

Compliance Assessment Report CAR_NRW0052948

Permit being assessed: JP3239ST.

For: Lamby Way Landfill Site EPR/JP3239ST, **held by:** The County Council of the City and County of cardiff

At: Lamby Way Landfill Site Lamby Way , Cardiff, Cardiff, CF3 8EQ.

Type of assessment: Report/Data Review,

Reason: Routine.

On: 30/06/2026.

Parts of permit assessed: IR4B, IR3A(1), IR3A(2), IR2I.

NRW Lead Officer: Brigid Armstead.

Report sent to: Contracts Manager, Contracts Manager, on 15/09/2026.

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

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
IR4B - Installations - Information - Reporting	C4 No impact (Suspended)	4.2.2
IR3A(1) - Installations - Emissions and monitoring - Emissions to water	C3 Minor (Suspended)	3.1.2
IR3A(1) - Installations - Emissions and monitoring - Emissions to water	C3 Minor	3.1.2 SW Ammonium Q1
IR3A(1) - Installations - Emissions and monitoring - Emissions to water	C3 Minor	3.1.2 SW Ammonium Q2
IR3A(1) - Installations - Emissions and monitoring - Emissions to water	C3 Minor	3.1.2 GW Ammonium Q1
IR3A(1) - Installations - Emissions and monitoring - Emissions to water	C3 Minor	3.1.2 GW Ammonium Q2
IR3A(2) - Installations - Emissions and monitoring - Emissions to air	C4 No impact	3.3.5 Methane perimeter gas Q1
IR3A(2) - Installations - Emissions and monitoring - Emissions to air	C4 No impact	3.3.5 methane perimeter gas Q2
IR3A(2) - Installations - Emissions and monitoring - Emissions to air	C4 No impact	3.3.5 CO2 perimeter gas Q1
IR3A(2) - Installations - Emissions and	C4 No impact	3.3.5 CO2 perimeter

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
monitoring - Emissions to air		gas Q2
IR2I - Installations - Operations - Leachate levels (only applicable to landfill)	C3 Minor	2.9.1. leachate level Q1
IR2I - Installations - Operations - Leachate levels (only applicable to landfill)	C3 Minor	2.9.1. leachate level Q2

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

Total non-compliances recorded	Total non-compliance score
12	24.4

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
IR4B	Ensure that monitoring results for oils and greases at surface water outfall points are submitted to NRW on a quarterly basis.	Already completed
IR3A(1)	Provide a copy of the surface water BOD monitoring procedure.	31/01/2027
IR3A(1)	Provide an update to the plan for ensuring that surface water emissions are compliant with the permit requirements.	31/01/2027
IR3A(1)	Provide an update to the plan for ensuring that surface water emissions are compliant with the permit requirements.	31/01/2027
IR3A(1)	Provide an update to the improvement plan for ensuring that the site is compliant with the groundwater requirements of the permit	31/01/2027
IR3A(1)	Provide an update to the improvement plan for ensuring that the site is compliant with the groundwater requirements of the permit.	31/01/2027
IR3A(2)	Provide any GC analysis previously undertaken to identify ground gas sources in the area as per NRW request following 2022 Gas Risk Assessment. If this is not available, please confirm whether this was carried out. Provide documented procedures and logs of regular inspection and maintenance for the perimeter gas monitoring wells.	31/10/2026
IR3A(2)	Provide documented procedures and logs of regular inspection and maintenance for the perimeter gas monitoring wells	31/10/2026
IR3A(2)	Provide an update on the improvement plan for ensuring that CO2 levels are compliant with the permit requirements	31/01/2027
IR3A(2)	Provide an update on the improvement plan for ensuring that	31/01/2027

Criteria	Action needed	Complete by
	CO2 levels are compliant with the permit requirements.	
IR2I	Provide an update to the improvement plan for ensuring compliance with the leachate limit requirements of the permit.	31/01/2027
IR2I	Provide an update to the improvement plan for ensuring compliance with the leachate limit requirements of the permit	31/01/2027

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

The purpose of this Compliance Assessment Report (CAR) is to record Natural Resources Wales' (hereafter NRW) assessment of The County Council of the City and County of Cardiff (hereafter CCC) quarter 1 (Q1) and quarter 2 (Q2) 2026 monitoring returns for Lamby Way Landfill.

IR4B Reporting

CCC submitted quarterly emission monitoring reports for Q1 2026 on 28th April 2026 and Q2 on 24th July 2026, both in compliance with permit condition 4.2.2(a).

