

Compliance Assessment Report for: CAR_NRW0038603, CAR_NRW0038710 & CAR_NRW0038711

Permit number	WP3231NB	Operator name	Dairy Partners (Cymru Wales) Ltd.
----------------------	----------	----------------------	--------------------------------------

Site name	The Creamery
Site address	Newcastle Emlyn
Type of assessment	Site inspection

Date of assessment	6 th July 2021, 10 th July 2021 & 15 th July 2021
---------------------------	--

Parts of permit assessed	See section 4
---------------------------------	---------------

NRW Lead officer	Neil Herbert	Accompanied by	N/A
Report sent to – Name and position	Steve Welch Site Manager	Date	7 th September 2021

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

Part of permitted activity assessed (use action criteria below)	Assessment result	Permit condition
E3 Emissions – Surface water	C1 Major	3.1.1, 3.1.2 & 3.2.1
B4 Infrastructure – Containment of stored materials	C1 Major	3.2.3
A1 Specified by permit	C2 Significant	2.3.1a
F2 Amenity – Noise	C2 Significant	3.5.1
F1 Amenity – Odour	C2 Significant	3.4.1

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

Total number of non-compliances recorded
5

2. What action is required?

Criteria	Action needed	Complete by
E3	<u>W3 Emission</u> Operator to stop the polluting discharge from the W3 emission point.	Completed (on 6 th July 2021)
	The operator to undertake an investigation to: - remediate/mitigate the contamination. - ascertain the source of the W3 contamination monitor Whilst the investigation is ongoing the operator will also monitor the pH in the Afon Arad for evidence of any changes in pH.	Ongoing ¹
b4	<u>Secondary Containment</u> - Any containers (including their pipework) holding potentially polluting liquids must be provided with appropriate containment. - Furthermore measures must be implemented to ensure the capacity of any containment system is not impacted by rainwater.	Immediate
	The use of IBC containers for the storage of potentially polluting liquids (e.g. NaOH) shall cease².	Action should now be completed – awaiting confirmation
f2	<u>Noise</u> - The operator must complete the noise abatement measures they have previously identified, including: - adding appropriate acoustic insulation jackets to the chiller oil separators.	New deadline 15 th October 2021 Note: This deadline has been formalised in a Regulation 36 Notice
	- The operator shall submit a written report and action plan detailing: - the Cost Benefit Analysis for all of the <i>Potential BAT Measures</i> listed in Table 3.2 of the July 2021 BAT Noise Audit report³; - a schedule listing which noise reduction measures have been identified for implementation as part of the Cost Benefit Analysis; - a completion date for implementation of each of the noise reduction measures identified for implementation as part of the Cost Benefit Analysis.	15 th October 2021 Note: This deadline has been formalised in a Regulation 61 Notice

¹ Note: We have since been verbally informed that the investigation is complete and we are now awaiting the report documenting the findings.

² Note: The operator's representative has indicated that the long term objective is to store NaOH in new bespoke acid tanks with integrated bunds, however the delivery time for the new tanks is now reportedly 2022. As an interim measure, they have arranged for the installation of new (steel) pipework and new pumps to allow the direct transfer of chemicals from the existing bunded bulk tanks, to the ETP. The use of the IBC's to store the sodium hydroxide and coagulant would then cease. The operative confirmed that the measures would be completed by the 3rd September.

³ Parker Jones Acoustics – The Creamery, Aber-Arad – Dairy Partners Ltd - BAT Noise Audit - dated 22nd July 2021

Criteria	Action needed	Complete by
	The noise reduction measures listed in the written report and action plan should be prioritised and laid out in a sequential manner.	
f1	<u>Odour</u> - The operator shall submit a written report and action plan detailing: - a completion date for implementation of each of the odour abatement measures identified in section 3.3 of the August 2021 Odour Review (<i>Air Quality Consultants - Technical Note: Dairy Partners (Cymru Wales Ltd) Odour Review – August 2021</i>) The odour abatement measures listed in the written action plan should be prioritised and laid out in a sequential manner.	15th October 2021 Note: This deadline has been formalised in a Regulation 61 Notice
a1 & b4	<u>Unauthorised operation of new ETP and use of tanks and pipework without appropriate containment.</u> - The new ETP (which is currently un-permitted and includes large tanks without secondary containment), will need to be deactivated and carefully emptied until such time as: - the new ETP plant is provided with appropriate secondary containment and - is permitted under the requirements of the EPR regulations. - During and after the deactivation of the new ETP, Dairy Partners must ensure compliance with all other conditions in their EPR permit.	Overdue
Follow up action from previous visit.	<u>Use of Surface Water Lagoon</u> Surface Water Lagoon to be decommissioned until Dairy Partners have completed repairs to the surface water lagoon structure to ensure appropriate containment (the work will need to be certified by an appropriately qualified engineer confirming that the repairs have been completed to the required standard).	Overdue

Action criteria codes are listed in the 'Important information' section.

