

Compliance Assessment Report

CAR_NRW0038790

Permit number	XP3830UR	Operator name	The First Milk Cheese Company Ltd
----------------------	----------	----------------------	-----------------------------------

Site name	Haverfordwest Creamery
Site address	Pembroke Road, Merlins Bridge, Haverfordwest, Pembrokeshire SA61 1JN
Type of assessment	Pollution incident response (ref: 2106679; 04 August 2021)

Date of assessment	12/11/2021	Time in	N/A	Time out	N/A
---------------------------	------------	----------------	-----	-----------------	-----

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

NRW Lead officer	Douglas Cowie	Accompanied by	N/A
Report sent to – Name and position	Paul Rowe Operations Development Director	Date	28/01/2022

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

Part of permitted activity assessed (use action criteria below)	Assessment result	Permit condition
A1 Specified by permit	Assessed or assessed in part (A)	2.1.1
E3 Emissions – Surface water	C2 Significant	3.1.1
G4 Monitoring and records, maintenance and reporting – Reporting and notification to Natural Resources Wales	Assessed or assessed in part, no evidence of non-compliance found. Action Only (X)	4.2.1 4.3.1

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

Total number of non-compliances recorded	Total non-compliance score
1	31

2. What action is required?

Criteria	Action needed	Complete by
G4	Action 38790/01: The operator should submit a Schedule 5 Part B notification to the regulator following: i) completion of its investigation into the incident; and ii) conclusion of the measures taken to address the permit breach identified in this report.	25/02/2022

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 prosecutions 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

Site description

The First Milk Cheese Company Ltd operates a milk processing and cheese production facility at Haverfordwest Creamery, Merlins Bridge, Haverfordwest. The company is a subsidiary of First Milk Ltd, the UK's largest dairy farmer co-operative. The facility is permitted as an installation under Section 6.8 (The Treatment of Animal and Vegetable Matter and Food Industries) of the Environmental Permitting Regulations (EPR).

Milk from approximately 300 local farms is pasteurised and processed at the installation to produce cheese and dairy products. The permitted installation includes an integrated effluent treatment plant (ETP) which discharges to the Western Cleddau. An agreed nutrient 'off-set' scheme mitigates the creamery's treated effluent discharge through a combination of nutrient management measures at (scheme member) dairy farms.

Purpose of visit/assessment

On 4 August 2021 officers from Natural Resources Wales (NRW) responded to a pollution incident affecting the Merlin's Brook, a tributary of the Afon Cleddau, at Haverfordwest.

NRW officers subsequently traced the source of the pollution to the permitted installation, specifically the raw effluent pipeline between the creamery and its effluent treatment plant.

The operator has submitted an associated Schedule 5 Part A notification identifying an effluent pipe failure and a release of effluent to the environment.

This report confirms our compliance assessment of this notifiable release in the context of the installation permit requirements. The relevant permit conditions are listed under Sections 2.1, 3.1, 4.2 & 4.3 of First Milk's permit.

Compliance assessment

Pollution incident 2106679

Natural Resources Wales (NRW) officers responded to a pollution incident affecting the Merlin's Brook on 04 August 2021. The officers found sewage fungus¹ contamination within the watercourse and discovered a discharge of pale effluent entering the Brook at National Grid Reference (NGR) SM 94965 14588, shown as the red circle in Figure 1 below.

The effluent discharge point is located close to permitted installation EPR/XP3830UR (Haverfordwest Creamery), outlined in green within Figure 1 below. Our officers collected evidence during their investigation, including a formal bi-partite sample of the effluent discharge into the Merlin's Brook on 4 August 2021.



Figure 1: installation boundary (green line) and discharge point (circled in red) at NGR SM 94965 14588

The nature of the effluent and the circumstances of this incident necessitated further investigation on 05 August 2021. NRW officers re-attended site and confirmed an ongoing discharge of pale effluent into the Brook. We also attended Haverfordwest Creamery to investigate the possible origin of this discharge.

¹ Sewage fungus is a term used to describe organic growths or 'flocs' present within the substrate of streams and rivers. Such growths are usually off-white to grey-brown; some can have a pinkish colour. The types of organisms that commonly make up sewage fungus are filamentous bacteria and protozoa as well as true fungi.

Sewage fungus growths can be massive and extensive within a water column. Growths are heterotrophic and not capable of photosynthesis. They can be sustained by a variety of organic effluents including sewage, animal slurry, silage effluent and industrial effluents such as those from paper mills and food processing.

As well as being unsightly, growths of sewage fungus can be very detrimental to aquatic life. Massive growths can physically smother the stream bed reducing algal growth and limiting the food sources available to aquatic invertebrates. Respiration of the sewage fungus can lead to de-oxygenation of the water column and the riverbed both during growth phase and when the growths decay due to a reduction in pollution input. This has detrimental effects on many aquatic invertebrates and on fish which use river gravels for spawning.

Condensate and raw effluent generated by the Creamery is transferred to an on-site Effluent Treatment Plant (ETP) via an open surface flume and an underground pipe system. The flume comprises two channels arranged in parallel which receive creamery condensate (from cooling activities) and raw effluent arising from cheese manufacturing. These twin flows are then transferred via separate condensate and effluent pipes to the ETP.

At 15:45hrs on 5 August 2021 an NRW officer applied yellow/green fluorescein dye to the raw effluent flume to identify any possible pollution pathway from the permitted installation.

Shortly after applying the dye, at 16:00hrs an NRW officer observed a corresponding yellow/green colour change within the discharge at NGR SM 94965 14588. This indicated an underground pollution pathway from the permitted installation to Merlin's Brook. Our officers also obtained a sample from the raw effluent flume on 5 August 2021.