IR3A(1) Emissions to Water

Surface water

The permit requires monthly monitoring of surface water (SW) for oils & greases, BOD and ammonia. The limits for these parameters were determined based on the water quality standards expected in the Rhymney River. The surface water quality emissions limits stated in the Permit are as follows:

- Ammonia 0.17mg/l
- BOD 3.35mg/l
- Oils and greases – no visible trace.

Monthly monitoring data was received for ammonia and BOD in SW1- SW6 with the following exceptions.

- SW1 was not monitored in Q1 as the site was dry.

SW oils and greases

The SW oil and grease monitoring results were not included with the Q1 or Q2 2026 reporting. However, the Quarterly trend analysis includes a statement assuring that during the first and second quarter, there was no visual observation of grease/ oil of the surface water samples. The permit requires weekly monitoring for oils and greases at surface water outfall points. Water samples are required monthly, therefore the absence of oils and greases in monthly samples does not satisfy this requirement.

Failure to submit the oil and grease monitoring data is a breach of condition 4.2.2 and has been assigned a **category 4 (no environmental impact) non-compliance**. (suspended). This score is suspended due to operators providing evidence that weekly written records of oil and grease observations are kept but not transferred to digital records. A recent copy of these records was provided and a commitment was made to include these findings with future quarterly reports.

CAR_NRW0050795 Action: Ensure that monitoring results for oils and greases at surface water outfall points are submitted to NRW on a quarterly basis. **Action closed.**

SW BOD

In Q1, all results for BOD were below the BOD trigger level. In Q2 SW6 breached the BOD trigger level of 3.35mg/l with a result of 19.1mg/l.

Site	Jan	Feb	Mar	Apr	May	Jun
SW1	N/A	Dry	N/A	Dry	Dry	Dry
SW2	2.4	1.1	<0.4	1.3	1.9	1.3
SW3	1.1	1.1	<0.4	0.5	0.8	0.7
SW4	2.4	1.7	1.2	1.3	2.1	1.3
SW5	0.8	1.1	<0.4	1.5	2.7	1.7
SW6	1.2	0.7	0.5	19.1	18.2	3.6

The BOD limit breach in surface water has been assigned a **category 3 minor non-compliance** with permit condition 3.1.2 for Q2. (suspended)

CCC plan to review their surface water sampling technique as the monitoring results for SW6 may have been influenced by lack of flow at this location. The C3 non compliance for BOD at SW6 has been suspended pending this review and further results.

Action 1: Provide a copy of the surface water BOD monitoring procedure. **Due 31.01.2027**

Ammonia

In Q1, SW2, SW3, SW5 and SW6 breached the ammonium trigger level of 0.17. In Q2, SW2 and SW4 breached the ammonia trigger level of 0.17.

The ammonium limit breaches in surface water have been assigned **category 3 non compliances with permit condition 3.1.2 for each reporting quarter.**

Table 2. Q1 and Q2 2026 Ammonia in SW

Site	Jan	Feb	Mar	Apr	May	Jun
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SW1	N/A	Dry	N/A	Dry	Dry	Dry
SW2	0.69	0.01	0.13	0.68	0.34	0.03
SW3	0.35	0.37	0.08	0.08	0.06	0.15
SW4	0.06	0.04	0.08	0.09	0.13	0.09
SW5	0.03	0.07	0.46	0.74	0.19	0.84
SW6	0.02	0.13	1.9	0.08	0.03	5.4

CAR_NRW0050795 Action: Provide an update to the root cause and improvement plan for ensuring that surface water emissions are compliant with the permit requirements. **Action closed.**

CCC have advised that the existing sampling points will be reviewed to ensure that samples are representative of site discharges and are protected from the influence of seawater ingress and standing water, reducing the potential for sample contamination or dilution. Monitoring results will continue to be reviewed to confirm that the revised arrangements provide accurate and reliable compliance data. Following implementation of these improvements, CCC proposes a review of the permit compliance limits to ensure they remain appropriate and representative of the receiving environment.

Action 2: Provide an update to the plan for ensuring that surface water emissions are compliant with the permit requirements. **Due 31 January 2027**

Groundwater

The following groundwater boreholes are monitored for ammoniacal nitrogen monthly and for cadmium, nickel, mecoprop and M, p-xylene on a quarterly basis.

