wells.'

On 18/03,24, the operator provided NRW with the following reports completed by external contractors:

- A report on gas provenance in perimeter wells at Hafod Quarry completed by C& P Environmental Ltd in 2008
- A report on carbon 14 and Tritium measurements on gas samples completed by LCD Lockinge in 2022.

Both reports, along with interpretation provided in section 3.2- Perimeter Gas of the 2023 Annual Report, indicate that there is a complex background environment with regards to the underlying geology and the contribution of both landfill gas and non-landfill gas sources to gas migration at perimeter wells.

The operator states that they intend to apply for a permit variation to raise the ELV for

methane at the perimeter wells. If the operator has sufficient evidence to justify raising the ELV then a permit variation should be submitted to NRW.

NRW will continue to score breaches of the permitted ELV at the perimeter wells.

Action 2- The operator needs to consider all reasonable options to increase gas control and prevent potential landfill gas migration into the perimeter wells. Provide an updated Action Plan to NRW detailing how this will be achieved.

Monthly in waste landfill gas monitoring was undertaken in accordance with Condition 3.5.1(d) and Table S3.8.

### **Groundwater**

Groundwater levels were provided in line with condition 3.5.1(c) Table S3.11-Groundwater-other monitoring requirements. However, no groundwater monitoring data was provided for the parameters specified in Table S3.5-Groundwater-emission limits and monitoring requirements. NRW considers this a breach of permit condition 3.5.1 (c) and a non-compliance score has been applied (IR4B-Reporting-C3).

The operator states that

'The quarterly groundwater samples had to be postponed due to circumstances outside of our control, including the record-breaking extremely wet weather and resulting soft ground conditions. The groundwater results were discussed at length in the recent annual environmental monitoring review, and it concluded that "the Hafod Landfill Site is not causing a discernible detriment to the groundwater or surface water systems."

Action 3- Operator to ensure all monitoring, as required by the permit, is completed.

There were no S5 notifications submitted this quarter in relation to groundwater as samples were not taken. However, it should be noted that monitoring point BHHA12C(B) has breached the compliance limit (200mg/l) for chloride for the past 3 quarters. The previous CAR -NRW0043559 included the following action to be completed by 26/04/24.

'Action 3 - Carry out an investigation into the cause of elevated levels of chloride in monitoring point BHHA12C(B) and provide NRW with a written update.'

The operator stated the following in the 2023 Annual Report

'The chloride permit limit is at 200 mg/l within the permit boundary and is increased to 450 mg/l at the off-site locations for HA12A(T) and HA12A(M) adjacent to the A483. These latter have however been superseded by HA12C located to the northeast corner of Cell 5. Chloride was similarly below permit limits at the majority of perimeter monitoring wells in 2023. Chloride remained below the DWS of 250 mg/l throughout 2023 at the majority of locations (Figure 15), except for HA12C(B) and HA06A(B), where the DWS for chloride was exceeded. For HA12C(B) the non-leachate anion sulphate was more significant than

chloride. For both locations, these were the highest concentrations ever recorded.

It is noted that HA12C(B) is the only one of the two locations with a permit limit, set at 200 mg/l, for which it was in excess for three of the four sampling visits in 2023. HA12C(B) did not record a corresponding increase in ammoniacal-N or other determinands in 2023 (Figure 16). The higher concentrations are considered to be likely attributable to laboratory analytical anomalies or background variations. For BH HA06A(B) the relationship is more complicated (Figure 17), as water levels in this location are recovering and it is not known if the change is an adjustment due to this recovery in water levels which have encountered a salt rich band or not. Significantly there does not appear to be a leachate influence at the accompanying mid and top level monitoring points.'

Action 4- Operator to continue to monitor groundwater monitoring results. If elevated chloride levels persist then the operator will need to carry out further investigations to determine the root cause and resolution of this issue.

### **Surface water**

Surface water monitoring was completed in accordance with Condition 3.5.1(b) and (e), Tables S3.3 (point source emissions to water-emission limits and monitoring requirements) and S3.10 (surface water-other monitoring requirements).

With reference to schedule 5 notifications HAF355 (January), HAF 358 (February) and HAF 360 (March), monitoring point SW1A recorded ammoniacal nitrogen values of 4.1mg/l, 3.5mg/l and 2.6mg/l respectively vs a permitted compliance limit of 1.8mg/l.

NRW considers this a breach of permit condition 3.1.1 (IR3A-Emissions to water, air or land-C3).

The operator provided the following comments as part of the schedule 5 notification for this breach

'The Ammoniacal N exceedance at SW1A is unusual and we expect this to be a result of background variations. For instance, the extremely high precipitation events, and decomposing leaf-fall.

Chloride remains at a normal low level so this is not likely to indicate a landfill pollution event.

Chloride remains at a normal low level of around 60 mg/l so this is not likely to indicate a landfill pollution event. Other parameters such as metals are also normal, further excluding the landfill leachate as the source.

Future monitoring results will be reviewed to see if the elevated concentrations continue. However, no incident is believed to have occurred and the results appear to represent background conditions. This was discussed further in the recent Annual Report.'

