

## Compliance Assessment Report CAR\_NRW0050273

**Permit being assessed:** NP3233XX.

**For:** Bridgend Waste Management Centre, **held by:** Tradebe Gwent Limited

**At:** Factory Lane, Pencoed, BRIDGEND, CF35 5BQ.

**Type of assessment:** Site Inspection,

**Reason:** Routine.

**On:** 17/10/2025 between 10:00 and 13:00.

**Parts of permit assessed:** 1.1.1(a) and 1.2 and 1.3 and 2.3 and 3.1.2 and 3.5.1 and 4.3.1

**NRW Lead Officer:** Geraint Harris.

**Report sent to:** Site Manager, Site Manager, on 02/01/2026.

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

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
IR2C - Installations - Operations - Operating techniques	Action only (X)	
IR2C - Installations - Operations - Operating techniques	Action only (X)	
IR2C - Installations - Operations - Operating techniques	Action only (X)	
IR2C - Installations - Operations - Operating techniques	Action only (X)	
IR3E - Installations - Emissions and monitoring - Monitoring	Action only (X)	
IR3E - Installations - Emissions and monitoring - Monitoring	Action only (X)	
IR3E - Installations - Emissions and monitoring - Monitoring	Action only (X)	
IR3E - Installations - Emissions and monitoring - Monitoring	Action only (X)	
IR3E - Installations - Emissions and monitoring - Monitoring	Action only (X)	
IR2C - Installations - Operations - Operating	Action only (X)	

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
techniques		
IR2C - Installations - Operations - Operating techniques	Action only (X)	
IR4C - Installations - Information - Notification	Action only (X)	
IR1A - Installations - Management - General Management	Action only (X)	
IR3A(1) - Installations - Emissions and monitoring - Emissions to water	Action only (X)	
IR2C - Installations - Operations - Operating techniques	Action only (X)	
IR2C - Installations - Operations - Operating techniques	Action only (X)	
IR2C - Installations - Operations - Operating techniques	Action only (X)	
IR3A(1) - Installations - Emissions and monitoring - Emissions to water	Action only (X)	
IR3E - Installations - Emissions and monitoring - Monitoring	Action only (X)	
IR2C - Installations - Operations - Operating techniques	Action only (X)	
IR3A(1) - Installations - Emissions and monitoring - Emissions to water	C3 Minor	3.1.2
IR3A(1) - Installations - Emissions and monitoring - Emissions to water	C3 Minor	Permit Condition 3.1.2
IR4C - Installations - Information - Notification	Action only (X)	
IR1A - Installations - Management - General Management	Action only (X)	
IR3E - Installations - Emissions and monitoring - Monitoring	Action only (X)	
IR3A(3) - Installations - Emissions and monitoring - Emissions to land	Action only (X)	
IR3A(3) - Installations - Emissions and monitoring - Emissions to land	Action only (X)	

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

Total non-compliances recorded	Total non-compliance score
2	8

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
IR2C	Action 1: Please provide a copy of FBLA 001 Analysis Matrix and any related procedures that detail how mercury screening is undertaken during pre-acceptance and acceptance.	02/02/2026
IR2C	Action 2: Details of the proportion of the 46,493.038 tonnes of waste received in 2024 that was screened for mercury, including the criteria used to trigger mercury analysis.	02/02/2026
IR2C	Action 3: Please provide Justification for why other wastes (in 2024) were not screened for mercury, explaining the decision-making process and any risk assessments applied.	02/02/2026
IR2C	Action 4: please provide representative examples of pre-acceptance analysis reports where mercury testing was undertaken, and confirmation of any waste streams that were rejected or diverted due to mercury content.	02/02/2026
IR3E	Action 5. Please provide a plan for reinstating daily mercury monitoring in compliance with permit conditions, including: How monitoring will achieve a limit of detection below the permit ELV of 10 µg/L. and Confirmation that daily monitoring will continue until sufficient evidence demonstrates that mercury concentrations are consistently low and stable, supported by both monitoring data and pre-acceptance screening, to justify any future request for reduced monitoring frequency.	02/02/2026
IR3E	Action 6: NRW would like to know if Hexavalent chromium testing was being carried out daily or per batch by Tradebe prior to their 2022 IC5 submission. Due 2nd of February 2026.	02/02/2026
IR3E	Action 7: If the answer to the above is yes, then please provide an explanation as to why this data was omitted from their response to IC5 back in 2022. Due 2nd of February 2026.	02/02/2026
IR3E	Action 8: NRW would like to know exactly what testing method has been used to test for Hexavalent chromium Cr (VI) by ALS (or any 3rd party including DCWW).	02/02/2026
IR3E	Action 9: NRW would like to know what testing method has been used to test for Hexavalent chromium Cr (VI) internally within Tradebe's Lab. Please also provide the procedure. Due 2nd of February 2026.	02/02/2026
IR2C	Action 10: Of the 17 batches that tested above the permit ELV for Cr(VI) in 2024, please confirm how many were discharged to sewer without any additional treatment.	02/02/2026
IR2C	Action 11: If any of these batches were subjected to additional treatment, please provide evidence of the actions taken and the subsequent monitoring results demonstrating	02/02/2026