If the operator considers that they are unable to comply with any of the actions noted above, or to the deadlines specified, they must contact NRW immediately.

3. What will happen next?

You are non-compliant with your permit. We will be considering taking enforcement action against you for the non-compliance recorded above in due course.

4. Details of our assessment

Note: This compliance report provides a compliance summary of three separate visits to the site (undertaken on the 6th July 2021, 10th July 2021 & 15th July 2021). To avoid confusion and for the purposes of convenience I have consolidated the findings of these three visits into this single document.

Introduction

- On the 5th of July 2021 NRW received a report of dead fish in the Afon Arad downstream of the Dairy Partners Installation. Officers from NRW attended the incident that evening and confirmed a significant fish kill event, affecting the Afon Arad.
- On the 6th of July 2021 the site's regulatory officer (Neil Herbert) visited the site and met with Mr. Andrew Jones (Dairy Partners - Health Safety and Environment Manager) to conduct a site inspection. This was followed by two further visits that month on the 10th and 15th of July.

Preliminary Findings – 6th July 2021 visit

Polluting Discharge from W3 Emission Point

- During the inspection carried out on the 6th of July, the inspector noted a liquid discharge emanating from the W3 surface water emission point, discharging into the Afon Arad. The inspector checked the pH of the emission and the result indicated that the emission was highly caustic. The pH field test results indicated the emission had a pH of 13, which is highly Alkaline.
- A sample of the emission was taken by the inspector and later sent for laboratory analysis. Samples were also taken from the Afon Arad upstream and downstream of this emission point.
- The following table (Table 1) summarises a selection⁴ of the results from the subsequent analysis of the samples taken from the W3 emission and associated samples of the Afon Arad. The table also includes the results of a downstream sample of the Afon Arad taken on the 5th of July (the evening that the fish kill was reported).

⁴ The samples were also subject to a gas chromatography–mass spectrometry (GCMS) analysis and these results have been attached to this report. A sample of the water in the site's "lagoon" was also taken on the 6th of July 2021 (before the W3 emission was noted). These results are also attached as an addendum to this report.

Table 1: Showing some results of samples taken from the W3 emission point and the Afon Arad on the 5 th and 6 th of July 2021.						
Determinand	Afon Arad upstream of W3 6 th July 2021	Discharge to Afon Arad (W3 emission point) 6 th July 2021	Afon Arad 11*m downstream of W3 emission 6 th July 2021	Afon Arad 17*m downstream of W3 emission 6 th July 2021	Sample of Afon Arad taken off-site on the 5 th of July 2021. 90*m downstream of W3	Unit
pH	7.56	13.2	7.81	7.52	9.78	---
pH (field reading)	7	13	6-7	6-7	8 (taken on the 6/7/21)	---
Aluminium	32.1	236,000	143	273	749	µg/l
Aluminium – Filtered	27.7	71,500	---	56.5	248	µg/l
Copper	1.44	160	1.76	3.84	5.62	µg/l
Copper Filtered	1.23	71.8	---	1.51	1.68	µg/l
Nickel	<1	26.8	1.2	2.21	1	µg/l
Nickel Filtered	1	14.6	---	1.04	<1	µg/l
Zinc	<5	51	<5	25.6	13.5	µg/l
Zinc Filtered	<5	<12.3	---	5.02	<5	µg/l
Temp Water	13.5	15	13.5	13.5	---	°C
Chromium	<0.5	<3.17	<0.5	<0.5	<0.5	µg/l
Chromium Filtered	<0.5	<2.89	---	<0.5	<0.5	µg/l
Cadmium	<0.1	<0.1	<0.1	<0.1	<0.1	µg/l
Cadmium Filtered	<0.1	<0.1	---	<0.1	<0.1	µg/l
Lead	<2	<2	<2	<2	<2	µg/l
Lead Filtered	<2	<2	---	<2	<2	µg/l

*approximate.

- The results confirm that the emission noted by the inspector on the 6th of July 2021 from the W3 emission point was highly caustic. The results also indicate elevated levels of a number of metals including Aluminium, Copper, Nickel, Zinc and Chromium.

