

Compliance Assessment Report CAR_NRW0044483

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: Site Inspection,

Reason: Routine.

On: 13/05/2024 between 11:10 and 14:10.

Parts of permit assessed: Site inspection.

NRW Lead Officer: Jamie Blythin, accompanied by Kathryn Bradshaw.

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
IR2A - Installations - Operations - Permitted activities	Assessed (A)	
IR3C - Installations - Emissions and monitoring - Odour	Assessed (A)	
IR2K - Installations - Operations - Landfill gas management (only applicable to landfill)	Action only (X)	

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

Total non-compliances recorded	Total non-compliance score
0	0

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
IR2K	Action 1- See Action 3 in Action Plan dated 20/05/24. The operator needs to ensure that this area is included in the next site surface emissions walkover survey (FID / gazomat) that is completed.	20/08/2024

Criteria	Action needed	Complete by
	Action 2- See Actions 5, 6 and 8 in Action Plan dated 20/05/24.	
	Action 3- See Action 7 in Action Plan dated 20/05/24.	

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.

At this time, we do not intend to take any further action.

This statement does not stop us from taking additional enforcement action if further relevant information comes to light or offences continue.

4. Details of our assessment

This Compliance Assessment Report (CAR) follows a routine site inspection at Hafod Landfill on 13/05/24.

NRW officers carried out offsite olfactory monitoring immediately before attending site. The following observations were made at these locations:

New Hall Road- slight agricultural/ manure spreading odour.

Shellbrook Drive- no odours

Vauxhall Industrial Estate- plastic odour.

Heol Hafod-no odours

Heol Kenyon-cut grass odour

Heol Offa-cut grass odour

Upper Bangor Road by school-no odours

Tan Y Clawdd-no odours

Worsley Avenue- no odours

Gwalia-no odours

Brynhyfryd- slight sweet green waste odour

Bangor Road near site entrance - Mild waste odour

Inspection findings- cell 5a

The weather at the time of the inspection was dry, overcast and there was a moderate wind blowing from a south south-east direction.

NRW officers used a calibrated Gazomat Inspectra TDL unit to detect methane emissions during the inspection. Before the inspection, a background methane reading of 3.3ppm ppm was detected at the site office car park.

Officers detected strong leachate and waste odours while stood in the site car park. A leachate tanker was taking away a tanker full of leachate from site and a vehicle carrying residual waste from Anaerobic Digestion (AD) arrived at the site to tip. These odours disappeared once the leachate tanker left site and the AD residual waste was incorporated into the active cell.

The Regional Manager, Site Manager and Head of Landfill Gas accompanied NRW officers during the inspection.

This inspection focussed on cell 5a where, over the past 6 months, a number of actions have been completed to increase landfill gas capture and reduce the potential for emissions and odours.

Officers recorded methane values between 5-13.9ppm across the toe of the northern slope of cell 5a 'bowl area.'

Elevated readings of up to 6% gas and strong landfill gas odours were detected around scavenger line 3 on the toe of the northern slope of cell 5a. These high readings and odours were not constant but spiked before returning to lower levels. It should be noted that this area was not under full extraction at the time of the inspection as another scavenger line, scavenger 4, was being installed higher up on the northern slope of Cell 5a.

Action 1- See Action 3 in Action Plan dated 20/05/24. The operator needs to ensure that this area is included in the next site surface emissions walkover survey (FID / gazomat) that is completed.

Following the site inspection, additional temporary capping consisting of Linear Low-Density Polyethylene (LLDPE) was installed over the toe of the northern slope of Cell 5a. This work was completed on 07/06/24.

Officers walked around the area of temporary capping on top of cell 5a. Methane readings between 3.4-56ppm were recorded around the top of cell 5a. An area of approximately 7500m² was permanently capped with 1m depth of engineered clay on top of Cell 5a and Cell 4 in early May.

Officers walked along the upper toe / bench of the northern slope of cell 5a. Methane readings between 8.3-21ppm were recorded. The operator was in the process of installing a new scavenger line (scavenger line 4) and this line was not yet under extraction. Elevated readings of up to 130ppm were recorded next to scavenger line 4.

Officers walked around the perimeter of the western flank of cell 5a and recorded values between 20-297ppm from the surface of the western flank.

Elevated methane levels were recorded at the following wells:

Gas well 134(Cell 5a,upper northern flank)- 400ppm

LC05- values between 37ppm and 10% were recorded at the base of the well. The high values were not constant and spiked before returning to lower levels.

Gas well 5a- values between 460ppm-4500ppm- high values were not constant and spiked before returning to lower levels.

LC5b- Values between 400ppm-800ppm

LC4- values between 200-4000ppm

Action 2- See Actions 5, 6 and 8 in Action Plan dated 20/05/24.

Officers visited the gas compound and observed a slight landfill gas odour. A value of 32ppm was recorded in the air at the entrance to the gas compound.

The following methane values were recorded on the landfill gas engine cooling vents:

Engine 1- 91ppm

Engine 3- 25ppm

During the last site inspection-CAR_NRW0043817- the landfill gas engines recorded the following results:

Engine 1- 20ppm

Engine 3- 70ppm

Action 3- See Action 7 in Action Plan dated 20/05/24.