Criteria	Action needed	Complete by
	that these actions successfully reduced Cr(VI) concentrations to within permit limits.	
IR4C	Action 12: For any effluent discharged to sewer with Cr(VI) concentrations above the permit ELV, please explain why these exceedances were not reported to NRW as non-compliances, in accordance with permit condition 4.3.1(b).	02/02/2026
IR1A	Action 13: What investigations were carried out to identify the cause of these exceedances?	02/02/2026
IR3A(1)	Action 14: Was any assessment made of potential environmental impact (e.g., sewer network, receiving water)? Please provides evidence.	02/02/2026
IR2C	Action 15: With regards to the other 16 times when the trigger limit for Cr(VI) was exceeded, please provide evidence that the trigger level actions stipulated in PBPR 100 Issue 4 for CR(VI) were undertaken.	02/02/2026
IR2C	Action 16: Were the trigger-level meetings and actions documented? If so, provide records.	02/02/2026
IR2C	Action 17: Were any process changes implemented after repeated exceedances? If so what was undertaken?	02/02/2026
IR3A(1)	Action 18: Tradebe's permit requires Tradebe to measure zinc and total chrome concentrations in their effluent in accordance with the ISO standard ISO 11885. Tradebe confirmed within their response to their improvement conditions that they would be measuring to this standard. Therefore, NRW would like to know why the three exceedances mentioned above were not reported to NRW at the time.	02/02/2026
IR3E	Action 19: Tradebe to confirm if Arsenic, Cadmium, Lead and Cyanide being tested daily? Due 2nd of February 2026.	02/02/2026
IR2C	Action 20: Tradebe have stated the following: "We are still carrying out lab trials to try and identify the best activated carbon to reduce/remove the very low levels of AOX that we are seeing in the effluent. NRW requests an update on this work with the intended finish time? Due 2nd of February 2026.	02/02/2026
IR3A(1)	Action 21: NRW request the monthly results of AOX monitoring since 02/10/2024.	02/02/2026
IR3A(1)	Action 22: Tradebe must implement weekly AOX testing until they can successfully show emissions are low and stable enough to warrant increasing the monitoring frequency.	02/02/2026
IR4C	Action 23: Please provide a Schedule 5 Notice with the completed part B section for both AOX exceedances stating your measures taken, or intended to be taken, to prevent a recurrence of the incident.	02/02/2026

Criteria	Action needed	Complete by
IR1A	Action 24: Please provide a root cause investigation into the AOX exceedances experienced in 2025.	02/02/2026
IR3E	Action 25: Effective from the 2nd February 2026, Tradebe shall implement the following monitoring requirements in Table 3 below. These requirements will remain in place until the operator can provide robust evidence demonstrating that any proposed reduction in monitoring frequency will not result in increased environmental risk or adverse impacts.	02/02/2026
IR3A(3)	Action 26: Since Tradebe’s Periodic Groundwater and Soil Monitoring (discussed below) highlighted that TOC levels were high, NRW requests that Tradebe investigate if the increased TOC levels could be linked to the observed defects within sump 2. Response due 31st March 2026.	31/03/2026
IR3A(3)	Action 27: NRW request a timeline for the proposed next steps as stipulated by Tradebe’s report and email. Response due 31st March 2026.	31/03/2026

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

**Outstanding Actions From Compliance Report CAR\_NRW0046371**

**Action 1:** Please review your energy usage for 2024 to identify any energy-saving opportunities or energy efficiency improvements. Please report your findings by the 28<sup>th</sup> of March 2025.

In response Tradebe have stated that over the past five years, electricity consumption at the site has shown a consistent downward trend, reducing from 30 MWh in 2020 to 23 MWh in both 2023 and 2024. This represents an overall reduction of approximately 26%, with 2024 maintaining the lowest recorded usage. These improvements reflect ongoing efforts to enhance energy efficiency across operations.

Several measures have already been implemented to support this reduction. All site lighting has been upgraded to energy-efficient LED fittings, delivering long-term savings and reducing overall electricity demand. In addition, Tradebe have engaged a consultant to review the solar PV proposal originally assessed in 2021. At that time, the payback period was estimated at seven years and considered economically unviable. This review will determine whether current market conditions make the investment more attractive.

Further improvements are planned through the phased replacement of existing flowmeters with a new model that offers an estimated 15% energy saving. The first replacement was scheduled for Q3 2025, with remaining units to be replaced as they fail.

Looking ahead, Tradebe will continue to monitor opportunities for renewable energy generation and maintain existing efficiency measures. Based on current analysis, no additional immediate opportunities have been identified beyond the initiatives already in progress.

**Action 2:** Please review your water and raw materials usage for 2024 with the aim of identifying any opportunities for improvements. Please report your findings by the 28<sup>th</sup> of March 2025.