Immediate and Subsequent action taken:

- The operator was instructed to block the outlet immediately on discovery of the caustic discharge. This action was completed before the inspector left the site.
- The operator also agreed to start an immediate investigation to ascertain the cause/source of the contamination and to remediate the contamination.
- The operator stated that they would commence monitoring of the Afon Arad at various points along the stream. This would be to monitor for any evidence of pH changes or other pollution whilst the remediation works and investigation remained ongoing.
- See section 2 of this report for a summary of the actions.

Other observations

- The samples taken on the 5th and 6th of July were also analysed using gas chromatography–mass spectrometry (GCMS). The results of the W3 emission indicate the presence of a large number of compounds (e.g. fatty acids & amino acids) consistent with milk. The assessment of these results remains ongoing.

- It is also notable from the results that on the preceding day when the fish kill was discovered, a sample taken of the Afon Arad, 90m downstream from the W3 emission point, was found to be caustic and with elevated levels of metals especially aluminium. The laboratory analysis also revealed several compounds in this downstream sample consistent with the GCMS results from the sample taken from the W3 emission point.

IBC Containers – containment deficiencies

- During the visit I undertook a brief cursory inspection of the ETP area, observations:
 - During this visit three IBC containers were sited on spill pallets which were much smaller than the capacity of the IBC containers. The three IBCs all appeared to contain liquids. A fourth IBC was sited without any containment provision but appeared empty. The labelling on the IBC were found to be incorrect (although this has since been corrected).
 - The contents of the IBCs were confirmed as follows:
 - IBC – Sodium Hydroxide 32% - a corrosive alkaline (caustic) liquid (pH greater than 12);
 - IBC – Also containing Sodium Hydroxide 32% - a corrosive alkaline (caustic) liquid (pH greater than 12);
 - IBC – Polyaluminium Chloride (coagulant) – A corrosive acid (pH 2).
- The spill pallets were in turn sited on a concrete plinth, however this plinth had no kerbing or bunding provision, so any spillage would likely result in runoff onto unmade (i.e. permeable) ground, either directly or washed off during rain. Note: it was later established that the pipework leading to the W3 outlet runs directly under this point.
- The IBC containers can hold a volume of over 1000 litres. The spill pallets used by Dairy Partners have a capacity for less than half that volume (i.e. only 485 litres). The containment provision for each IBC must have a containment capacity greater than 110 percent of the physical capacity of the IBC container (i.e. the bund should have at least capacity for over 1,100 litres).
- As the spill pallets were too small the three outlets/taps for each of IBC's were either sited on the edge of the spill pallet or over hang the pallet entirely. As a consequence any leaks from these coupling points/taps (e.g. during coupling/decoupling of the hoses) would not be contained.
- A standard IBC consists of a plastic inner container surrounded by a metal framework. A white precipitate was noted at several points on the IBCs. This precipitate covered the plastic and metal framework of the IBC. It was also observed on the spill bund. The metal framework on all three IBC appeared to have extensive corrosion.
- On the top of the three IBC are fitted elbow coupling joints which acts as the IBC inlet. An inlet pipe was connected to one of the sodium hydroxide IBCs (the second NaOH IBC did not have a pipe at the inlet). This pipework has no containment provision and was also laid on unmade ground (i.e. permeable). A second transmission pipe was connected to the inlet to the IBC holding Polyaluminium chloride.
- There was also evidence of bulging in some of the IBC's.

- During a previous inspection these spill pallets were found to be full of rainwater (negating the limited containment capacity entirely). Whilst the pallets had been dewatered at the time of this inspection, the operator is still reliant on staff manually keeping the bunds clear of rainwater as part of their routine checks.
- See section 2 of this report for actions.

Other containment deficiencies

- The polymer tanks, which are sited near the IBC also have no secondary containment.
- Much of the pipework serving the other tanks and vessels in this area are also not provided with adequate containment provision, in some cases they trail over unmade ground. This was also identified in a previous inspection.

Other Matters - Surface Water Lagoon

- During previous inspections NRW discovered containment deficiencies in the site's surface water lagoon. It was also previously found to contain potentially polluting liquids (e.g. milk spillages). The operator had indicated that the lagoon would be decommissioned however it remains in use as a sump. Whilst the W2 outlet has been closed the lagoon is in poor condition and leaks. Dairy Partners have been instructed to decommission the lagoon until appropriate repairs are completed. This action remains outstanding.

