Compliance Assessment Report CAR_NRW0040817

Permit being assessed: AB3096CP.
For: Lamby Way Open Windrow Composting Facility, held by Welsh Water Organic Energy (Cardiff) Limited
At: Lamby Way, Rumney, Cardiff, CF3 4EQ.

Type of assessment carried out: Audit, Reason: Other.
On 17/02/2022 - 15/12/2022.
Parts of permit assessed: Operating Techniques

NRW Lead Officer: Geraint Harris.
Report sent to: Adrian Thomas, Contract and Relationship Manager on 15/12/2022.

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

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
A1 - Specified by permit	C3 Minor (Suspended)	Permit condition 2.4.1
A1 - Specified by permit	C3 Minor (Suspended)	Permit Condition 2.4.1
A1 - Specified by permit	Action only (X)	
A1 - Specified by permit	C3 Minor (Suspended)	Permit condition 2.4.1

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

Total number of non-compliances recorded	Total non-compliance score
3	0

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
A1	Provide the results of the additional monitoring by the 1st of March 2023	01/03/2023
A1	Please provide a timeline for when you plan to finish the work regarding longer probes and smaller windrows. Please ensure your timeline considers undertaking this work in the warmer months as well as winter.	06/01/2023
A1	Please provide a response to action 2	01/02/2023
A1	Please provide the results of the additional monitoring and the completed H1 analysis	01/03/2023

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

Welsh Water Organic Energy (WWOE) Improvement Conditions

Welsh Water Organic Energy's permit was varied following the publication of the revised Best Available Techniques (BAT) Reference Documents (BREF) for Waste Treatment. The associated BAT conclusions to this document were published on 17 August 2018 in the Official Journal of the European Union. This variation incorporates the changes required by the Industrial Emissions Directive following a statutory review of permits in the Waste Treatment sector. These include the amendment of the wording of several permit conditions relating to notifications, changes to emissions limits and monitoring requirements. Based on the information provided in the Regulation 61(1) response, NRW set a series of improvement conditions for WWOE to complete. These conditions and their responses are set out below.

Improvement Condition 1

The operator shall submit an updated written Fire prevention and mitigation plan for approval in writing by Natural Resources Wales.

WWOE response:
Fire Prevention and Mitigation Plan was received in February 2022 and has been accepted. Improvement condition 1 is complete.

Improvement Condition 2

BAT1

The operator shall submit for approval in writing by Natural Resources Wales information to evidence compliance with the following BAT requirements in accordance with requirements specified within BAT Conclusions of the Waste Treatment BREF Document (EU 2018) in relation to:
BAT 1 - Implement and adhere to an environmental management system (EMS) that incorporates all of the following features:

- *(VII) Following development of cleaner technologies;*
- *(VIII) Whole life cycle considerations when designing a new plant;*
- *(IX) Regular sectoral benchmarking;*
- *(X) Waste stream management;*
- *(XI) Inventory of wastewater & waste gas streams;*
- *(XII) Residues Management Plan.*

WWOE response:
To satisfy this improvement condition WWOE provided their composting site EQHMS manual, which lays out the scope of the management system, implementation, responsibilities etc. and refers to procedures in place for the operation of the site. WWOE also provided NRW with Freeland's Marketing Plan. This plan supports the contract with the local authority and is reviewed quarterly and contains general industry updates, any future improvements in processing the waste and final product, and competitive out lets for the final product. WWOE state that "as part of the contract with the local authority Freeland and WWOE must demonstrate the

operation of the site is sustainable and follows the waste hierarchy, and therefore how 'residues' are disposed of, and any new developments and outlets of both product and residues. This also includes looking at industry developments and evaluating process and procedures on site".

NRW are satisfied that the requirements of BAT 1 have been met and consider BAT 1 complete.

BAT 2

In order to improve the overall environmental performance of the plant, BAT is to use all of the techniques described within BAT 2 Table.

WWOE Response:
WWOE provided the following documents which encompassed all of the points within BAT 2.

- Freeland Cardiff Waste Acceptance Plan V4.1 Jan22
- Lamby Way Composting Site - Freeland Waste Acceptance Criteria
- 07 SOP Issue 10 Version 9 13.12.2021. (003)

Upon reviewing these documents NRW consider BAT 2 complete.

