

Compliance Assessment Report CAR_NRW0039363

Permit being assessed: RP3733PC.

For: Trecatti Landfill, held by Biffa Waste Services Ltd

At: Trecatti Landfill Site, Fochriw Road, Merthyr Tydfil, Merthyr Tydfil, CF48 4AB.

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

On 31/12/2021.

Parts of permit assessed: Annual returns

NRW Lead Officer: Richard Taylor.

Report sent to: Simon Milford, Site Manager on 14/02/2022.

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

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
B1 - Infrastructure - Engineering for prevention and control of emissions	C4 No impact	2,8,1
B5 - Infrastructure - Plant and equipment	C4 No impact	1.1.1(b)
B5 - Infrastructure - Plant and equipment	C4 No impact	1.1.1(b)
E1 - Emissions - Air	C3 Minor	3.1.7
E1 - Emissions - Air	C3 Minor	3.1.7
A1 - Specified by permit	C3 Minor (Suspended)	3.3.1(a)

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

Total number of non-compliances recorded	Total non-compliance score
6	8.3

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
B1	Return to compliance limit	31/03/2022
B5	Review procedures for back up systems	31/03/2022
B5	Review back up systems provision in case of power outages	31/03/2022
E1	return to compliance limits	31/03/2022
E1	return to permit limits	31/03/2022
A1	Report Covid 19 effects on business continuity	Already completed

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.

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

Biffa Trecatti Landfill

Permit RP3733PC

Annual Reports round-up for 2021 reporting year.

Annual Report – pc 4.2.1 requirement.

Remaining Capacity – Site filled 120,985m³ of space during 2021. The remaining capacity is 5.5m³ which at current filling rates would mean the site reaching capacity in approximately 45 years – 2067.

1.0 Surface Water

Site pumped 190,395m³ surface water in 2021 via SWA.

SWA (81702001) North Western boundary and SWB (8172002) are both downstream monitoring points. SWC (81702003) is the Northern boundary upstream monitoring point.

1.1 Suspended solids – potential breach at SWB in Q3.

Results from SWA and SWB were higher than permit limits in July, but the upstream SWC showed higher levels than both readings. This indicates that the incoming flow had a high influence on the sites outgoing flows. Therefore, NRW will not apply a noncompliance to permit limits in this case where the incoming stream has a higher load than the outgoing stream despite the outflow exceeding permit limits.

In this case the incoming borehole had a suspended solid reading of +400mg/l and the outgoing SWB reading was 328mg/l against a permit limit of 100mg/l from a sample taken 30th July 2021. Site sent a schedule 5 notification to NRW at the Q3 submission. No scoring permit breach is applied.

2.0 Leachate

Site submitted permit condition S4.2 which shoed a total of 74,411m³ disposed through the effluent treatment plant in 2021.

Leachate is sampled quarterly for a suite of components including Chloride, AmmNi, Metals, Mecoprop and Naphthalene There are no permit limits set. Results are graphed to track trends in leachate quality. All results were well within permit limits throughout the year.

Permit limits apply to quantities of leachate on site. There are set limits for the depth of the wells. 8 wells (LW1-LW8) have a depth limit of 33m except LW5 and LW6 which is limited to 5m. 3 exceedances took place

during Q4 from LW4, LW8, and LW6.

- **Noncompliance to permit condition 2.8.1 for exceeding leachate depth in Q4 on 3 occasions. Combined score applies.**

0.1 points

3.0 Treated Effluent

Effluent is sampled monthly - 74,411m³ treated leachate was released to sewer during 2021. Permit limits are applied to Suspended solids, Ammoniacal Nitrogen, Temperature, Total Metals, Cyanide, Sulphide, and Sulphate.

Site complied with all permit limits throughout 2021, but power outages were responsible for some samples not being taken in January and September.

3.1 Suspended solids monitoring did not occur in January – due to equipment failure.

- **Noncompliance to permit condition 1.1.1(b). Cat 4 noncompliance applies.**

0.1 point

3.2. September - Monitoring did not occur due to a power outage discussed below.

- **Noncompliance to permit condition 1.1.1(b). Cat 4 noncompliance applies.**

0.1 point

4.0 Groundwater

8 monitoring points (GW1 and GW2, GW9,10,11,12,13) are monitored quarterly and annually. Permit limits for a suite of substances differ throughout the site and are borehole specific. NRW monitors overall trends in accordance with the LFTGN02 - H1 - Technical Annex to Annex (j): Hydrogeological Risk Assessments for Landfills and the Derivation of Groundwater Control Levels and Compliance Limits, v2.0, April 2010.

GW2 exceeded the compliance limit in Feb 2021 (Q1) with a reading of 17.7mg/l for Ammoniacal Nitrogen against a permit limit of 17mg/l. The uncertainty factor associated with the reading was +/-1.79mg/l when applied takes the reading below the permit limit. No permit limit noncompliance is applied.