Noise

- During the inspection we were informed that the operator's noise consultant was on site undertaking noise monitoring to update their assessment of noise impacts from the facility. The report from this assessment has since been submitted to NRW. See section 2 of this report for actions.

Odour

- A highly offensive, albeit intermittent, odour was noted outside the site boundary by the inspector. Whilst on site the same odour was later noted in the area around the sludge pit and crude pits. The operator has commissioned a noise specialist to attend the site to undertake an odour review of the process. The report from this review has since been submitted to NRW. See section 2 of this report for actions.

Un-authorised operation of new ETP and containment deficiencies

- Since the last CAR report was issued, the application to vary the existing EPR permit (to allow the operation of the new effluent treatment plant) has been refused by NRW. In part⁵ on the grounds that many of the assets at the new plant do not possess secondary containment (e.g. aeration and balance tanks).

⁵ The full ground for refusal is set out in the refusal documentation issued by NRW's permitting team.

- The operator is also continuing to operate the new ETP and treating process effluent. As previously noted, the new ETP can only be commissioned and operated once the existing EPR permit has been successfully varied. See section 2 of this report for actions.
- It is understood that the operator has now commissioned a civil engineering consultant to develop designs to retrofit appropriate secondary containment systems to the new ETP plant. NRW are awaiting an update on progress with this design. The operator has been reminded that any retrospective designs must be first submitted and approved as part of a new application to vary the EPR permit⁶, before any construction can commence.

Comment from 10th July 2021 visit

- This was a short out of hours inspection, conducted on the 10th of July. I was escorted around the ETP area by the shift team leader and shift engineer.

Comments:

- Two excavators had been delivered to site and I was later informed these would be used to facilitate the drainage investigation into the W3 emission noted by NRW on the 6th of July.
- The W3 emission pipe had been fitted with a bespoke drain stopper to improve the seal. No visual emission from the pipe was noted.
- Since the visit on the previous Tues (6th July), the operator had drilled a small hole into the top of the W3 emission pipe at the outlet. The liquid (collecting on the inside of the sealed pipe) was being removed by a small pump and transferred to an IBC container sited nearby. The IBC vessel was sited within the kerbed concreted area of the new ETP (i.e. it had a secondary containment provision).
- I also inspected the area where the IBC vessels, holding the coagulant and sodium hydroxide were previously observed. There were no notable changes that I could observe since the last visit.
- An offensive odour was noted in the area near the open sludge and crude pits. See previous comment on odour report

Comment from 15th July 2021 visit

- On the 15th of July 2021 NRW undertook a pre-arranged follow up visit to inspect the facility and for an update from Dairy Partners into their investigation to determine the source of the W3 emission. I was escorted by Mr Andrew Jones.

Dairy Partners' Investigation Update

- We were informed that DP had excavated two⁷ pits to expose the pipe (that eventually leads to the W3 emission point).
- Both excavations are upgradient of the IBC storage area. We were told that the pipe was found dry at both locations. I was only able to inspect one of the excavation as the second

⁶ The new designs will also need to be approved as part of the planning process.

⁷ The excavation to the French Drain pipe was still open, however the excavation nearest the IBC containers had been filled in and the pipe was not visible

excavation (nearest the IBC containers) had already been infilled. The pipe in the still open excavation was dry.

- We were informed that photographs were taken when the two pits were dug and a CCTV survey undertaken.
- Since the visit DP have informed us that the investigation is now complete and we await the submission of the final report and findings.

W3 Emission point

- The W3 emission pipe was still sealed with the drain stopper and there was no evidence of a discharge during my inspection of the pipe.
- We were informed that the W3 black pipe was perforated and on closer inspection I was able to see the small slots on the upper facing section of the pipe. The lower section appeared to be plain cased.
- Since the last visit the operator had cut a larger hole into the pipe where the extraction pipework was inserted. I was able to see a small volume of liquid in the bottom of the W3 pipe and this liquid had a pH of 13.
- This alkaline liquid was being removed by a small pump and then diverted to an IBC holding vessel (as noted on the visit on the 10th July).