BAT 3

BAT 3 In order to facilitate the reduction of emissions to water and air, BAT is to establish and to maintain an inventory of wastewater and waste gas streams, as part of the environmental management system (see BAT 1), that incorporates all of the following features:

- *information about the characteristics of the waste to be treated and the waste treatment processes;*
- *information about the characteristics of the wastewater streams (including analysis of PFOS and PFOA); and*
- *information about the characteristics of the waste gas streams.*

WWOE response:
Information about the characteristics of the waste to be treated and the waste treatment process is detailed within the SOP mentioned in the response to BAT 2. WWOE only treat green waste at their Lamby Way facility and all wastewater generated at the site enters Welsh Water's sewer system. Information about the characteristics of the wastewater streams (including analysis of PFOS and PFOA) is still ongoing. In their response to BAT 6, WWOE provided NRW with an excel sheet called TE Results Lamby Way Composting Site (002). This details the characteristics of the wastewater stream (contaminates surface water) including pH, Ammoniacal Nitrogen and COD to name a few. There is a new permit requirement to monitor for PFOS and PFOA, due to an extended dry period during 2022, WWOE have not been able to obtain sufficient samples to quantify the quantity of PFOS and PFOA in their wastewater stream. Since WWOE have started to build up an inventory of wastewater streams this BAT conclusion is considered complete.

There are no point source emissions from the compost site. Therefore, no information about the characteristics of the waste gas streams from the site can be determined.

BAT 4

BAT 4 In order to reduce the environmental risk associated with the storage of waste, BAT is to use all of the techniques described within BAT 4 Table.

WWOE response:
The Fire Prevention and Mitigation Plan (FPMP) required by the new permit and Improvement condition 1 encompasses all of the requirements of BAT 4. As long as the site meets the Fire Prevention & Mitigation Plan Guidance it will be meet BAT 4.

BAT 4 is considered complete.

BAT 5

BAT 5 In order to reduce the environmental risk associated with the handling and transfer of waste, BAT is to set up and implement handling and transfer procedures.

WWOE response:
Document '07 SOP Issue 10 Version 9 13.12.2021. (003)' was provided as a response to BAT 5.

NRW have deemed that the information provided in this document as satisfying BAT 5, therefore, BAT 5 is complete.

BAT 6

BAT 6 For relevant emissions to water as identified by the inventory of wastewater streams (see BAT 3), BAT is to monitor key process parameters (e.g. waste water flow, pH, temperature, conductivity, BOD) at key locations (e.g. at the inlet and/or outlet of the pre-treatment, at the inlet to the final treatment, at the point where the emission leaves the installation).

WWOE response:
In their response to BAT 6, WWOE provided NRW with an excel sheet called 'TE Results Lamby Way Composting Site (002)' as evidence that key process parameters at key locations are being monitored.

NRW consider BAT 6 to be compete.

BAT 7

BAT 7 is to monitor emissions to water with at least the frequency given within BAT 7 Table, and in accordance with EN standards. If EN standards are not available BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.

WWOE response:
BAT 7 states that for chemical oxygen demand (COD), total nitrogen, total organic carbon (TOC), total phosphorous and suspended solids monitoring should be undertaken once every month for the biological treatment of waste for direct discharges to a receiving water body. WWOE do not directly discharge to a receiving water body, wastewater is instead directed to Welsh Water's sewer line for further treatment at their WwTW. The subtext at the bottom of the BAT 7 table states that either TOC or COD can be monitored. It also states that the monitoring applies only in the case of a direct discharge to a receiving water body. Since WWOE discharge to the local sewage works, the monitoring requirements mentioned above (BAT 7) are not required. WWOE state that "Trade effluent samples are scheduled monthly, due to the low intermittent volumes discharged not always a discharge flow to take a sample". WWOE also provided an excel sheet called 'TE Results Lamby Way Composting Site (002)' which shows that these substances/parameters are being monitored monthly when possible. There is also a requirement to monitor PFOA and PFOS once every six months. This has a caveat within the subtext at the bottom of the BAT 7 stating "The monitoring only applies when the substance concerned is identified as relevant in the wastewater inventory". Work is still ongoing by WWOE to ascertain if PFOA and PFOS are present in their wastewater inventory. If the results of your PFOS and PFOA are sufficiently low and stable, then we can look to either remove or reduce the requirement to monitor.

