

Compliance Assessment Report CAR_NRW0038608

Permit being assessed: AP3739KS.

For: Brookhill Landfill Site EPR/AP3739KS, held by Flintshire County Council
At: BROOK HILL LFS PINFOLD INDUSTRIAL ESTATE , BUCKLEY, BUCKLEY, CLWYD, CH7 3PL.

Type of assessment carried out: Report/Data Review, Reason: Routine.

On 10/08/2021.

Parts of permit assessed: Q2 monitoring returns

NRW Lead Officer: Rebecca Harwood.

Report sent to: Ruth Cartwright / Paul Murphy, Regulatory Services Manager / FCC Landfill Manager on 12/08/2021.

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

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
E2 - Emissions - Land and groundwater	C3 Minor	Condition 3.1.7
B1 - Infrastructure - Engineering for prevention and control of emissions	Action only (X)	
C2 - General Management - Management system and operating procedures	Action only (X)	
E2 - Emissions - Land and groundwater	C3 Minor	Condition 3.1.5
E2 - Emissions - Land and groundwater	Action only (X)	
E3 - Emissions - Surface water	Action only (X)	
B1 - Infrastructure - Engineering for prevention and control of emissions	C3 Minor	Condition 2.7.1
G4 - Monitoring and Records, Maintenance and Reporting - Reporting and notification to Natural Resources Wales	C4 No impact	Condition 4.3.1
G4 - Monitoring and Records, Maintenance and Reporting - Reporting and notification to Natural Resources Wales	Action only (X)	

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

Total number of non-compliances recorded	Total non-compliance score
4	12.1

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
E2	Action 1: Ensure the gas field to the west of the site is	31/08/2021

Criteria	Action needed	Complete by
	operating effectively to reduce off site migration to perimeter wells and report back to NRW any observations.	
B1	Action 2: Please confirm which borehole is buried. Action 3: Ensure all boreholes are adequately labelled and being correctly monitored.	31/08/2021
C2	Action 4: Please supply your data verification and checking procedures in order that these issues are identified and addressed prior to data submission.	31/08/2021
E2	Action 5: As per previous CAR forms and advice, consider varying the trigger limits for these boreholes.	31/10/2021
E2	Action 6: Action 6 from CAR_NRW0038320 remains outstanding. Please investigate any possible reasons for the increase in the metal concentrations identified and report back to NRW.	31/08/2021
E3	Action 7: Action 7 from CAR_NRW0038320 remains outstanding. Please investigate the high suspended solid results and report back to NRW.	31/08/2021
B1	Action 8: Continue to manage levels by extracting leachate from site and ensure Action 3 from CAR_NRW0037850 is completed.	30/09/2021
G4	Action 9: Please ensure Schedule 5 Notifications for all breaches are submitted in accordance with Condition 4.3.1 and the comments above.	30/09/2021
G4	Action 10: Please ensure all actions from previous CARS are reviewed and closed out. This includes updating NRW on progress.	31/08/2021

Action 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.

At this time, we are issuing you with a warning for the non-compliance recorded above. Warnings may influence future enforcement response for continued or further non-compliance.

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

Q2 April - June 2021 monitoring review (*italics text provided*):

Quarterly monitoring for April - June 2021 was submitted in accordance with Condition

4.2.2. on 30th July 2021.

Monitoring was undertaken in accordance with Condition 3.5 and Schedule 3.

1. Landfill gas

Elevated methane readings above the compliance level of 1% were detected in boreholes BH11, BH14 and BH16 during the review period.

BH8 exceeded its carbon dioxide compliance limit of 1.5%; elevated readings were observed through April until mid-May.

These exceedances have been scored a CCS3 breach of Permit, Condition 3.1.7.

Action 1: Ensure the gas field to the west of the site is operating effectively to reduce off site migration to perimeter wells and report back to NRW any observations.

Schedule notifications have not been received for the methane breaches, see Section 6 'Reporting - Schedule 5 Notifications'.

Action 2 from CAR_NRW0038320 remains outstanding. This action related to BH16. This monitoring well had historically been recorded as buried but was subsequently monitored and BH17 recorded as buried. In this quarterly review BH17 has generally been recorded as buried, however, during the last 2 monitoring visits in June BH17 has been monitored and BH18A recorded as buried.

Action 2: Please confirm to NRW which borehole is buried.

Action 3: Ensure all boreholes are adequately labelled and being correctly monitored.

Action 4: Please supply your data verification and checking procedures in order that these issues are identified and addressed prior to data submission.

It is noted that BH21 continues to be monitored but references to any ELVs have been removed from the report and excel submissions since June 2021.

The average concentrations of methane and carbon dioxide in the in-waste GV wells were 43.55% methane and 28.46% carbon dioxide. It was noted within the report that where oxygen concentrations are above 5% these wells are not used for gas extraction.

The maximum carbon monoxide concentration was in GV22 where the level increased to 45ppm. **Advice and Guidance:** If carbon monoxide concentrations continue to increase then further investigation should be undertaken.

Hydrogen sulphide was not detected in any of the wells.

2. Groundwater

2.1 Groundwater levels

Groundwater levels were recorded monthly with levels decreasing in the majority of wells.

2.2 Groundwater quality boreholes GW1 – GW8

Exceedances of ammoniacal nitrogen, greater than 1.7mg/l, were observed in GW2A, GW3A and GW4 with maximum concentrations of 6.3mg/l, 14.4mg/l and 3.4mg/l recorded respectively.

Exceedances for chloride, greater than 60mg/l, were observed in GW2A and GW3A with maximum concentrations of 113mg/l and 118mg/l recorded respectively.

All other parameters were compliant with concentrations below the specified ELVs.