In Q2, readings of 18.5mg/l for ammoniacal nitrogen in GW2 was recorded for a sample taken on 10th May. Again, the uncertainty factor applied takes the reading to within compliance limits.

5.0 Landfill Gas FID survey

Monthly readings are taken. Maximum values are reported. The results showed a general decline from a max 35ppm reading in Jan 21 to 6ppm in December 2021.

6.0 Complaints

Site claim 5 complaints for 2021 in their 2021 annual submission. NRW officially received 3 complaints.

WIRS 2100165 - Odour – Unsubstantiated

WIRS 2101579 – Odour – Unsubstantiated

WIRS 2107743 – Odour – Source identified elsewhere -not Trecatti – Therefore complaint is

unsubstantiated.

There were no substantiated complaints against the site for 2021. This follows a declining trend until 2015 which has stabilised at between 2 and 6 complaints per year since then.

7.0 External Boreholes

Site has 26 perimeter boreholes which have reportable limits for Methane and CO₂. Site reported exceedances in CH₄ at boreholes GB4, GB20 and GB22 between Jan and December. NRW see exceedances of methane and CO₂ levels as having a minor environmental effect and we apply a noncompliance against permit condition as in previous years.

Previously we have included CO₂ and Methane into the same noncompliance score rather than separate them out. We have also amalgamated each quarter into an applicable score for the year resulting in one consolidated score for the reporting period. However, this method goes against current NRW compliance assessment guidelines (Operational instruction 534_10 Issued 26/03/2013) as it was a site-specific legacy issue from previous years. NRW wish to update this scoring methodology for the 2021 reporting year and apply the current CCS guidance which records each non-compliant species for each quarter individually.

Extract – ‘NRW will enter one non-compliance for each limit value that is breached during a quarter, regardless of reporting period’

This is because the local legacy rules are out of line with current CCS guidance and regulation of other landfill throughout Wales.

7.1 List of borehole exceedances in 2021.

Methane exceedances

Q1 2021

BH4 – CH₄ limit 3% - Readings Jan 7.1%, Feb 12%, Mar 11.7%

BH22 – CH₄ limit 1% - Readings Jan 1.5%, Feb 14.2%, Mar 10%

6 individual CH₄ permit limit exceedances for Q1 2021.

Q2 2021

BH4 – CH₄ limit 3% - Readings Apr 24.6%, May 24.4%, Jun 30.9%

BH20 – CH₄ limit 1% - Readings Apr 9%, May 3.4%, Jun 3.5%.

BH22 – CH₄ limit 1% - Readings Apr 20%, May 16.4%

8 individual CH₄ permit limit exceedances.

Q3 2021

BH4 – CH₄ limit 3% - Readings Sep 10.1%

BH22 – CH₄ limit 1% - Readings Aug 11.9%, Sep 11.4%.

3 individual CH₄ exceedances.

Q4 2021

BH4 – CH4 limit 3% - Readings Oct 10.5, Nov 25.0.

BH20 – CH4 limit 1% - Readings Oct 1.5%.

BH22 – CH4 limit 1% - Readings Oct 11.9%, Nov 13.7%

5 individual CH4 exceedances

Throughout 2021 site had a total of 22 individual exceedances of methane in the outer boreholes with no declining trend. We apply a consolidated noncompliance to permit limit values at permit condition 3.1.7. where the 22 exceedances are combined into a single Cat 3 breach of the permit condition.

- **1 x Cat 3 breach of permit condition 3.1.7 for multiple exceedances in methane limits.**

4.0 points

CO2 exceedances**Q1 2021**

BH4 – CO2 limit 10% - Readings Feb 10.5%,

BH22 – CO2 limit 10% - Readings Feb 14.9%, 10.1%

3 individual CO2 exceedances

Q2 2021

BH4 – CO2 limit 10% Readings Jun 11.5%

BH20 – CO2 limit 1% Readings Apr 9.2%, May 3.4%, Jun 3.5%

BH22 – CO2 limit 1% Readings Apr 19.5%, May 18.1%.

6 individual CO2 exceedances

Q3 2021

BH22 – CO2 limit 10% Readings Aug 13.6%, Sep 13.4%.

2 individual CO2 exceedances.

Q4 2021

BH22 – CO2 limit 10% Readings Oct 12.9%, Nov 14.9%.

2 individual CO2 exceedances

Throughout 2021 there were 13 CO2 limit exceedances from the perimeter boreholes with no

declining trend. Again, the exceedances are combined into a single Cat 3 breach for 2021.