The site has identified two initiatives aimed at reducing water consumption. Firstly, all taps will be replaced with self-closing, non-concussive models to prevent unnecessary water wastage. Secondly, a water-saving flush system will be installed in the site toilets. These measures are expected to deliver meaningful reductions in water usage while maintaining operational efficiency.

Raw material usage on site remains very low. Wherever possible, Tradebe already utilise waste streams as substitutes for virgin materials. For example, a waste caustic stream is currently used for pH adjustment. Tradebe have also trialled the use of waste ferric chloride; however, sourcing suitable material has proven challenging. Similarly, Tradebe have explored the use of waste polymer, but found the quality and consistency of the waste stream too variable to be viable. Despite these limitations, Tradebe continue to actively seek alternatives to product reagents.

It is important to note that the complexity of incoming wastes and increasingly stringent discharge limits, as set out in the Best Available Techniques Reference (BREF), make further reductions in reagent use extremely challenging. Nevertheless, Tradebe remain committed to identifying opportunities for improvement and will continue to review options as they arise.

### **Action 3**

Of all the substances/parameters that are required to be tested daily, please confirm if the highest 24-hour (or single batch) composite concentrations for each parameter/substance are being reported in every reporting period. Due: 4<sup>th</sup> March 2025.

Tradebe confirmed that the highest 24-hour (or single batch) composite concentrations for each parameter/substance are not currently being reported in every reporting period. Instead, reported parameters have been based on sampling analysis provided by DCWW (Dŵr Cymru Welsh Water).

### **Action 4**

If your answer is no, then please resubmit your 2024 monitoring returns with the highest concentrations. (pH requires highest and lowest readings). Due: 4<sup>th</sup> March 2025.

Tradebe responded:

“The answer to IR3E is **no**, and in response to IR4B, please see the attached sewer return for Q4 2024. The return now includes the data outlined in IR3E, with the exception of mercury. We have not been testing mercury daily, as we believed we had agreement with NRW to change the frequency to quarterly, similar to the arrangement agreed for Newport.

Reasoning for reduced frequency request:

1. Our internal limit of detection (LOD) for mercury is 20 µg/L, whereas the ELV is 10 µg/L. Daily monitoring would require investment in new equipment.
2. External analysis results have consistently shown mercury concentrations well below the ELV, so quarterly composite sampling was considered sufficient.
3. Mercury-containing wastes are screened out during pre-acceptance procedures.”

### Mercury

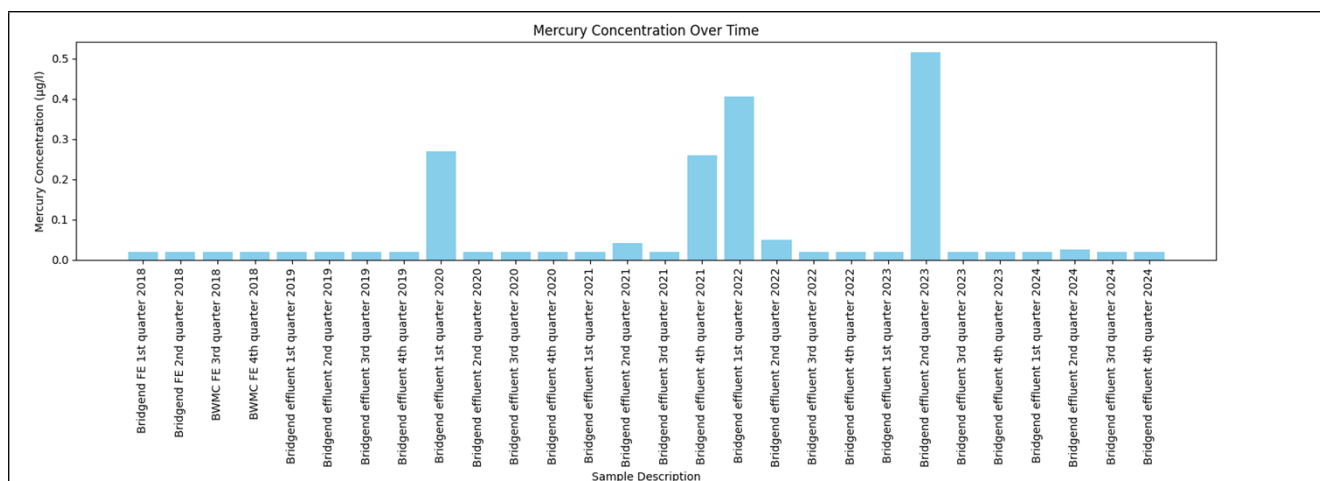
Tradebe’s environmental permit, for Bridgend Waste Management Centre (EPR/NP3233XX), requires daily monitoring of mercury in effluent against a fixed ELV of 10 µg/L, as specified in Schedule 3(b), Table S3.3. This requirement was reinforced by the site’s response to Improvement Condition 5 (Effluent Monitoring Program), which committed to daily monitoring with an internal trigger level of 8 µg/L (PBPR 100 Issue 4).