The elevated readings within the groundwater sampling points have been scored a CCS3 breach of Permit, Condition 3.1.5, in line with previous non-compliances.

Action 5: As per previous CAR forms and advice, consider varying the trigger limits for these boreholes.

The report states that both GW1 and GW1.1, located to the south west of the site, contained significantly higher concentrations of some metals and sulphate, these have increased since Q1. It was also noted that concentrations of iron had increased in GW2A, GW4 and GW5A.

Action 6: Action 6 from CAR_NRW0038320 remains outstanding. Please investigate any possible reasons for the increase in the metal concentrations identified and report back to NRW.

3. Surface water

'Surface water samples are taken from three locations, SW2, P2 and P4. Water flows in a northerly direction alongside the outside perimeter fence of the western boundary of the site and accumulates in a pond at SW2 before slowly seeping through a man-made underground bypass drain which runs along the outside of the site towards the northern boundary. P2 is a pond to the west, which collects surface water run-off from the landfill. P4 is in a field to the north west of the site, beyond landfill gas monitoring borehole BH10.'

P2 was not sampled (this point is only sampled when there is likelihood of an overflow). There was also no sample from SW2.

Monitoring point P4 was sampled and although no emission levels are set for this location, it is noted that COD levels obtained at this point were again above the ELV of 100mg/l for P2 in April and high suspended solids concentrations were also observed in April at 459mg/l

Action 7: Action 7 from CAR_NRW0038320 remains outstanding. Please investigate the high suspended solid results and report back to NRW.

4. Deposited dust monitoring

Dust monitoring was undertaken between the 8th June and 5th July 2021 – there were no exceedances of the ELV.

5. Leachate

5.1 Leachate limits

As discussed with NRW, 'pumped' leachate levels are recorded after pumps are switched off for up to 4 hours before a dip is obtained. Pumped leachate levels are provided for completeness, and to provide additional information regarding the efficiency of the leachate management strategy at the site.

The results overall indicate relatively stable leachate levels across the site and suggest extraction may be in equilibrium with leachate generation over the site as a whole.

The difference between the rest and pumped levels remains around 1m for most wells. This is likely as a result of the ongoing extraction of leachate from gas wells at the site. While the rest leachate levels exceeded the compliance, the leachate head remained below the level of the surrounding groundwater through this period.

Leachate level breaches over the 2m and 3m above base limits occurred in all cells apart from Cell 3 which remained compliant throughout the quarter. The leachate rest levels, above the compliance levels, were Cell 1 (0.94m), Cell 2 (0.77m), Cell 4 (0.57m), Cell 5 (1.83m) and Cell 6 (2.53m).

This has been scored a CCS3 breach of Permit, Condition 2.7.1, in line with previous non-compliances.

Action 8: Continue to manage levels by extracting leachate from site and ensure Action 3 from CAR_NRW0037850 is completed.

5.2 Leachate analysis

Quarterly leachate sampling was undertaken in June 2021.

5.3 Emissions to Sewer

All parameters were compliant with the Welsh Water discharge consent.

6. Reporting - Schedule 5 Notifications

Condition 4.3.1 of the permit requires notification of breaches of the permit to be submitted to NRW without delay. These notifications have not been submitted consistently throughout the quarter and more detail is required in the Part Bs.

Any perimeter gas borehole breaches of ELVs should be reported monthly, and any groundwater or surface water breaches of ELVs reported quarterly. As previously advised Schedule 5 Notifications for elevated leachate levels are not needed until such point that the leachate levels are fully compliant.

This has been scored a CCS4 breach of Permit, Condition 4.3.1.

Action 9: Please ensure Schedule 5 Notifications for all breaches are submitted in accordance with Condition 4.3.1 and the comments above.

7. Outstanding Actions

There are a number of previous actions (in addition to those identified above) still to be completed from CARs NRW0037850, NRW0037871 and NRW0037320.

Action 10: Please ensure all actions from previous CARS are reviewed and closed out. This includes updating NRW on progress.

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.

What are suspended scores?

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 and Waste action criteria (used in section 1 and 2):**A: Permitted activities**

- A1 Specified by permit

B: Infrastructure

- B1 Infrastructure – Engineering for prevention and control of emissions
- B2 Infrastructure – Closure and decommissioning
- B3 Infrastructure – Site drainage engineering (clean and foul)
- B4 Infrastructure – Containment of stored materials
- B5 Infrastructure – Plant and equipment

C: General management

- C1 General management – Staff competency/training
- C2 General management – Management system and operating procedures
- C3 General management – Materials acceptance
- C4 General management – Storage, handling, labelling and segregation

D: Incident management

- D1 Incident management – Site security
- D2 Incident management – Accidents, emergency and incident planning

E: Emissions

- E1 Emissions – Air
- E2 Emissions – Land and groundwater
- E3 Emissions – Surface water
- E4 Emissions – Sewer
- E5 Emissions – Waste

F: Amenity

- F1 Amenity – Odour
- F2 Amenity – Noise
- F3 Amenity – Dust/fibres/particulates and litter
- F4 Amenity – Pests/birds and scavengers
- F5 Amenity – Deposits on road

G: Monitoring and records, maintenance and reporting

- G1 Monitoring and records, maintenance and reporting – Monitoring of emissions and environment
- G2 Monitoring and records, maintenance and reporting – Records of activity, site diary/journal/events
- G3 Monitoring and records, maintenance and reporting – Maintenance records
- G4 Monitoring and records, maintenance and reporting – Reporting and notification to Natural Resources Wales

H: Resources efficiency

- H1 Resource efficiency – Efficient use of raw materials
- H2 Resource efficiency – Energy efficiency

Enforcement response

Any permit condition non-compliance 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 20 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 – 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.