Action 5- Operator to continue to monitor surface water monitoring results. If elevated

Ammoniacal Nitrogen levels persist then the operator will need to carry out further investigations to determine the root cause and resolution of this issue.

If you have any queries about this report, or to discuss completion of any actions, please contact the NRW Officer named above.

## Important information

### Legal status of this report

Your permit is issued to you under the Environmental Permitting Regulations. You have a responsibility to comply with the conditions of your permit and prevent pollution/harm of the environment. You must also ensure that you comply with any other relevant legislation that may apply to your site's operations.

This report explains the findings of our assessment and any action you are required to take. We categorise non-compliance using our guidance for assessing non-compliance at regulated sites.

When we find potential non-compliance/s we will normally give you advice on how to maintain compliance.

To correct non-compliance, we may:

- require you to take specific actions
- issue a notice
- review the conditions of your permit.

Any advice and guidance we give will be without prejudice to any other enforcement response that we consider may be required.

### Assessment results and non-compliance categories (used in section 1):

Assessment result	Description
Assessed (A)	Assessed or assessed in part, no evidence of non-compliance found
Action only (X)	Action only relating to the activity assessment
Ongoing (O)	Ongoing non-compliance, not scored

Non-compliance category	Description	Score
C1 Major	Potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property	60
C2 Significant	Potential to have a significant impact or effect on the environment, people and/or property	31
C3 Minor	Potential to have a minor or minimal impact or effect on the environment, people and/or property	4
C4 No environmental impact	Non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property	0.1

### How we use assessment scores

The number and severity of non-compliances recorded in a year will affect your annual subsistence fee the following year. A non-compliance factor is added to your site's Operator

Performance Risk Appraisal (OPRA) score when we calculate your fee to reflect the additional resource we use to assess permit compliance.

**If your assessment result in Section 1 is suspended, what does this mean?**

In line with our guidance, we may suspend scores for up to six months to allow time for remedial action to be taken. Suspended scores will be re-instated if the action is not completed.

**Full list of Industry compliance criteria** (used in section 1 and 2):

**1. Management**

- IR1A – General management
- IR1B – Finance (only applicable to Landfill)
- IR1C – Energy efficiency
- IR1D - Efficient use of raw materials
- IR1E - Avoidance, recovery and disposal of wastes produced by the activities
- IR1F - Multiple operator installations

**2. Operations**

- IR2A – Permitted activities
- IR2B – The site
- IR2C – Operating techniques
- IR2D – Technical requirements
- IR2E – Improvement programme
- IR2F – Pre-operational conditions
- IR2G – Landfill engineering (only applicable to Landfill)
- IR2H – Waste acceptance (only applicable to Landfill)
- IR2I – Leachate levels (only applicable to Landfill)
- IR2J – Closure and aftercare (only applicable to Landfill)
- IR2K – Landfill gas management (only applicable to Landfill)

**3. Emission and Monitoring**

- IR3A – Emissions to water, air or land
- IR3B – Emissions of substances not controlled by emission limits
- IR3C – Odour
- IR3D – Noise and vibration
- IR3E – Monitoring
- IR3F – Pests
- IR3G – Air quality management plans
- IR3H – Monitoring for the purposes of the Industrial Emissions Directive (this heading includes Large Combustion Plants)
- IR3I – Fire

**4. Information**

- IR4A – Records
- IR4B – Reporting
- IR4C – Notification

**Enforcement response**

Any non-compliance with a permit condition is an offence and we may take legal action against you. Action we take can include prosecution, serving a notice on you and/or



suspension or revocation of your permit. See our Enforcement and Sanctions Guidance for further information.

### **Data protection notice**

You should make sure that anyone named in this report knows that the information it contains will be processed by Natural Resources Wales to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s).

We may also use and/or disclose the report in connection with:

- offering or providing you with our literature or 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
- assessing customer service satisfaction and improving our service
- Freedom of Information Act or Environmental Information Regulations requests.

We may also pass it on to our agents or representatives to do these things on our behalf.

### **Disclosure of information – this report will be available to view on-line**

If you think this report contains commercially confidential information that should not be placed on our public register, you must contact your local Natural Resources Wales office within **fifteen working days** of receiving this report, using the contact details in the accompanying email or letter. You must give a full explanation of why it should not be added to our public register, including specifying which information is commercially confidential. We will assess your request and respond to you within twenty working days to let you know if we agree to your request.

### **What do I do if I disagree with the report or have a complaint?**

If you disagree with this compliance assessment report, you should contact the lead officer without delay to discuss your concerns.

If you are unable to resolve the issue with the lead officer or their line manager you should contact our Customer Contact team on 0300 065 3000 (Monday to Friday 08:00 to 18:00), or email [enquiries@naturalresourceswales.gov.uk](mailto:enquiries@naturalresourceswales.gov.uk) for details of how to raise your dispute further through our Complaints and Commendations procedure.

If you are dissatisfied with our response, you can contact the Public Services Ombudsman for Wales by phone on 0300 7900203 or by email at [ask@ombudsman.wales](mailto:ask@ombudsman.wales)

### **Welsh Language Standards**

We are committed to establishing Natural Resources Wales as a naturally bilingual organisation. We will provide compliance reports in your preferred language.