Mercury was added to the permit on 17<sup>th</sup> August 2022 under Waste Treatment BREF requirements. This means there has been a period of over three years where monitoring did not meet permit conditions. Under BAT Conclusions 7 and 20, the ELV for mercury is binding and must apply where mercury is relevant. While BAT 20 allows monitoring to be conditional on relevance, Tradebe Bridgend did not submit any justification or formal request to NRW to deviate from daily monitoring or exclude mercury from the wastewater inventory. Consequently, the requirement for daily monitoring remained in force.

Permit Condition 3.5.1 clearly states monitoring must be undertaken as specified unless otherwise agreed in writing by NRW. No such agreement was made with regards to the Bridgend site. Therefore, the change from daily to quarterly monitoring without written approval constitutes a breach of both permit conditions and BAT requirements.

Although quarterly monitoring results indicate that mercury emissions were low and stable, the absence of daily monitoring data prevented NRW from verifying compliance with permit conditions or accurately assessing environmental risk during this period. Mercury is classified as a high-risk substance due to its potential for severe environmental harm, including methylmercury formation, bioaccumulation, and disruption of ecosystems. Consequently, the failure to undertake the required monitoring for mercury represents a significant non-compliance and warrants further investigation.

Previous quarterly monitoring results show mercury concentrations remained consistently low, with the highest recorded value being just 5.15% of the ELV. Tradebe also confirmed mercury-containing wastes are screened out during pre-acceptance, reducing the likelihood of mercury entering the treatment process.



Tradebe's pre-acceptance procedure (*PBLA 121 Issue 2*) states:

- **2.1** Analysis of pre-acceptance waste samples comprises quantitative analysis for any components declared by the waste producer that could affect compliance with the PPC permit, discharge consent, waste processing, or residue disposal, and checks to ensure compatibility.
- **2.2** Samples will be analysed for determinants at the discretion of the Technical Manager, their representatives, or the Operations Manager, with typical determinants detailed in the FBLA 001 Analysis Matrix.

NRW now needs to establish the robustness of Tradebe Bridgend's pre-acceptance procedures for identifying and excluding mercury-contaminated wastes. This is essential to ensure that the risk of mercury exceedances post-treatment remains minimal. To assess this, NRW requires the following:

1. A copy of FBLA 001 Analysis Matrix and any related procedures that detail how mercury screening is undertaken during pre-acceptance and acceptance.
2. Details of the proportion of the 46,493.038 tonnes of waste received in 2024 that was screened for mercury, including the criteria used to trigger mercury analysis.
3. Justification for why other wastes (in 2024) were not screened for mercury, explaining the decision-making process and any risk assessments applied.
4. Representative examples of pre-acceptance analysis reports where mercury testing was undertaken, and confirmation of any waste streams that were rejected or diverted due to mercury content.

Under the Waste Treatment BREF and BAT Conclusions (specifically BAT 7 and BAT 20), the ELV for mercury is binding and cannot be altered. While BAT 20 allows monitoring frequency to be adjusted based on relevance, this does not permit any change to the ELV itself. Therefore, daily monitoring must be reinstated and maintained until Tradebe can demonstrate, through monitoring results and robust pre-acceptance evidence, that mercury levels are consistently low and stable enough to justify a reduced monitoring frequency.

5. A plan for reinstating daily mercury monitoring in compliance with permit conditions,

including:

- How monitoring will achieve a limit of detection below the permit ELV of 10 µg/L.
- Confirmation that daily monitoring will continue until sufficient evidence demonstrates that mercury concentrations are consistently low and stable, supported by both monitoring data and pre-acceptance screening, to justify any future request for reduced monitoring frequency.

**Actions 1-5 are due by the 2<sup>nd</sup> of February 2026.**

**Hexavalent Chromium Monitoring**

Tradebe’s permit requires daily monitoring of hexavalent chromium (Cr(VI)) in their effluent. While BAT 20 allows monitoring frequency to be adjusted based on relevance, this must be supported by robust evidence and agreed in writing with NRW. Tradebe stated in their response to improvement condition 5 that hexavalent monitoring was undertaken on a quarterly analysis by an accredited lab. Tradebe stated that external analysis showed no Cr(VI) present in the trade effluent and therefore requested that quarterly analysis was sufficient. It was agreed in compliance report CAR\_NRW0040524 that the results for Hexavalent Chromium are also considered low and stable enough that they can also be monitored Quarterly.

However, following Tradebe’s response to Action 4 above (CAR\_NRW0046371), it has become evident that internal daily monitoring data shows repeated exceedance of the permitted ELV for Cr(VI) (table 1). In fact, there were 17 exceedances within a single year, which is significant and raises serious compliance and environmental concerns. Hexavalent chromium was introduced into the permit on 17<sup>th</sup> August 2022 under the Waste Treatment BREF, meaning this requirement has been in force for over three years. It is unclear whether similar exceedances occurred between 2022 and 2024, but the recent data strongly suggests a pattern of non-compliance.