Location	Borehole
Up gradient monitoring point	C1
Down gradient LWEE	C2, C3, C4
Down gradient LWS	C6, C7, C8, C9, C10, C11, C12, C13, C14, C15
Down gradient LWEE and LWS	C5, C16, C18, C19, C20, C21, C22
No longer monitored	C7, C9, C13, C15

CAR 239079 (24/06/2015) states that the proposed compliance limits for Amm N and Cd in the 2013 Addendum to the 2010 HRA Review were accepted, and the proposals to reduce the number of down-gradient monitoring sites by discontinuing C7, C9, C11, C13 and C15 is accepted. The 2021 HRAR agreed with NRW recommends that the groundwater monitoring is continued at the C series boreholes and that monitoring of cadmium, nickel, mecoprop and m p-xylene are monitored quarterly rather than every four months.

Monthly ammoniacal nitrogen results were reported for the required boreholes in Q1 and Q2 2026. Cadmium, nickel, m p-xylene and mecoprop results were reported for February and May 2026.

In Q1 2026 the permit limit for ammoniacal nitrogen was breached in monitoring point C2. In Q2 2026 the permit limit for ammoniacal nitrogen was breached in monitoring point C16. These breaches have been assigned a **category 3 minor non compliances with permit condition 3.1.2. for each quarter.**

In Q1 the ELV for P Xylene of 1ug/l was breached at monitoring points C2, C3, C6, C8, C16, C18-C21. Upgradient site C1 also breached the compliance limit for Xylene. These results are similar across upstream and downstream sites and the levels have returned to below detectable levels on Q2 testing.

In Q1 the ELV for Mecoprop of 0.05ug/l was breached C8. The result is considered to be compliant when the reported uncertainty is considered.

No non compliances were reported for nickel or cadmium throughout Q1 and Q2 2026.

Following groundwater Amm N non compliances in Q1 and Q2, CCC have submitted an Assessment of Tidal Influence on both the landfill site and the ground water monitoring points. The report (2612r1v1d0726) was submitted to NRW on 17th July 2026 and concludes that “Tidal influences appear to be limited to groundwater in closest proximity to the tidal channels with the inherent low permeability of the strata limiting more widespread influence.”

CAR_NRW0050795 Action: Provide an update to the root cause and improvement plan for ensuring that the site is compliant with the groundwater requirements of the permit. **Action closed**

CCC have advised that with reference to the revised CSM the review of monitoring data indicates that groundwater remains separated from the landfill, with groundwater levels below the base of the site. However, as groundwater monitoring has exceeded permit compliance levels. CCC will continue to work with the consultants who produced the CSM to review the groundwater monitoring results and identify the root cause of these exceedances, including any potential influence from natural background conditions, tidal effects, or seawater intrusion.

Action 3: Provide an update to the improvement plan for ensuring that the site is compliant with the groundwater requirements of the permit. **Due 31 January 2027.**

Perimeter landfill gas

Permit Condition 4.2.2a requires quarterly reporting of the weekly monitoring of methane (CH₄) and carbon dioxide (CO₂) levels at perimeter boreholes G1-G23.

CH₄ levels reported for Q1 and Q2 2026 were compliant with the permit limits in monitoring wells G1-G21, except for G6 in Q1. No data was available from G22. Monitoring results from G6 and G23 were above the limit specified in the permit when monitored in Q1 and only G23 was above the limit in Q2.

The perimeter gas CH₄ limit breaches have been **assigned a category 4 minor non-compliance with permit condition 3.3.5 for each quarter.**

CAR_NRW0050795 Action: Provide an update to the root cause and improvement plan for ensuring that CH₄ levels are compliant with the permit requirements. **Action closed.**

CAR_NRW0050795 Action: Provide a root cause and improvement plan for ensuring that CO₂ levels are compliant with the permit requirements. **Action closed.**

CAR_NRW0050795 Action: CCC are required to provide justification for the removal of G22 from the monitoring requirements of the permit, and to ensure that this justification is included in the next permit variation application **Action closed.**

The EPG Compliance Assessment (June 2026) concluded that elevated methane (CH₄) and carbon dioxide (CO₂) concentrations recorded in perimeter boreholes are most likely attributable to naturally occurring biogenic gases generated within the Alluvium and peat deposits, or aged gases released during borehole installation, rather than landfill gas migration. Elevated readings are associated with periods of prolonged rainfall, groundwater rise, and borehole flooding, which promote the accumulation and release of naturally occurring gases. The assessment found no evidence of a persistent landfill gas signature or a credible off-site migration pathway from the landfill, and therefore no significant risk to receptors from landfill gas migration. The assessment determined that continuation of routine perimeter gas monitoring provides limited technical value as the monitoring results are influenced by natural ground conditions rather than landfill emissions.

During a site visit on 11th August 2026, the perimeter gas monitoring wells were inspected and found to be in good condition with no signs of vegetation dieback, cracks and differential compaction.

