

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

Site	Bryn Pica Landfill EPR/DP3732SQ	Permit Ref	DP3732SQ		
Operator/Permit holder	Cynon Valley Waste Disposal Company Ltd				
Regime	Installations				
Date of assessment	14/05/2020	Time in	N/A	Out	N/A
Assessment type	Report/Data Review				
Parts of the permit assessed	Annual Returns				
Lead officer's name	Taylor, Richard				
Accompanied by					
Recipient's name/position	Lee Foulkes/ Technical Manager	Date issued	15/05/2020		

Section 1 – Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations or the licence under the Water Resources Act 1991 as amended by the Water Act 2003. A detailed explanation is captured in "Compliance Assessment Report Detail" (Section 2) and any actions you may need to take are given in the "Action(s)" (section 4). 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	CCS Category	Condition(s) breached
KEY: See Section 5 for breach categories, suspended scores will be indicated as such. A = Assessed or assessed in part (no evidence of non-compliance), X = Action only, O = Ongoing non-compliance, not scored.		

Number of breaches recorded	0	Total compliance score (see section 5 for scoring scheme)	0
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If the Number of breaches recorded is greater than zero, please see Section 3 for 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 (eg. 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 advice given
- Any other areas of concern
- Any actions requested
- Any examples of good practice
- A reference to photos taken

Bryn Pica Landfill – DP3732SQ

Annual Reports review for reporting year 2019.

The purpose of this CAR form is to formerly record NRW's review of the site performance during 2019. Site requested a 2-week extension to the submission deadline, and we received the annual report on 14th Feb 2020. The annual return consists of 8 documents which have been reviewed as follows.

1.0 Leachate.

The annual figures for site leachate were within permit limits. Site reports that its limits of 1m above the baseline were not breached throughout 2019. No limits are applied to site treated effluent. Phase 1 leachate ammonia strength is approximately 15% stronger than the average landfill site in the UK. Electrical conductivity is similar, however, leachate from phase 1 is treated through the on-site effluent treatment works to be processed. This results in a homogenous effluent leaving site. Phase 3 reported a rising level of ammonia and electrical conductivity. Phase 4a reported a levelling off from 2018. Site leachate is collected and treated through the site leachate plant with a capacity of 200m³ per day. Treated leachate is transferred to the foul sewer network via a 1.5km pipe.

2.0 Groundwater.

Permit limits are set for Ammoniacal Nitrogen, Chloride, Zinc, Cadmium, Mercury, Mecoprop and naphthalene. Site performance during 2019 showed that these limits were not breached for groundwater. Site routinely monitor for a wider suite of potential pollutants. GW5 had previously previous high levels of magnesium, potassium and sulphate. The 2019 level of magnesium was 158mg/l against the DWS of 50mg/l. This is a gradually reducing trend over the figures for 2018 and 2017 and will continue to be monitored in accordance with permit requirements. GW5 is situated near to neighbouring boreholes but at a much shallower depth to monitor the groundwater quality within the opencast backfill. Magnesium limits are not specifically given in the permit. It is likely that the origin of the elevated magnesium at GW5 may be from historical coal and ironstone mining activities. Site needs to be mindful of the parallel legislative standards in the DWS.

GW6 levels of ammoniacal nitrogen and chloride were below the permit limits in 2019 which indicates little percolation of leachate into the groundwater at this location.

3.0 Surface Water

Site has permit limits set at SW07 for Suspended solids, Mineral oil, Ammoniacal Nitrogen, Chemical Oxygen demand, and pH. Surface water is collected in a number of lagoons for settlement before discharge into a local tributary to the river Cynon. Site reports the same species against drinking water standards for several other points. No exceedances were observed during the reporting period. The overall surface water quality was seen to be improving slightly on previous years.

4.0 Landfill Gas

Through the site permit operator is responsible for the extraction of landfill gas and operation of the flare stack through the site permit. Phase 1 of the site consists of approximately 6Ha of landfill area. 5.3 Ha have been capped, 20 well sunk collect landfill gas which is fed to the landfill gas engines run on a separate permit operated by Infinis.