Action 1: please provide a response by the 1st of March 2023.

Until the additional monitoring is complete BAT 7 is considered incomplete. Consequently, a noncompliance category 3 score is being applied against permit condition 2.4.1 as the BATC implementation date in August has now passed. However, NRW will suspend this score since WWOE are taking steps to satisfy BAT 7 requirements. If WWOE fail to complete the required work the suspension maybe lifted, and the score applied.

BAT 10

BAT 10 BAT is to periodically monitor odour emissions.

WWOE's initial response did not state how they will periodically monitor odour to 'EN standards (e.g. dynamic olfactometry according to EN 13725 in order to determine the odour concentration or EN 16841-1 or -2 in order to determine the odour exposure)'.WWOE were queried about this and responded with the following: "Consultants visited site with regards to carrying out odour monitoring, the feedback we had from the visit is that the capability to monitor emissions from point sources is achievable but monitoring uncaptured sources is a little more problematic due to the feasibility of safe access for sampling, which included the stability of the material and potential collapse. As stated, they visited and assessed the site and concluded they would not be able to carry out odour monitoring – it was unsafe to do so. Therefore, in reference to BAT 10 and 12, we ask at present, due to the ongoing discussions and work being carried out on site in relation to odour be finalised and continued odour monitoring as stated in the OMP, and we assess in 6 months that this is sufficient regarding odour reduction and monitoring".

Upon taking internal advice, it was decided that if an adequate Odour Management Plan (OMP) is already in place, then this will suffice in meeting the requirements of this BAT conclusion. This would also form part of the EMS checks in BAT 1. The OMP should detail the likely sources, receptors and the mitigation measures / abatement in place. The OMP will also list the procedure for if there was to be a substantiated odour complaint. This would include the requirements of the BAT conclusions. Further detail on OMP can be found in the BREF document in section 2.3.5.1.

BAT 12

BAT 12. In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements:

- a protocol containing actions and timelines;
- a protocol for conducting odour monitoring as set out in BAT 10;
- a protocol for response to identified odour incidents, e.g. complaints;
- an odour prevention and reduction programme designed to identify the source(s); to characterise the contributions of the sources; and to implement prevention and/or reduction measures.

WWOE have a detailed and well established OMP already. This plan satisfies the first three points of BAT 12. With regards to the third bullet point WWOE utilise a weather station and weather forecasting to try to reduce the impact of odours on sensitive receptors. With regards to the final bullet point, section 2.3.5.2 page 119-120 states that the main techniques used to reduce odorous emissions are: minimising residence times, using chemical treatment and optimising aerobic treatment.

Minimising Residence Times

With regards to minimising residence times of (potentially) odorous waste in collection, storage and handling systems, WWOE's OMP sets a critical limit for fresh waste to be processed (shredded, blended and added to batch formation) within 7 days. **The plan does not state how the site's adequate provisions are made for the acceptance of seasonal peak volumes of waste**. Furthermore, **it does not state how the oversize material is stored and maintained to minimise residence times under anaerobic conditions.** During a pervious site visit

the oversize material was found to be approximately 75^{O}C, indicating the presence of biological activity and therefore the risk of anaerobic conditions developing. **Please can you update your odour management plan with details on how you intend to reduce the chance of anaerobic conditions developing within these oversize piles.**

Using Chemical Treatment

With regards to using chemicals to destroy or to reduce the formation of odorous compounds, this is not applicable to open composting since such chemicals may affect the quality of the compost product.