At this point it is unclear if there were exceedance before Tradebe submitted their response to IC5. It is also unclear if at the time of formulating their response to IC5 that Tradebe were undertaking daily/per batch testing of hexavalent chromium in their effluent.

**Action 6: NRW would like to know if Hexavalent chromium testing was being carried out daily or per batch by Tradebe prior to their 2022 IC5 submission. Due 2<sup>nd</sup> of February 2026.**

**Action 7: If the answer to the above is yes, then please provide an explanation as to why this data was omitted from their response to IC5 back in 2022. Due 2<sup>nd</sup> of February 2026.**

Table 1

Dates	Cr(VI)
00/01/1900	mg/L
00/01/1900	Gwent
00/01/1900	0

06/02/2024	0.224
19/02/2024	0.137
28/02/2024	0.101
01/03/2024	0.18
26/07/2024	0.132
19/08/2024	0.108
28/08/2024	0.115
04/10/2024	0.103
08/10/2024	0.114
09/10/2024	0.153
14/10/2024	0.14
15/10/2024	0.11
18/10/2024	0.199
22/10/2024	0.11
25/10/2024	0.14
05/11/2024	0.129
15/11/2024	0.131

Tradebe have stated that Hexavalent Chromium (Cr(VI)) was tested quarterly by ALS.

**Action 8: NRW would like to know exactly what testing method has been used to test for Hexavalent chromium Cr (VI) by ALS (or any 3<sup>rd</sup> party including DCWW).**

**Action 9: NRW would like to know what testing method has been used to test for Hexavalent chromium Cr (VI) internally within Tradebe's Lab. Please also provide the procedure. Due 2<sup>nd</sup> of February 2026.**

Tradebe's Sampling for Monitoring & Compliance procedure; PBPR 100 Issue 4, states "If the trigger levels in the below table 1 are reached, the site management must held a meeting and decide on the actions required to avoid reaching the maximum limit in the discharge by considering stopping the discharge, changes to the treatment, checks on filter presses and other equipment, re-treatment of the held effluent or treatment sludges, or further controls".

Tradebe's Tigger level for Hexavalent chromium is stated in PBPR as being 0.05mg/l. This figure was exceeded 33 times in 2024 with 17 of them exceeding the permit limit of 0.1 mg/l.

Requests for additional information:

- **Action 10:** Of the 17 batches that tested above the permit ELV for Cr(VI) in 2024, please confirm how many were discharged to sewer without any additional treatment.
- **Action 11:** If any of these batches were subjected to additional treatment, please provide evidence of the actions taken and the subsequent monitoring results demonstrating that these actions successfully reduced Cr(VI) concentrations to within permit limits.
- **Action 12:** For any effluent discharged to sewer with Cr(VI) concentrations above the permit

ELV, please explain why these exceedances were not reported to NRW as non-compliances, in accordance with permit condition 4.3.1(b).

- **Action 13:** What investigations were carried out to identify the cause of these exceedances?
- **Action 14:** Was any assessment made of potential environmental impact (e.g., sewer network, receiving water)? Please provide evidence.
- **Action 15:** With regards to the other 16 times when the trigger limit for Cr(VI) was exceeded, please provide evidence that the trigger level actions stipulated in PBPR 100 Issue 4 for CR(VI) were undertaken.
- **Action 16:** Were the trigger-level meetings and actions documented? If so, provide records.
- **Action 17:** Were any process changes implemented after repeated exceedances? If so what was undertaken?

**Please respond to actions 10-17 by the 2<sup>nd</sup> of February 2026.**

### Zinc

The 2024 monitoring data showed that zinc emissions exceeded the permit in 2024 twice (Table 2).

Table 2

Dates	Zn
00/01/1900	mg/L
00/01/1900	Gwent
00/01/1900	2
06/02/2024	<b>2.24</b>
07/10/2024	<b>3.769</b>

### Total Chromium

The 2024 monitoring data has identified that total chrome has exceeded the permit limit (0.43mg/l vs 0.3mg/l) on the 8<sup>th</sup> of April 2024. No notification.