IBC Containers – containment deficiencies

- We inspected the IBC area (i.e. where IBCs were being used to store NaOH and Polyaluminium Chloride) and the main observation are as follows:
 - The spill pallets (which do not provide appropriate containment capacity) were still in use. However we were informed (and later shown) some new containment pallets with a larger capacity which had recently been delivered to the site. I was informed these were due to be installed and would provide improved containment for the IBC tanks. The longer term plan is to replace the IBCs with larger chemical tanks with an integrated bund. These bund pallets have since been installed.
 - The white precipitate was still notable on the IBCs and on the surface of the spill pallets.
 - I noted that under one of the IBC tap outlets (holding NaOH) I saw a pit in the surface of the concrete floor. It is clear that chemical leaks from the outlet had fallen on this surface and for long enough to create this pit. The floor is constructed from concrete and the chemical is clearly corrosive enough to cause this surface damage (the concrete plinth was only built last year (2020)).
 - One of the IBC (holding NaOH) had been moved since the last visit, although AJ was unclear why this had been undertaken.
 - The previous observations pertaining to the IBC condition and deficiencies in bunding were still evident during this inspection.

Chemical Store (*Tin Shed*)

Near the IBC containers is sited a small tin shed which the operator identified as a chemical store used to hold some of the chemicals used in the ETP plant.

- We inspected the contents of the shed. The floor of the shed is built on top of a concrete pad, although there is no kerbing around the edge. Within the shed is another spill bund and on this we noted approx. 20 (25l) containers. We were informed these were Aquatreat N223, Aquatreat 2087 and antifoaming chemical.
- We also noted 5 (25l) containers sited on the floor next to the door. These had no secondary containment provision.
- Mr Andrew Jones stated that a new larger pallet bund was on order for the chemicals held in the shed.
- I could see no evidence of any spillages on the floor of the shed.

Bulk Sodium hydroxide tank and Bulk Coagulant Tank

- On the area known as the old ETP are sited two tanks which are used to hold sodium hydroxide and coagulant respectively. These are used as the site's bulk storage tanks for these two chemicals and have an integrated containment bund. The tanks are sited on a concrete pad, which is fitted with kerbing. This provides some tertiary containment provision.
- The two bunds (for both tanks) contained a volume of rainwater indicating that they have not been dewatered recently. The tanks also looked in poor condition. We were informed by AJ that these tanks are already scheduled to be decommissioned and replaced by new bulk storage tanks (with an integrated bund).

Other containment issues

New ETP - Acid and Urea Tanks

- No spillages were noted during this visit⁸
- These tanks are reportedly to be double skinned, however the pipework from the tanks have inadequate containment provision and this was identified previously. See section 2 of this report for actions.

Polymer Tank

- The two small tanks used to store polymer for the ETP are not provided with adequate containment. See section 2 of this report for actions.

⁸ During the previous inspection of this area, we had noted a spillage of acid on the unmade ground directly underneath one of the acid tanks.

Noise

- Prior to attending the site I undertook a noise check at a location outside the installation boundary. A persistent noise was clearly audible and at levels and at an intensity that the inspector perceived to be polluting. The noise was emanating from the Dairy Partner's installation.
- On the the 6th of July DP noise consultant was undertaking sound monitoring at the site in order to update the site's previous noise assessment and BAT noise audit. This report has since been submitted to NRW. See section 2 of this report for resulting actions.

Odour

- Again an offensive, albeit intermittent, odour was noted outside the site boundary by the inspector. The same odour was noted again in the area near the open sludge and crude pits. See previous comment on odour report
- During the visit a road tanker had arrived on site and was removing sludge from the ETP's sludge tanks. An offensive odour was noted around the tanker. We were informed that the abatement measures, previously identified by the operator (fitting of activated carbon filters to the outlet points) had not been actioned. See section 2 of this report for actions.

Paperwork

- During the first and third visit we also collected several documents and records pertaining to the operation of the ETP which will be reviewed in due course.

Compliance

W3 Emission (6th July 2021):

- The EPR permit only allows the operator to discharge *uncontaminated surface water run-off from clean yards and roofs* from the W3 emission point.
- The contaminated emission noted on the 6th of July 2021, from the W3 emission point is considered a breach of conditions 3.1.1 (Table S3.2), 2.1.2 (Table S3.2) & 3.2.1 of the EPR permit (EPR/ WP3231NB).
- A compliance classification score (CCS) of 1 has been recorded for these breaches, against the e3 (surface water) compliance criterion.

Secondary containment deficiencies

- The use of containers (including the associated transmission pipework) to hold potentially polluting substances, without adequateⁱ secondary containment, is considered a breach of condition 3.2.3 of the permit.
- A compliance classification score (ccs) of 1 has been attributed to this failures (b4).

Noise Pollution

- The ongoing noise pollution noted in this report is considered a breach of condition 3.5.1. of the site permit. This is deemed an ongoing noise issue and there is a presumption to record a CCS score of 2 for ongoing amenity failures (f2).