Optimising Aerobic Treatment

Optimise the aerobic treatment, e.g. by controlling the oxygen content and frequent maintenance of the aeration system. WWOE do measure oxygen levels within their windrows, however, with the existing windrow sizes, they are unable to demonstrate that there are optimum oxygen levels throughout the entire cross section of the windrows. Since oxygen levels are associated with odour, WWOE need to be able to assess oxygen levels throughout their windrows and have an action plan within their OMP for situations when measured oxygen levels fall below optimum levels. Since WWOE are about to undertake trials using longer probes and smaller windrows, the OMP cannot be updated to meet the requirements of BAT 12 until the trials are concluded.

Cover and collection

Cover or enclose facilities for storing, handling, collecting and treating odorous waste (including waste water and sludge) and collect the odorous waste gas for further treatment. In the case were there is likelihood or evidence that sensitive receptors are impacted, NRW will stipulate odour limits and or an engineering assessment of improvements that can be made to address odour impact.

Consequently, until BAT conclusion 36 is complete, BAT 12 is considered incomplete. Thus, a noncompliance category 3 score is being applied against permit condition 2.4.1 as the BATC implementation date in August has now passed. However, NRW will suspend this score since WWOE are taking steps to satisfy BAT 36 requirements. If WWOE fail to complete the required work the suspension maybe lifted and the score applied.

BAT 13

BAT 13 Techniques to prevent, or where not practicable reduce odour emissions.

Within BAT 13 it states: "Minimising the residence time of (potentially) odorous waste in storage or in handling systems (e.g. pipes, tanks, containers), in particular under anaerobic conditions. When relevant, adequate provisions are made for the acceptance of seasonal peak volumes of waste".

This is linked to the requirements of BAT 12, which is linked to BAT 36. Therefore, this particular BAT conclusion cannot be considered complete until BAT 36 is complete. Thus, a noncompliance category 3 score is being applied against permit condition 2.4.1 as the BATC implementation date in August has now passed. However, NRW will suspend this score since WWOE are taking steps to satisfy BAT 36 requirements. If WWOE fail to complete the required work the suspension maybe lifted and the score applied.

BAT 14

BAT 14 In order to prevent or, where that is not practicable, to reduce diffuse emissions to air, in particular of dust, organic compounds and odour, BAT is to use an appropriate combination of the techniques described within BAT 14 Table.

WWOE response:
Freeland Cardiff Environmental Impact Control Plan (1) was provided as a response to BAT 14.

Based on the current operations NRW are content with the response to BAT 14. However, because there are ongoing issues with BAT 36, containment maybe necessary if it is determined that the site cannot control emissions by the requirements of BAT 36. Therefore, this will be revised once BAT 36 is received and approved.

BAT 19

BAT 19 – In order to optimise water consumption, to reduce the volume of wastewater generated and to prevent or, where that is not practicable, to reduce emissions to soil and water BAT is to use an appropriate combination of the techniques described in BAT 19 table.

WWOE response:
"Wastewater is generated from contaminated rainwater runoff from the composting storage and processing area, which comprise of hardstanding impermeable area. The resultant leachate and runoff are captured in site drainage and returned to storage tanks which provide some settlement and clarification before discharge to foul sewer under a trade effluent consent. The capture rainwater is utilised within the process to some degree for moisture control. The hardstanding, process areas and drainage system is checked daily (see daily check sheet) and the drainage lines and storage tanks are cleaned and emptied 6 monthly".

The requirements for BAT 19 are considered satisfied and so BAT 19 is deemed complete.

BAT 20

BAT 20 In order to reduce emissions to water, BAT is to treat wastewater using an appropriate combination of the techniques described within BAT 20 Table.

WWOE Response:
"Wastewater generated on site is from contaminated surface water within the composting process area. The wastewater is captured within the site drainage system, collected within storage tanks that settle out solids/sludge and final discharge to foul sewer under a trade effluent consent issued by DCWW. The composting material is organic in nature and therefore resultant runoff from rainwater is suitable to treat via a biological wastewater treatment plant. The receiving wastewater treatment works is Cardiff East WwTW operated by DCWW. The treatment works receives domestic sewage and trade effluent generated from commercial industry. The biological treatment process on site is activated sludge, which biologically breaks down the contaminants. To ensure the discharge from the composting site is suitable and within acceptable parameters DCWW samples and regulates the discharge".

The requirements for BAT 20 are considered satisfied and so BAT 20 is deemed complete.