**Action 18:** Tradebe's permit requires Tradebe to measure zinc and total chrome concentrations in their effluent in accordance with the ISO standard ISO 11885. Tradebe confirmed within their response to their improvement conditions that they would be measuring to this standard. Therefore, NRW would like to know why the three exceedances mentioned above were not reported to NRW at the time. **Due 2<sup>nd</sup> of February 2026.**

### Arsenic, Cadmium, Lead and Cyanide

**Action 19:** Tradebe to confirm if Arsenic, Cadmium, Lead and Cyanide being tested daily?  
**Due 2<sup>nd</sup> of February 2026.**

### AOX

In 2024 Tradebe reported two AOX exceedances. In 2025 to date, Tradebe has reported two AOX exceedances to Natural Resources Wales (NRW). The first occurred in Quarter 2 with a measured concentration of 3.11 mg/L, and the second in Quarter 3 with a concentration of 2.38 mg/L. On the 29<sup>th</sup> August 2024, Tradebe proposed increasing its AOX monitoring regime to monthly, and NRW agreed to this change in CAR Form CAR\_NRW0045335 issued on the 17<sup>th</sup> October 2025. The following is taken from compliance report CAR\_NRW0045335: AOX Monitoring as stated in compliance report CAR\_NRW0040524, BAT Conclusion 7 outlines the required monitoring frequencies for numerous parameters and substances. However, within the subtext at the bottom of the table of BAT 7 it states “Monitoring frequencies may be reduced if the emission levels are proven to be sufficiently stable”. Tradebe were initially granted a reduction in the monitoring frequency of AOX based on 15 sets of low and stable data. However, since issuing this compliance report, Tradebe have had intermittent elevated levels of AOX demonstrating that AOX levels are not stable. In response to this Tradebe have stated the following: “We are still carrying out lab trials to try and identify the best activated carbon to reduce/remove the very low levels of AOX that we are seeing in the effluent. Also, AOX covers a very broad group of chemicals, many of which are biodegradable. We would like to carry out further work to determine what form of AOX is present and if that form is actually hazardous to the environment. While the above work is in progress can I suggest we move the monitoring frequency to monthly and review once work has concluded.”

**Action 20: NRW requests an update on this work with the intended finish time? Due 2<sup>nd</sup> of February 2026.**

These breaches of the AOX ELV in 2025 are classified as **two Category 3 non-compliances** under NRW guidance, meaning they have the potential for minor environmental impact but still require corrective action. NRW consolidates non-compliance scores based on reporting periods to ensure consistency across operators. For emission limit value (ELV) breaches, we record one non-compliance per ELV per quarter, regardless of when the breach occurred within that period. Each quarter is treated as a separate reporting period, and any subsequent breaches in a new quarter are scored again. This approach ensures fairness and aligns with the principle that consolidation only applies within a single reporting period.

Adsorbable Organic Halogens (AOX) are a sum parameter used in environmental analysis to measure the total concentration of organic compounds containing chlorine, bromine, or iodine that can be adsorbed onto activated carbon. AOX serves as an indicator of contamination by a broad group of natural and synthetic halogenated organic compounds. Many synthetic AOX compounds are classified as persistent organic pollutants (POPs) because they resist natural degradation and have long half-lives. This persistence leads to accumulation in water bodies, soils, and the food chain, posing long-term environmental risks.

AOX compounds exhibit a wide range of toxic properties. Some are toxic, mutagenic, or carcinogenic to aquatic organisms and humans. Specific effects on aquatic life include carcinogenic outcomes in fish and zooplankton. When accumulated in the food chain, AOX compounds present potential health risks such as developmental and reproductive problems, endocrine disruption, and cancer. Their

presence in natural waters is a key indicator of contamination, and strict regulations limit AOX discharge from industrial effluents to protect ecosystems and humans. AOX are partially treated but largely dispersed in urban wastewater, as conventional treatment methods are not highly effective at removing many of these persistent pollutants. A significant amount of AOX passes through the treatment process and is discharged into the environment via treated effluent, while some also accumulates in the sewage sludge. **Consequently two Category 3 non-compliances against permit condition 3.1.2 are being issued.**

**Action 21: NRW request the monthly results of AOX monitoring since 02/10/2024.**

NRW agreed with Tradebe increasing the frequency to monthly and stated that If the results continue to show elevated AOX levels, this monitoring frequency may need to be reduced even further. The two exceedances that NRW are aware of in 2025, which is assumed to be based on monthly random sampling as agreed with Tradebe (see below). Since their continue to be exceedances, NRW requires that **weekly testing** is now appropriate, so to align with the requirements of the waste treatment BREF.

**Action 22: Tradebe must implement weekly AOX testing until they can successfully show emissions are low and stable enough to warrant increasing the monitoring frequency.**

**Action 23: Please provide a Schedule 5 Notice with the completed part B section for both AOX exceedances stating your measures taken, or intended to be taken, to prevent a recurrence of the incident.**

**Action 24: Please provide a root cause investigation into the AOX exceedances experienced in 2025.**

#### **Monitoring Going forward:**

CAR\_NRW0046371 Action 5: For HOI, AOX, CrVI, BTEX, PFOS and PFOA Tradebe is required to take one batch or 24-hour composite per reporting period. Tradebe must adopt a randomised monthly, quarterly or 6-monthly single batch sampling plan for these substances to comply with the permit and to demonstrate effluent composition stability. Please submit your plan by the 28<sup>th</sup> of March 2025.