There are 22 wells over cells 3a and 3b connected to the gas engines via a web of a surface pipework matrix. In cell 4b (operating from Jan 2014 there are 12 wells connected bringing a total of 71 wells for the site plus several horizontal slotted pipes. Infinis staff manage the gas extraction and processing system as sub-contractors but have a separately permitted area within Bryn Pica where they are the operators of the landfill gas engines. Therefore, the management of the gas field is a mutually beneficial arrangement in terms of gas field performance optimisation.

Permit limits for methane and CO₂ are derived from Landfill guidance note LFTGN03 for sub-surface methane at 1% over background levels and <2.8% v/v for this site. Site reported an average of 585m³ per hour in 2019.

The results for Phase 1 BYPWM206 on the Western flank showed an average Oxygen content of 17% with a suction average of 0.1 which indicates the well is not working efficiently. Site need to check this well to ensure it is operating correctly. There were short spikes in Oxygen levels for two more wells, but these have returned to optimised performance, indicating good levels of maintenance on site.

Site has achieved an average Methane content of 47.2% and 0.7% Oxygen content in landfill gas during 2019. Early predictions in 2005 forecast maximum landfill gas production to be in 2025 for the site, but with changes to the waste types allowed to be input, the site is following a gas yield drop-off of approximately 1% from 2018.

Site has 2 areas of gas migration through the subsoil in the previously unlined phase 1 section. Even though the risk to human health has been assessed as negligible, the control of landfill gas from these locations should be made to prevent the escape of this gas which is has an acute global warming potential. The area has natural vegetation which can be placed under 'vegetation stress' through exposure to

components of landfill gas.

Annex 1 of the landfill directive requires that appropriate measures be taken to control the escape of landfill gas from landfilled waste. Therefore, to further assess the migration of this gas, we require you to estimate the quantity lost from these areas in 2019, and whether this is feasible to collect.

Regulation of landfill gas is based upon these principles;

- Effective engineered containment
- Active extraction ASAP
- Passive venting is not acceptable
- Optimisation of extraction efficiency
- Optimise energy generation
- Emission limits on all point source releases
- Emission monitoring of point and diffuse sources
- Ambient air monitoring where the site-specific risk justifies it.

The landfill regulations at Annex 1, chapter 4 lays down the measures to control gas from landfills. If it cannot be treated and used it must be flared, passive venting is not acceptable. Site propose to maintain the current regime of monitoring gas on a monthly basis, NRW agree to this approach.

- **Action 1– Site to assess the quantity of landfill gas lost through phase 1 in ground migration, and losses to air.**
- **Action 2 – Commission a feasibility study to collect migrating gas from phase 1.**

5.0 Annual Engineering Report

The report satisfies permit condition 4.2 concerning volumetric differences year on year, plus settlement behaviour, and remaining capacity.

- Volumetric difference 2018-2019 – 23,050 m³.
- An assessment of the settlement behaviour was included in the submission. All cells shown show minor differences year on year.
- Remaining Capacity – 2,872,895 m³

Site sent a cross sectional diagram of a section through AOD points over time which showed the settlement characteristics of the site. The diagram shows the base of site with annual levels plotted which produces a time sequence of the heights through the cross section.

End.



EPR Compliance Assessment Report

**Report ID:
CAR_NRW0036614**

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Site	Bryn Pica Landfill EPR/DP3732SQ	Permit Ref	DP3732SQ
Operator/Permit holder	Cynon Valley Waste Disposal Company Ltd	Date	14/05/2020

Section 3 – Enforcement Response

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.

Section 4 – Action(s)

This section summarises the actions identified during the assessment along with the timescales for when they will need to be completed.

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 verbally or 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.

See 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 that 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 fulfil 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 (eg. 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 its service
- Freedom of Information Act/Environmental 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 fifteen 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 officer's line managers using the informal appeals procedure. 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.

Welsh Language

If you would like this form in Welsh please contact your Regulatory Officer.