Following the site inspection, the operator carried out a number of actions to address the elevated methane emissions observed on the engine cooling vents and provided the following update:

'Increased reading for Methane shown at the container ventilation outlet. The leak was traced to a joint in the right hand turbo outlet pipe. The joint is a "push fit" connection with seals fitted inside the push fit. The turbo and joint were removed and the push fit connectors remachined to remove any contamination or debris from the joint area – new seals were sourced and fitted, these actions improved the reading outside the container. The joint can be fitted with joint clamps in other applications – clamps were sourced and fitted – again only a slight improvement. Decision has been taken to replace the turbo – parts have been ordered and the turbo will be replaced by end of June 24.

Week commencing 10.06.24 two replacement turbo cartridges and replacement inlet and outlet trunkings

were fitted – replacing the old turbos on Unit 3. Subsequent testing has shown an improvement on the Gazomat readings at the engine louvres. The engine "waste gate" is to be replaced this week by the end of June 24 and the unit readings to be rechecked. The next stage of the works is a full engine overhaul to replace the engine intercooler.'

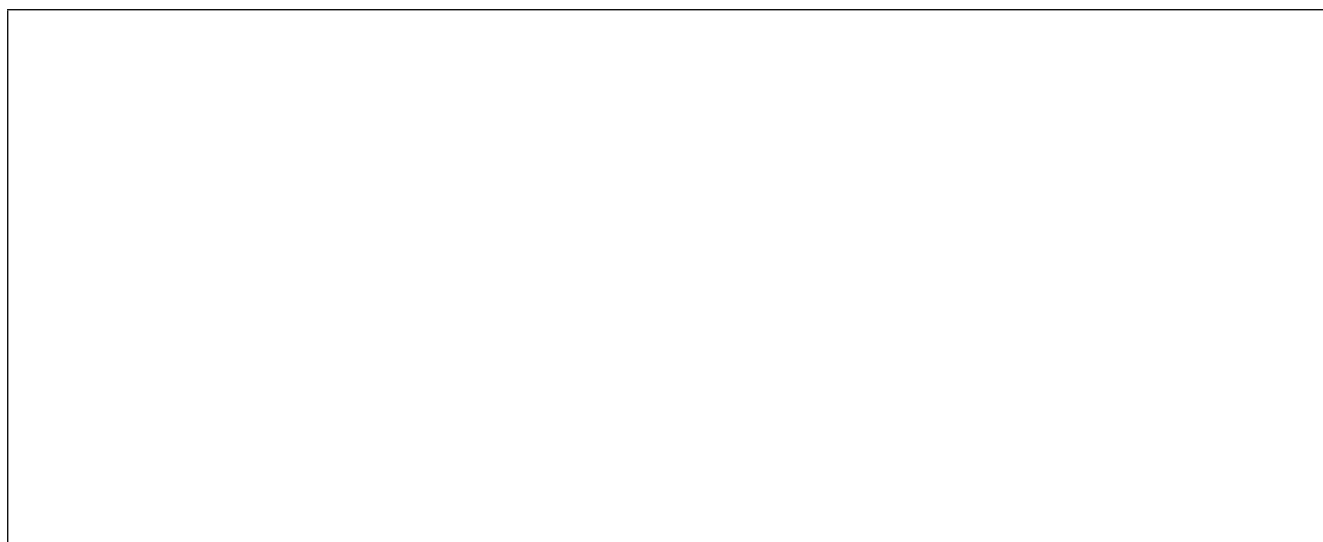
The operator completed a surface emissions walkover survey using a Flame Ionisation

Detector (FID) on 10/05/24. Once the results had been mapped, a copy of this survey was sent to NRW on 21/05/24. The results are similar to those recorded by NRW during the inspection.

On 20/05/24, the operator provided NRW with an updated Action Plan to address elevated methane emissions observed during the site inspection and their FID survey :

- 1.-Conduct a full FID survey across the active areas of the site to determine the effectiveness of the measures undertaken- completed.
2. Installation of new 250mm gas main on internal bench of Cell5a, which allows gas extraction from Cell 5b in the future- Target- end of June 24.
3. Temporary capping of the lower section of the northern flank of cell5a, with LLDPE, approx 2400m2- completed w/c 07.06.24.
4. Install new horizontal gas collection pipes in Cell5b to provide active extraction in the operational area-Continuing process-Horizontal 8 installed in February 24 and horizontal 9 installed in April 24. Target to install 3 more throughout June 24.
5. Remediate seals with hydrated bentonite on leachate chambers LC4,LC5 and MP5a. Ongoing works as waste settles. Looking at a new method of sealing around concrete with GCL skirt. Target- end of May 24.
6. Assess and remediate seals on Gas well 134 and any other gas wells picked up with high CH4 emissions during FID or Gazomat surveys. Gas well 134 needs LLDPE rewelding. Target end of June 24.
7. Identification of CH4 leaks on gas engines in LFG compound and install new seals. Seals fitted but only a slight improvement. Entire new turbo sourced and will be fitted- see previous update.
8. Installation of gas collector pipes to LC5b and MP5b to allow gas extraction from these leachate chambers. New well heads fitted. Target end of June to complete the rest of the works.

The effectiveness of these measures will be assessed during the next site inspection.



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 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

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.