BAT 21

BAT 21 – In order to prevent or limit the environmental consequences of accidents and incidents BAT is to use all the techniques described within BAT 21 table

WWOE Response:

In response to BAT 21 WWOE provided the following documents:

- Lamby Way Composting Site Spillage Procedure
- Emergency Procedure Freeland Cardiff July 2020
- Fire Prevention and Mitigation Plan (FPMP)

The requirements for BAT 21 are considered satisfied and so BAT 22 is deemed complete.

BAT 22 and BAT 24

BAT 22 In order to use materials efficiently, BAT is to substitute materials with waste.
BAT 24 Maximise the reuse of packaging as part of a Residues Management Plan

WWOE Response:
"Inherently the operation uses waste materials to form a final compost product, there is little further scope to substitute materials with waste within the operation. The green waste is delivered in bulk to site via trucks and waste to be removed from site is also taken off in bulk via trucks therefore there is little scope to reuse packaging as it's not really applicable to site."

This response has been accepted. BAT conclusions 22 and 24 are considered complete.

BAT 23

BAT 23 Energy efficiency Plan and Energy Balance Record.

WWOE Response:
"With regard to energy efficiency – the plant uses minimal electrical energy for the welfare facility and diesel for site plant. General measures are implemented such as energy efficient light bulbs etc but as minimal domestic energy is consumed and no energy generation, Energy balance is not fully applicable to site. Electricity imported to site is measured and recorded and reported as part of permit requirements, but as stated this is predominantly for domestic use".

NRW consider this response acceptable and BAT 23 complete.

BAT 33

BAT 33 In order to reduce odour emissions and to improve the overall environmental performance, by selecting the waste input (to ensure its suitability for biological treatment).

WWOE response:
WWOE provided the following documents which encompass all of the points within BAT 2.

- Freeland Cardiff Waste Acceptance Plan V4.1 Jan22
- Lamby Way Composting Site - Freeland Waste Acceptance Criteria
- 07 SOP Issue 10 Version 9 13.12.2021. (003)

These documents provide the details regarding waste acceptance. Upon review this has been considered as meeting BAT 33. Therefore BAT 33 is considered complete.

BAT 35

BAT 35 In order to reduce the generation of wastewater and to reduce water usage, BAT is to use all of the techniques described within BAT 35 Table.

WWOE response:

With regards to BAT 35, all areas where waste is stored and where the composting process is undertaken is contained on hard standing with the contaminated rainfall captured within the site drainage. It is not possible to separate clean surface water and leachate at the site. The site does not re-circulate any of the captured water due to the potential to introduce pathogens into the sanitised compost. Moisture content of the windrows is controlled using a squeeze test and a monitoring device developed by compost manager. This is considered complete.

BAT 36

BAT 36 In order to reduce emissions to air and to improve the overall environmental performance, BAT is to monitor and/or control the key waste and process parameters.

Car Form CAR_NRW0040325 contains several pertinent points relating to BAT 36. This CAR Form highlights areas where NRW have deemed WWOE do not meet the requirements of BAT 36. The most pertinent are the monitoring and control of oxygen, temperature and porosity within the windrows.

Page 407 of the BREF states "Porosity is a key factor in the generation of odours. The density of the material can be optimised from the beginning by effective blending and mixing of feedstocks. This will enable adequate air flow throughout the pile". An industry guide for the prevention and control of odours at biowaste processing facilities states "that a typical optimum bulk density that is desirable at the windrow formation stage for open air windrow compositing would be between 500-650 kg/m3" (page 19). Later on, on page 45 it states, "If material is considered to have a density exceeding 800 kg/m 3, air penetration within the batch core zone will be harder to achieve". Furthermore, it states "If the compost is struggling to remain aerobic, make the windrows narrower and increase the surface area: volume ratio (by as much as 20%). This will enable the rows to draw in more air through the 'chimney affect'. Do not be tempted to make larger windrows than can be effectively managed. Larger windrows will have the potential to generate a greater level of malodours". Using the waste figures from a site visit on October the 10th along with the dimensions of the windrows provided by the operator (8mx4mx45m) the following densities can be calculated.