NRW have received the EPG report Compliance Strategy Review, Lamby Way Landfill, dated 05 June 26 (report ref 000852 v1) and the radiocarbon dating data which have been accepted and are subject to review. In order to fully assess these, NRW require further information as per the following Action.

Action 4: Provide any GC analysis previously undertaken to identify ground gas sources in the area as per NRW request following 2022 Gas Risk Assessment. If this is not available, please confirm whether this was carried out. **Due 31 October 2026.**

Action 5: Provide documented procedures and logs of regular inspection and maintenance for the perimeter gas monitoring wells. **Due 30 October 2026.**

CO₂ levels reported for Q1 2026 exceeded the compliance limits in 80 out of 215 results reported. CO₂ levels reported for Q2 2026 exceeded the compliance limits in 94 out of 249 results reported.

The perimeter gas CO₂ limit breaches have been **assigned a category 4 minor non-compliance with permit condition 3.3.5 for each quarter.**

CAR_NRW0050795 Action: Provide a root cause and improvement plan for ensuring that CO₂

levels are compliant with the permit requirements. **Action closed.**

CAR_NRW0050795 Action: Provide an update on the improvement plan for ensuring that CO2 levels are compliant with the permit requirements. **Due 31 January 2027.**

Monitoring results for G22 were not submitted for Q1 or Q2. CCC have advised that G22 and G23 were damaged by contractors on site. G23 has been restored, but it has not been possible to locate G22, CCC are therefore looking to remove G22 from the monitoring requirements.

Leachate

Leachate levels

Permit condition 4.2.2 requires quarterly reporting of leachate levels for L1-L9 (LWEE) and SL1-SL9 (LWS).

Leachate level data was reported for L1 - L6, MH5, LX, LE01 (LWEE) and SL1 and SL3-SL9 (LWS).

CCC have advised NRW that considerable work has been undertaken on the leachate treatment plant to enable an increase in the quantity of leachate removed from site. Additional leachate pumps have been installed at strategic positions across the site to enable additional extraction of leachate, which in turn has led to the reduction in leachate head.

In Q1, leachate levels exceeded 2m in L2, L3, L5, MH5, LX and LE01.

In Q2, leachate levels exceeded 2m in L2, L3 and LE01.

The leachate level limit breaches have been assigned a **category 3 minor non- compliance with permit condition 2.9.1 for each quarter.**

CAR_NRW0050795 Action: Provide an update to the root cause and improvement plan for ensuring compliance with the leachate limit requirements of the permit. **Action closed.**

Action 6: Provide an update to the improvement plan for ensuring compliance with the leachate limit requirements of the permit. **Due 31 January 2027**

Emissions to Sewer

Permit condition 4.2.2 requires quarterly reporting of volumetric measurements from the Leachate Treatment Facility.

The leachate treatment facility is limited to 530m³ per day.

In Q1 a total of 19797m³ of effluent was reported to have been discharged from the treatment facility. This averages 219.5m³ per day, which is below the 530m³ per day the discharge consent update 07/10/2019.

In Q2 a total of 14986 m³ of effluent was reported to have been discharged from the treatment

facility. This averages 166.5m³ per day, which is below the 530m³ per day the discharge consent update 07/10/2019.

END

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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 required for the permit condition assessed to avoid non-compliance. No non-compliance scored at this time
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(1) – Emissions to water
- IR3A(2) – Emissions to air
- IR3A(3) – Emissions to 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.

Disputing the Content of this Compliance Assessment Report Form

If you disagree with the content of this Compliance Assessment Report form, you should submit your concerns, in writing, to the regulating officer who issued it within **15 working days** of its issue. This will be treated as a **Stage 1 review**.

If you are not satisfied with the outcome of the stage 1 review, you may request a **Stage 2 appeal**. This request must be submitted **within 21 working days** of receiving the response from the stage 1 review.

Further details on our review and appeal process are available at: [Natural Resources Wales / Appeal a regulatory decision from Natural Resources Wales](#)

Concerns Not Related to the Content of this Compliance Assessment Report Form

If your concerns do not relate to the content of the Compliance Assessment Report form, you should first attempt to resolve the issue with the regulating officer or their line manager.

If the issue remains unresolved, please contact our **Customer Contact Team**:

- **Telephone:** 0300 065 3000 (Monday to Friday, 09:00–17:00)
- **Email:** enquiries@naturalresourceswales.gov.uk

They will provide details on how to escalate your concerns through our **Complaints and Commendations procedure**.

If you are dissatisfied with our response, you may contact the **Public Services Ombudsman for Wales**:

- **Telephone:** 0300 790 0203
- **Email:** 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.