The following table (Figure 2) summarises a selection of analytical results of the samples obtained by NRW officers on 04 and 05 August 2021. This includes NRW's portion of the bipartite discharge sample, upstream and downstream water samples obtained from the Merlin's Brook and the sample taken from the creamery raw effluent flume.

Parameter	Merlin's Brook upstream of discharge point on 04/08/21	Bipartite sample of effluent discharge at grid ref SM 94965 14588 on 04/08/21	Merlin's Brook approx. 750m downstream of discharge on 04/08/21	Haverfordwest Creamery raw effluent flume on 05/08/21	Analytical unit
Biological Oxygen Demand (BOD)	<3.00	298.00	5.69	617.00	mg/litre
Chemical Oxygen Demand (COD)	<10.00	556.00	13.50	1360.00	mg/litre
Total Suspended Solids (TSS)	<6.00	170.00	<6.00	650.00	mg/litre
Chloride	30.60	140.00	39.50	753.00	mg/litre
Orthophosphate	0.03	3.78	0.14	8.31	mg/litre
Ammonia-N	<0.03	8.37	0.06	0.16	mg/litre
Nitrate-N	2.17	11.30	4.85	6.50	mg/litre
Nitrite-N	<0.004	16.30	0.95	<0.004	mg/litre
Inorganic-N	<2.20	35.97	5.86	6.66	mg/litre
Oxidised-N	2.17	27.60	5.80	6.50	mg/litre

Figure 2: A selection of analytical results of samples obtained by NRW during its Merlin's Brook pollution investigation on 04/08/21 and 05/08/21

These results indicate elevated levels of pollutants within the effluent discharge into the Merlin's Brook on 04/08/21. The results also correspond to the presence of sewage fungus growths within the watercourse downstream of the discharge. The bacterial masses or flocs within sewage fungus grow in response to organic pollution inputs, leading to oxygen depletion and degradation of the local aquatic environment (see footnote on page 3 of this report). Furthermore, the results do not indicate pollution within the watercourse upstream of the identified effluent discharge.

Following the incident, the operator investigated the condition of the condensate and effluent flume and the corresponding pipe connections. NRW has subsequently received a Schedule 5 Part A notification from the operator confirming a failed underground section of pipe located close to the end of the surface flume connection. The operator has since completed a repair at the point of failure with specialist drainage contractor support. In addition, the operator has taken the opportunity offered by the specialist contractor presence and has committed significant resources to a replacement raw effluent pipe between the Creamery and ETP.

The condensate pipe has also been checked by the operator; it is understood that these checks have not shown any integrity issues. The condensate flume and pipe has been used as a surrogate raw effluent pipe during the repairs, allowing cheese production to continue at Haverfordwest and minimising wider disruption and impact from this incident.

The operator has also committed to a sampling regime at the Merlin's Brook to assess the ongoing environmental impact of the incident. Sample results have been shared with the regulator and these show a steady decline in measured pollutants such as COD, phosphorus and suspended solids.

The reasonably foreseeable environmental impact of this incident is significant and has been attributed to an unauthorised raw effluent discharge from First Milk's permitted installation. The immediate cause has been identified as a fault within the raw effluent pipe, resulting in an underground pollution pathway to the Merlin's Brook and an effluent discharge at NGR SM 94965 14588.

Permit condition 3.1.1 states:

3 Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1 and S3.2.

The effluent discharge identified at NGR SM 94965 14588 is an unauthorised emission to water from the First Milk installation and is a breach of permit condition 3.1.1. We have assessed the reasonably foreseeable impact of this release as significant in accordance with our Compliance Classification Scheme (CCS). One CCS Category 2 score has been recorded in response to this permit non-compliance.

NRW will now consider if any enforcement action is appropriate following this incident – please see Section 3 above. We recognise that First Milk has already acted and has committed resources to address the impact and the cause of this unauthorised release.

The root cause(s) may require further investigation and may be examined in more detail during a future compliance visit. Additional CCS scores may be applied if associated permit non-compliances are identified.

In terms of notifying the regulator (section 4.3 Notifications), we are satisfied the operator has notified us about this incident in accordance with the permit conditions.

We await submission of the Schedule 5 Part B notification when further relevant information becomes available, including, but not limited to, a description of the works undertaken to correct the problem.

In this specific instance, it is recognised that the underground pathway followed by the pollutant has influenced how quickly the source could be detected and isolated. This has been considered within our assessment of compliance with the permit notification conditions.

Action 38790/01: The operator should submit a Schedule 5 Part B notification to the regulator following: i) completion of its investigation into the incident; and ii) conclusion of the measures taken to address the permit breach identified in this report.

Summary and actions required

This report includes **one CCS Category 2 score** for the installation permit breach identified in this report, namely the unauthorised release of effluent from the permitted installation into the Merlin's Brook in August 2021.

NRW will consider if any enforcement action is appropriate in response to this incident and the associated permit non-compliance.

The root cause(s) of this incident may require further investigation and may be examined during a future compliance visit.

We are satisfied the operator has notified the regulator of this incident in accordance with the permit conditions. We await submission of the Schedule 5 Part B notification when further relevant information becomes available (see action above).

Note: Novel Coronavirus (COVID-19)

The novel coronavirus (COVID-19) pandemic continues to impact the site operator's activities and the regulator's duties. NRW observes the statutory measures introduced to control and reduce the spread of Covid-19 and we currently employ a risk-based approach when deciding to deploy our resources.

Natural Resources Wales / Our response to the coronavirus pandemic

During this pandemic there will be an expectation that site operators continue to comply with their environmental permit conditions. Where the operator has identified an issue that is likely to result in permit non-compliance or increased environmental risk, the operator is expected to raise this with the regulator at the earliest opportunity.

END OF ASSESSMENT

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 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	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.