total tonnage (as provided by Operator)	total vol. in m3 (as provided by operator)	Density
518	720	0.7194
1070	720	1.4861
842	720	1.1694
1017	720	1.4125
427	720	0.5931

These calculated densities are far in excess of the guidance. This has further implications for the control of key waste and process parameters, since high density windrows will reduce the porosity and hence the ingress of oxygen to the centre of the windrows. In addition to the above, page 408 of the BREF states that "The optimum height of a pile/windrow is generally considered to be between 1.5 and 3 metres and depends on: decomposition age (the more mature, the higher the piles can be) and the structural stability of the whole mixture". Page 409 of the BREF states a number of operational measures that can be used to reduce odour emissions from open windrow composting systems, of particular note is limiting the size of the windrows. As it stands the current 1.2 metre probes cannot reach the centre of the large 8 x 4 metre windrows, therefore temperature, oxygen and moisture are not being monitored in all sections of

the windrows. Furthermore, the density is significantly higher than the recommended values within the relevant guidance's. Consequently, it has been decided that the current windrow arrangements and monitoring systems do not meet the requirements of the following sections of BAT 36:

- temperature and moisture content at different points in the windrow;
- aeration of the windrow (e.g. via the windrow turning frequency, O2 and/or CO2concentration in the windrow, temperature of air streams in the case of forced aeration);
- windrow porosity, height and width.
-

WWOE have started to use a larger probe and smaller windrows so that the probe can reach the centre of the windrow. NRW have requested that this monitoring is conducted in winter and summer to account for seasonal variation.

Action 3: Please provide NRW with a timeline for the intended trials? **Due 6th Of January 2023.**

As it stands the current site activities do not meet BAT 36 and since the BATC implementation date in August has now passed, a noncompliance category 3 is being awarded against permit condition 2.4.1. However, since WWOE are making progress to demonstrate compliance with BAT 36, the score is being suspended. NRW will make an assessment of the results and depending on what the outcome will either lift the suspension and enforce the score or lift the suspension and remove the score.

BAT 37

BAT 37 In order to reduce diffuse emissions to air of dust, odour and bioaerosols from open-air treatment steps, BAT is to use one or both of the techniques described within BAT 37 Table.

The requirements of BAT 37 part (b) are covered in WWOE's odour management plan. For part (a) the site currently doesn't utilise semi-impermeable membranes. As it stands diffuse emissions (ammonia/VOC) are not having a significant impact off site in Air Quality terms, but odour is still a potential issue. However, there is still a requirement to minimise diffuse emissions of ammonia/VOC/dust whether causing odour or not and so until BAT 36 has been resolved BAT 37 will remain incomplete.

Therefore, until BAT conclusion 36 is complete, BAT 37 is considered incomplete. Consequently, a noncompliance category 3 score is being applied against permit condition 2.4.1 as the BATC implementation date in August has now passed. However, NRW will suspend this score since WWOE are taking steps to satisfy BAT 36 requirements. If WWOE fail to complete the required work the suspension maybe lifted and the score applied.

Improvement Condition 3

The Operator shall complete and submit for approval in writing by Natural Resources Wales:

- *a baseline report containing information necessary to determine the current state of soil and groundwater contamination ;or*
- *Provide a summary report referring to information previously submitted where you are satisfied that such information represents the current state of soil and groundwater contamination;*
  so as to enable a quantified comparison to be made with the state of soil and groundwater contamination upon definitive cessation of activity.

The IED requires that the operator of any IED installation using, producing or releasing "relevant hazardous substances" (RHS) shall, having regarded the possibility that they might cause pollution of soil and groundwater, submit a "baseline report" with its permit application. That report must enable a quantified comparison to be made between the baseline and the state of the site at surrender. We will not require all

operators using RHS to carry out intrusive investigations to provide baseline data. It is for the operator to assess the risks involved and to decide if they need to carry out intrusive investigation. For example, on greenfield sites the operator may decide that the risk of existing contamination is too low to justify the expense of intrusive investigations. However, applicants whose activities involve using, producing or releasing RHS must recognise that if they choose not to carry out intrusive investigations, we will assume the baseline level of contamination to be zero, because the IED requires quantification. Where there is any doubt, we advise that applicants obtain sufficient evidence of pre-existing contamination to facilitate a simple determination at the point of surrender.