In response Tradebe stated: “The randomised sampling approach taken for periodic monitoring of parameters on the Permit NP3233XX which are one month or greater will be that of systematic randomised sampling of batches. These batch samples will be taken on the second Tuesday of each calendar month, or failing this due to operational changes or unexpected public holidays, the next 24-hour sampling period during which discharge has occurred. This periodicity has been selected to prevent conflict with many public holidays in Wales, which fall on a Friday, Monday or the first and last week of a calendar month. This batch subsample will be obtained from a 24-hour flow corrected sample from the currently installed trade effluent autosampler. The parameters obtained from these subsamples will align with the periodicity on the permit, i.e. PFOA/PFOS every 6 samples, HOI every 1 sample.”

NRW are content with the above approach.

**Action 25: Effective from the 2<sup>nd</sup> February 2026, Tradebe shall implement the following**

monitoring requirements in Table 3 below. These requirements will remain in place until the operator can provide robust evidence demonstrating that any proposed reduction in monitoring frequency will not result in increased environmental risk or adverse impacts.

Table 3

Parameter	Frequency
Daily Discharge	Continuous
Peak Flow Rate	
pH	Once every day
Adsorbable Organically Bound Halogen (AOX)	<b>Weekly</b>
Temperature	Once every day
Free Cyanide (CN <sup>-</sup> )	Once every day
Arsenic (As)	Once every day
Cadmium (Cd)	Once every day
Chromium (Cr)	Once every day
Copper (Cu)	Once every day
Nickel (Ni)	Once every day
Lead (Pb)	Once every day
Zinc (Zn)	Once every day
Mercury (Hg)	<b>Once every day</b>
Hexavalent Chromium (Cr(VI))	<b>Once every day</b>
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)	Once every quarter
Hydrocarbon Oil Index (HOI)	Once every quarter
PFOA	Once every six months
PFOS	Once every six months

### Containment (CAR NRW0046371)

#### **GRP Tanks:**

With regards to the GRP tanks, the tank manufacturers specified design life should always be used, if this is not known 20,000 fill/empty cycles is the accepted maximum duty". Tradebe was asked how this is recorded and complied with and in response stated that "these tanks are very rarely used, currently there is an exercise being carried out to calculate the number of times the tanks have been filled using the data regarding tank levels. Once this is done, we will keep a spreadsheet with a running total of fills. Until this has been done the tanks will not be used". Tradebe stated that this has been completed but no evidence has been provided to date.

Action 6: Tradebe is to provide a copy of this spreadsheet via email, Due 28th March 2025.

Tradebe Responded stating that "the spreadsheets that historically capture this data, are not very user friendly, I have correlated into years from 2014 to 2024 and attached an example, they are fairly big

files if you would like to see them all I can share using OneDrive. The table below shows the fills over the past 10 years, which have been minimal. The spreadsheet capturing this data now has been changed and calculates the fills live, see attached FBRH 001”.

Year	I01 Fills	I02 Fills
2014	7	0
2015	0	0
2016	0	0
2017	0	0
2018	0	0
2019	0	0
2020	0	0
2021	0	0
2022	0	0
2023	0	0
2024	0	0
2025	0	0
<b>Total</b>	<b>7</b>	<b>0</b>

Evidence show that these GRP tanks for barely used and that they are nowhere near exceeding the 20,000 fill/empty cycles. NRW consider this action complete.

#### **Non-Haz Bund:**

Audit Action 4: Tradebe to provide an update on upgrading and reinforcing their secondary containment blockwork walls and expansion joints at the next compliance meeting.

Audit Action 5: Tradebe to provide an update on the inspection of the pipework at the next compliance meeting.

Since actions 4 and 5 are related to the Non-Haz bund, and this area of operations isn't currently in use, these actions haven't been completed yet. However, for the inspection of underground pipework from the Non-Haz bund, the written scheme of examination was still being developed during the December inspection.

CAR\_NRW0046371 Action 7: Tradebe to complete actions 3, 4 and 5 above, before commencing

operations of the tanks in the Non-Haz bund.

Section 7.3.2 of CIRIA 736 states that “the inside face of a blockwork bund should be rendered with a sand/cement render. Further protective coatings may then be required depending on the material stored in the primary containment”. During an onsite visit on the 17<sup>th</sup> of October 2025 it was evident that the brick work bunding that forms the non-hazardous bund had be subjected to improvements with a sand/cement render coated along the inside of the brickwork. The expansion joints were also found to have been improved. Actions 3 and 4 are considered complete.

**Tradebe to provide an update on action 5 above at the next compliance meeting.**

#### **Tertiary Containment:**

Tertiary containment must be impermeable to water and entrained or dissolved pollutants. The original inspection identified several cracks and aged joints within the tertiary containment and therefore it is highly likely that the tertiary containment is not impermeable to water. During the December 2024 inspection, Tradebe reported that their written schemes of examination were in the process of being approved. Action 8 of compliance report CAR\_NRW0046371 required Tradebe to provide an action plan for improving the integrity of the site’s tertiary containment. Due 28th March 2025. No action plan was provided, however, upon visiting the site on the 17<sup>th</sup> of October 2025, it was clear that work had commenced to improve the sites tertiary containment. The original cracks have now started to be filled, as witnessed on the 17<sup>th</sup> of October 2025 (See annex 2).