Odour Pollution:

- The odour pollution events documented in this report, are considered a breach of condition 3.4.1. of the site permit. These incidents are deemed an ongoing odour issue and there is a presumption to record a CCS score of 2 for ongoing amenity failures (f1).

Un-authorised operation of new ETP

- The continued operation and use of the new ETP for the treatment of effluent, without the necessary changes to the permit being approved (i.e. through the EPR permit variation process), is considered a breach of condition 2.3.1(a). A compliance classification score (ccs) of 2 has been attributed to this failure (a1).
- The continued use of tanks to hold potentially polluting liquids (effluent), without secondary containment, is considered breaches of condition 3.2.3 of the permit. This condition has already been attributed a ccs score for separate breaches pertaining to the other containment deficiencies noted in an earlier section of this CAR report (see above).

End of section 4

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 in the aspects assessed.
Action only (X)	Action only relating to the activity assessment
Ongoing (O)	Ongoing non-compliance, not scored

Non-compliance category	Description
C1 Major	Potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property
C2 Significant	Potential to have a significant impact or effect on the environment, people and/or property
C3 Minor	Potential to have a minor or minimal impact or effect on the environment, people and/or property
C4 No environmental impact	Non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property

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.

ⁱ Extract from NRW Guidance (*How to comply with your environmental permit* Version 8) which expands on appropriate secondary containment:

This condition [3.2.3] includes your measures to prevent any leaks or accidental releases from tanks, sumps, bunds and containers. All above-ground tanks containing liquids whose spillage could be harmful to the environment must be bunded.

If secondary containment (bunding) is not practicable or structures are designed to work without secondary containment (such as lagoons and concrete effluent treatment plants) then appropriate measures to prevent or minimise leakage would include:

- *regular maintenance and inspections to a written procedure*
- *ensuring that any leakage is detected for example by monitoring boreholes or sampling adjacent watercourses.*

*If you have any of the following infrastructure on your site you need to follow the guidance listed below.
[...]*

Bunds must:

- *be impermeable and resistant to the stored materials*
- *have no outlet (no drains or taps) and drain to a blind collection point*
- *have pipework routed within bunded areas with no penetration of contained surfaces*
- *be designed to catch leaks from tanks or fittings*
- *have a capacity greater than 110 percent of the largest tank or 25 percent of the total tankage, whichever is the larger. When you calculate this do not use the design capacity of the tank or tanks, instead use the maximum physical capacity of the tank or tanks – assuming it is/they are over-filled to the point of spillage*
- *be looked at regularly and any contents removed after checking for contamination*
- *be fitted with a high-level probe and an alarm, where not frequently inspected*
- *have tanker connection points within the bund where possible (otherwise adequate containment should be provided at the connection point)*
- *be regularly inspected for their condition (normally visual but extending to hydraulic testing where structural integrity is in doubt).*

Make sure all above-ground tanks containing liquids whose spillage could be harmful to the environment are bunded.

Storage areas for intermediate bulk containers (IBCs), drums, bags, and so on, must be designed and operated to minimise the risk of releases to the environment. In particular:

- *where spillage of any stored substance could be harmful to the environment, the area needs appropriate kerbing or bund*
- *provide appropriate storage facilities for substances with special requirements for example, flammable, sensitive to heat or light, and formal arrangements should be in hand to keep separate packages containing incompatible substances (both “pure” and waste). Do not use plastic IBCs to store flammable materials*
- *locate storage areas away from watercourses, unprotected drainage systems and sensitive boundaries, (for example those with public access) and protect them against vandalism*
- *consider undercover storage / weatherproof covering where pollution can be significantly reduced by so doing*
- *storage areas should have appropriate signs and notices and be clearly marked-out, and all containers and packages should be clearly labelled*
- *state the maximum storage capacity of storage areas and do not exceed this, and specify and adhere to the maximum storage period for containers*
- *store containers with lids, caps and valves secured and in place - and this also applies to emptied containers*
- *regularly inspect all stocks of containers, drums, and small packages (at least weekly)*
- *have procedures in place to deal with damaged or leaking containers*