WWOE response:
WWOE provided an Environmental baseline report conducted in January 2017. WWOE state that "As the monitoring was carried out in 2017 and the site has been constructed on a suitable hardstanding pad and drainage, and maintained during this time, we conclude that the baseline report represents current state of contamination of the site".

NRW have accepted the 2017 environmental baseline report, however, in the absence of any soil sampling and analysis, at the point of surrender, if the soil monitoring indicated RHS WWOE will be liable for remediation.

Improvement Condition 4

The Operator shall complete and submit for approval in writing by Natural Resources Wales a Phase 1 screening test report for priority hazardous pollutants and any other relevant priority hazardous substances discharged to sewer.
For any substance which is not screened out by the screening tests, further modelling (as described in the risk assessment guidance "Surface water pollution risk assessment for your environmental permit") should be undertaken, and the results of the modelling submitted to NRW for approval.
The Operator shall submit for written approval a methodology for the appropriate monitoring requirements for discharges to sewer. Where a process parameter cannot be monitored justification should be provided and/or a suitable alternative proposed. The methodology should include trigger levels for each of the parameters with associated procedures in place if trigger levels are exceeded.

Due to the extended dry periods experience in 2022, WWOE have been unable to obtain a sufficient number of samples required to undertake a surface water pollution risk assessment. Consequently, WWOE have been given more time to complete this improvement condition.

Action4: Please provide a response by the **1st of March 2023.**

Consequently, a noncompliance category 3 score is being applied against permit condition 2.4.1. since the BATC implementation date in August has now passed. However, NRW will suspend this score since WWOE are taking steps to satisfy improvement condition 4 requirements. If WWOE fail to complete the required work the suspension maybe lifted, and the score applied.

Improvement Condition 5

The operator shall submit for approval in writing by Natural Resources Wales an updated Site Boundary and Layout Plan clearly showing all points source emissions from the site.

WWOE response:
The site has informed the plan has not change from the plan in the permit – no boundary change or emission point change.

Improvement condition 5 considered complete.

Summary

BAT 7: Until the additional monitoring is complete, BAT 7 is considered incomplete. Please provide a response by the 1st of March 2023.

BAT 12 and 13: until BAT conclusion 36 is complete, BAT 12 and 13 are considered incomplete.

Action2: Please can you update your odour management plan with details on how you intend to reduce the chance of anaerobic conditions developing within these oversize piles and how you will manage seasonal peak volumes. **Due 1st February 2023**

BAT 36: Action 3: please provide NRW with a timeline for the intended trials? **Due 6th Of January 2023**.

BAT 37: Until BAT conclusion 36 is complete, BAT 37 is considered incomplete.

IC5: Please provide a response by the **1st of March 2023**.

Since BAT conclusions 12, 13, 36 and 37 are all associated with the successful completion of BAT 36 these scores are being consolidated into one suspended category 3 noncompliance.

Permit conditions

With regards to Table S3.2, WWOE have demonstrated that nearly all of the BAT AELS stated within BAT conclusion 7 do not apply. As it stands NRW will require WWOE to abide by the monitoring requirements stated within their sewage discharge consent. These results are not required to be submitted to NRW but must be recorded and stored as stated in BAT 3 and 6 "BAT is to monitor key process parameters (e.g. wastewater flow, pH, temperature, conductivity, BOD) at key locations". Currently the only exception is PFOA and PFOS where WWOE have only provided a single set of analysis. Depending on the results of the additional monitoring, PFOA and PFOS, may need to be monitored and reported 6 monthly or considered not relevant within their waste stream and removed from the permit.

Table S3.2 Point source emissions to sewer, effluent treatment plant or other transfers off-site – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1 (as drawing ref: 407 04012 00009)	Contaminated water from the process and contaminated site run-off	To be agreed with NRW upon completion of IC2	To be agreed with NRW upon completion of IC2	To be agreed with NRW upon completion of IC2		To be agreed with NRW upon completion of IC2

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.