#### **Underground Pipework and Sumps:**

Tradebe was asked when the last time the sumps at Bridgend, including the main collection sump below the screen, were visually inspected and whether any hydraulic or leak testing had been undertaken in the past. In response, Tradebe stated that such testing hadn’t been undertaken previously. However, they have a plan to inspect both sumps in 2024. In response to action 8 (below), Tradebe stated that they hadn’t undertaken such testing to date (December 2024) but that it was planned for early 2025. This is because it requires some operational planning since such testing will require downtime. Audit Action 8: Tradebe to provide an update on the sump leak tests at the next compliance meeting. Action 9: Tradebe to provide an update on the inspection and leak testing of their sumps by the 28th of March 2025.

Tradebe provided a copy of their leak test result for sump 1 which was conducted on the 25/03/2025. The results showed no sign of leakage with the water level remaining constant over 12hr period. Tradebe reported that Sump 2 is currently not in use awaiting inspection and repair. This was discussed and observed on October the 17<sup>th</sup>. Sump 2 showed some signs of damage with cracks evident below the waterline marks.

**Action 26:** Since Tradebe’s Periodic Groundwater and Soil Monitoring (discussed below) highlighted that TOC levels were high, NRW requests that Tradebe investigate if the increased TOC levels could be linked to the observed defects within sump 2. **Response due 31<sup>st</sup> March 2026.**

#### **Periodic Groundwater and Soil Monitoring (permit Condition 3.1.4)**

3.1.4 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

NRW acknowledges receipt of Tradebe's Environmental Assessment Report (January 2025) and has reviewed it internally (Lead Specialist: Geraint Harris; Lead Specialist Advisor: Contaminated Land).

We also note your email dated 22<sup>nd</sup> January 2025 (RE: [EXTERNAL] IC 6), proposing to:

- Survey borehole datums relative to mAOD and record groundwater levels prior to water sampling; and
- Use those levels (as mAOD) to confirm groundwater flow direction and to categorise monitoring points as up-, mid-, and down-gradient.

NRW welcomes these proposals as they will improve the conceptual site model (CSM) and the robustness of periodic monitoring.

In Section 7 of your report you state:

“If there is considered a potential for soils to leach and impact groundwater then localised remediation, likely to comprise source removal, may be considered appropriate to protect shallow groundwater.”

This reads as risk-based remediation trigger(s). We remind you that under the environmental permit and at any potential future surrender the primary test is satisfactory state/no deterioration in the first instance, not purely risk-based decision-making. Where risk tools are used, they should support (not replace) demonstrating no deterioration relative to the baseline, and that relevant hazardous substances (RHS) are contained/controlled so as not to pollute soil or groundwater.

Tradebe also state: *“Total coliform levels and TOC are high for 'typical' groundwater, but both can include natural sources. The other parameters included within the recent groundwater analysis (metals only) are at relatively low concentrations (generally less than UK Drinking Water Standards, where standards apply). Therefore, we do not believe that ongoing sampling for these determinants is required, and the focus of future groundwater sampling should be a review of the potential organic contamination. To further investigate/characterise this, we'd recommend the groundwater analysis include:*

- BOD
- COD
- Ammoniacal-nitrogen
- TOC
- DOC
- Total coliforms
- Faecal coliforms
- Faecal streptococci
- Phosphorus (total reactive phosphorus)
- Nitrate
- Nitrite
- pH”

Your note suggests discontinuing routine metals analysis because recent results are generally below

UK DWS and that focus should shift to organics. Please note: RHS identification must follow the staged process (as per the EC guidance framework referenced in your report Table 5.1 process). The periodic monitoring programme should focus on RHS relevant to the installation (inputs, storage/handling, emissions risk), not solely on observed recent concentrations.

Where metals (or any other determinants) are plausible RHS given past or present activities/materials handled, NRW expects you to retain an appropriate level of coverage until the CSM and evidence demonstrate they are not relevant (or can be scoped out with clear justification). Conversely, we support your proposal to enhance organic contaminant coverage where the CSM indicates potential organic contamination.

At the point of permit surrender, NRW will hold the operator responsible for any contamination or other residual risks on the site unless we are convinced that the operator cannot reasonably be held responsible. Decisions to omit monitoring should be supported by clear evidence; otherwise, NRW may not be convinced that elevated parameters are unrelated to site activities at the point of surrender.

**Action 27: NRW request a timeline for the proposed next steps as stipulated by Tradebe's report and email. Response due 31<sup>st</sup> March 2026.**

### **Improvement condition 6**

NRW have received a response to improvement condition 6, this is currently being reviewed and an update will be provided in the next compliance report.

## **Annexes**

### **Annex 1 – Non Hazardous Tanks**





**Annex 2- Tertiary Containment**



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](mailto: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](mailto: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.