Appendix 1 GCMS Results

Surface Water Lagoon 6th July 2021 - 2101115-01

CAS #	Compound Name	Concentration (µg/L)
EPA-339405	1,2-Cyclohexanedicarboxylic acid, dinonyl ester	<0.5
6422-86-2	1,4-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	<0.5
126-86-3	2,4,7,9-Tetramethyl-5-decyne-4,7-diol	0.18
96-76-4	2,4-Di-tert-butylphenol	0.01
149-57-5	2-Ethylhexanoic acid	0.01
1241-94-7	2-Ethylhexyl diphenyl phosphate	<0.5
13674-84-5	2-Propanol, 1-chloro-, phosphate (3:1)	<0.5
3622-84-2	Benzenesulfonamide, N-butyl	0.83
80-05-7	Bisphenol A	0.05
58-08-2	Caffeine	0.02
105-60-2	Caprolactam	0.07
EPA-333195	cis-9-Hexadecenoic acid	<0.5
131-11-3	dimethyl phthalate	0.04
127-63-9	Diphenyl sulfone	0.1
143-07-7	Dodecanoic acid	<0.5
23949-66-8	Ethanediamide, N-(2-ethoxyphenyl)-N'-(2-ethylphenyl)-	<0.5
1009-61-6	Ethanone, 1,1'-(1,4-phenylene)bis-	<0.5
54549-72-3	Ethanone, 1-[4-(1-hydroxy-1-methylethyl)phenyl]-	<0.5
206-44-0	Fluoranthene	<0.5
3302-10-1	Hexanoic acid, 3,5,5-trimethyl-	<0.5
57-10-3	n-Hexadecanoic acid	3.64
629-92-5	Nonadecane	<0.5
57-11-4	Octadecanoic acid	1.18
112-80-1	Oleic Acid	<0.5
106-02-5	Oxacyclohexadecan-2-one	<0.5
1002-84-2	Pentadecanoic acid	<0.5
85-01-8	phenanthrene	<0.5
10544-50-0	Sulfur (S8)	0.21
544-63-8	Tetradecanoic acid	0.88
77-90-7	Tributyl acetylcitrate	0.11
115-86-6	Triphenyl phosphate	0.14



**Cyfoeth
Naturiol
Cymru
Natural
Resources
Wales**

Downstream of W2 & W3 6TH July 2021 - 2101115-02

CAS #	Compound Name	Concentration (µg/L)
137-89-3	1,3-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	<0.5
126-86-3	2,4,7,9-Tetramethyl-5-decyne-4,7-diol	0.07
95-68-1	2,4-Dimethylaniline	0.08
149-57-5	2-Ethylhexanoic acid	0.03
13674-84-5	2-Propanol, 1-chloro-, phosphate (3:1)	<0.5
56-55-3	benz[a]anthracene	0.05
3622-84-2	Benzenesulfonamide, N-butyl	0.19
5989-27-5	d-Limonene	0.16
1009-61-6	Ethanone, 1,1'-(1,4-phenylene)bis-	<0.5
206-44-0	fluoranthene	0.03
538-23-8	Glycerol tricaprylate	<0.5
57-11-4	Octadecanoic acid	<0.5
373-49-9	Palmitoleic acid	<0.5
85-01-8	phenanthrene	0.01
129-00-0	pyrene	0.02
10544-50-0	Sulfur (S8)	0.13
544-63-8	Tetradecanoic acid	<0.5

Upstream of W2 6th July 2021 - 2101115-03

CAS #	Compound Name	Concentration (µg/L)
126-86-3	2,4,7,9-Tetramethyl-5-decyne-4,7-diol	0.16
149-57-5	2-Ethylhexanoic acid	0.31
13674-84-5	2-Propanol, 1-chloro-, phosphate (3:1)	<0.5
10546-70-0	Benzamide, N-propyl-	<0.5
3622-84-2	Benzenesulfonamide, N-butyl	0.27
106-65-0	Butanedioic acid, dimethyl ester	0.03
127-63-9	Diphenyl sulfone	0.03
1009-61-6	Ethanone, 1,1'-(1,4-phenylene)bis-	<0.5
54549-72-3	Ethanone, 1-[4-(1-hydroxy-1-methylethyl)phenyl]-	<0.5
57-11-4	Octadecanoic acid	<0.5
EPA-377935	Phthalic acid, di(2-propylpentyl) ester	<0.5
77-90-7	Tributyl acetylcitrate	0.04
121-33-5	Vanillin	0.18