- **1 x Cat 3 breach of permit condition 3.1.7 for multiple exceedances in CO2 limits.**

4.0 points

8.0 Gas Compound

For 2021 the site flared off 493,231m³ of landfill gas and used 14,214,554 m³ through the battery of engines. This represents approximately 3% of the total amount. Therefore, site was exempt from invoking permit condition S3.2 where annual monitoring of the flare stack is required when used for over 10% of the time.

8.1 Landfill Gas Engines

Site provided an MCERT'ed company report. Results are corrected to standard reference conditions

Reference Conditions (REF) are: 273K 101.3kPa, dry gas, 5% oxygen and taken on 13th Oct 2021.

Trace Gas report - Pre and Post abatement results were shown. The results for Vinyl Chloride and Dichloromethane were notably higher in post abatement than pre. Hydrogen Sulphide results were not graphed due to relatively high values. The raw data shows this to be 98ppm at pre abatement and 0ppm post abatement. This equates to 148 mg/l – **note the monitoring company is not accredited by UKAS for this species**, so the results are for indicative purposes only. The Vinyl Chloride and Dichloromethane results are also not UKAS accredited but need to be watched closely to ensure that the results were anomalies, otherwise the increases may be down to traces being picked up within the abatement system.

4 of the 7 permitted engines were monitored. 2 engines are now out of action. Engines 1,4,5 and 6 provided results.

9.0 Topographical results

A map of the site was provided showing the results. 15 settlement points were measured and compared to the previous year showing + and – figures.

Surface Emissions survey

This showed hot spots for methane leakage from the site which indicate areas where collections of the gas could be made as well as repairs to current wells.

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10.0 Q4 report

Schedule Notification attached

- Surface Water – Points SWA and SWB exceeded the 100mg/l permit limit for October's monitoring with 332, and 354mg/l. Site sent a Schedule 5 notification on detection. There was insufficient flow for measurement for November and December. SWA is the North West boundary discharge point. SWB is the East boundary point.
- Leachate – Site reported leachate level breaches of the 33m permit limit with LW4 and LW8 recording 42.82m and 34.11m in November and LW4 at 44.62m in December. (See 5.0 Leachate above).
- No Monitoring Leachate levels in December due to Covid affected personnel.

NRW applies a statutory noncompliance to permit conditions for any issue which has been affected by Covid 19 – such as missed reporting due to personnel or contractor absence. This is non scoring but marks the issue for clarity.

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- **Non-compliance to permit condition 3.3.1(a) not carrying out monitoring due to Covid.**

0 points non scoring noncompliance

- Gas Boreholes- Site reported exceedances in Boreholes, 4, 20, and 22 for CO₂ and CH₄ which have 10% limits for CO₂ and variable limits for CH₄. During the quarter there were x2 CO₂ exceedances and x4 methane limit exceedances.
- Dust Monitoring – site exceeded the permit limit of 200mg/m²/day with a reading of 610 taken from point 81705002.

10.1 Q4 Landfill Gas engine results

Monitoring was conducted by external certified company on 28th Oct 2021. 5 out of 7 engines were operating. Engine 3 has been decommissioned. Engine 7 was not reported. The remaining engines carry limits for CO and NO. All limits were complied with, but Engine 4 came close to the CO limit of 1500 mg/m³ with 1459mg/m³. Site to continue monitoring this unit to ensure that emission levels do not slip into noncompliance.

10.2 Q4 Biogenie results

There was an exceedance in Decembers pH result with a reading of 8.3 against a maximum of 8.0. NRW are not concerned that this impacted the environment because all Biogenie process water is held back until compliant or sent to sewer after being further processed by the onsite effluent treatment plant for the wider landfill which Biogenie sits inside.

10.3 Q4 Asbestos monitoring results – all results were compliant to permit limits.

10.4 Q4 Inclinator results – The requirement for the inclinometers were removed at the last permit variation.

10.5 Schedule 5 reports – As well as notifying NRW of emission limit noncompliance's in scheduled quarterly reporting, Site sent the following 3 Schedule 5 forms during 2021.

- 19th May 2021 – Power Outage. Site used backup generators to pump gas to engines.
 - June 2021 – Inclinator readings unable to be obtained due to damage. The need for inclinometers was removed in the latest permit variation. No penalty is applied in this case.
 - 26th Sept 2021 – Power outage. Affected gas extraction pumps and water treatment equipment until a back up generator could be sourced.
- It is necessary to ensure stand-by power is available for the site to continue pumping operations to the gas field and the effluent treatment works. The pumps are vital pieces of kit for the site to continue operations. **Site need to maintain compliance with permit condition 1.1.1(b) where the operator shall manage and operate activities using sufficient persons and resources.**

Recommendation – NRW recommends a review of the standby power available to maintain vital working equipment to ensure compliance to permit conditions. This issue will be subject to

the next site audit where arrangements for dealing with power cuts will be examined.

.....End.

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.