W3 Emission 6th July 2021 - 2101115-04

CAS #	Compound Name	Concentration (µg/L)
84-69-5	1,2-Benzenedicarboxylic acid, bis(2-methylpropyl) ester	5.90
487-89-8	1H-Indole-3-carboxaldehyde	<0.5
96-76-4	2,4-Di-tert-butylphenol	0.05
149-57-5	2-Ethylhexanoic acid	0.82
1871-67-6	2-Octenoic acid, (E)-	<0.5
13674-84-5	2-Propanol, 1-chloro-, phosphate (3:1)	<0.5
58175-57-8	2-Propyl-1-pentanol	0.70
498-02-2	Apocynin	<0.5
100-52-7	Benzaldehyde	<0.5
134-96-3	Benzaldehyde, 4-hydroxy-3,5-dimethoxy-	0.57
10546-70-0	Benzamide, N-propyl-	0.96
103-82-2	Benzeneacetic acid	0.56
501-52-0	Benzenepropanoic acid	1.51
3622-84-2	Benzenesulfonamide, N-butyl	9.72
80-05-7	Bisphenol A	0.57
2430-94-6	cis-5-Dodecenoic acid	<0.5
EPA-333195	cis-9-Hexadecenoic acid	0.52
13684-56-5	Desmedipham	1.13
143-07-7	Dodecanoic acid	4.43
2478-38-8	Ethanone, 1-(4-hydroxy-3,5-dimethoxyphenyl)-	<0.5
EPA-253264	Heptanediamide, N,N'-di-benzoyloxy-	<0.5
142-62-1	Hexanoic acid	0.54
146039-03-4	N,N-Diethyl-N'-formyl-N'-methoxyurea	0.75
334-48-5	n-Decanoic acid	1.14
51000-52-3	Neodecanoic acid-ethenyl ester (Breakdown product)	4.32
112-05-0	Nonanoic acid	<0.5
57-11-4	Octadecanoic acid	0.78
124-07-2	Octanoic acid	0.79
106-44-5	p-cresol (4-methylphenol)	2.2
108-95-2	Phenol	0.9
EPA-315174	Phthalic acid, 6-ethyl-3-octyl butyl ester	5.85
544-63-8	Tetradecanoic acid	0.67
77-90-7	Tributyl acetylcitrate	0.3
638-53-9	Tridecanoic acid	<0.5
112-37-8	Undecanoic acid	<0.5
121-33-5	Vanillin	24.03
57-11-4	Octadecanoic acid	0.78
124-07-2	Octanoic acid	0.79
106-44-5	p-cresol (4-methylphenol)	2.2
108-95-2	Phenol	0.9
EPA-315174	Phthalic acid, 6-ethyl-3-octyl butyl ester	5.85

Upstream of W3 6th July 2021 - 2101115-05

CAS #	Compound Name	Concentration (µg/L)
126-86-3	2,4,7,9-Tetramethyl-5-decyne-4,7-diol	0.3
96-76-4	2,4-Di-tert-butylphenol	0.01
13674-84-5	2-Propanol, 1-chloro-, phosphate (3:1)	<0.5
102608-53-7	3,7,11,15-Tetramethyl-2-hexadecen-1-ol	<0.5
82304-66-3	7,9-Di-tert-butyl-1-oxaspiro(4,5)deca-6,9-diene-2,8-dione	<0.5
6781-42-6	Ethanone, 1,1'-(1,3-phenylene)bis-	<0.5
108-38-3	m-Xylene	0.06
134-62-3	N,N-Diethyl-m-toluamide	0.15
57-11-4	Octadecanoic acid	<0.5
74367-34-3	Propanoic acid, 2-methyl-, 3-hydroxy-2,4,4-trimethylpentyl ester	<0.5

Downstream of DP Site 5th July 2021 - 2101115-06

CAS #	Compound Name	Concentration (µg/L)
112-84-5	13-Docosenamide, (Z)-	0.67
96-76-4	2,4-Di-tert-butylphenol	0.01
EPA-283051	3-Chloropropionic acid, heptadecyl ester	<0.5
60-33-3	9,12-Octadecadienoic acid (Z,Z)-	<0.5
EPA-333195	cis-9-Hexadecenoic acid	0.53
506-17-2	cis-Vaccenic acid	<0.5
143-07-7	Dodecanoic acid	<0.5
6781-42-6	Ethanone, 1,1'-(1,3-phenylene)bis-	<0.5
2416-20-8	Hexadecenoic acid, Z-11-	<0.5
57-10-3	n-Hexadecanoic acid	1.13
112-05-0	Nonanoic acid	<0.5
57-11-4	Octadecanoic acid	<0.5
124-07-2	Octanoic acid	<0.5
544-63-8	Tetradecanoic acid	<0.5
121-33-5	Vanillin	0.46