

ENDS' Angus Fire investigation: What you need to know

Pippa Neill

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God's own Dark Waters?: Last week, ENDS published a two-part investigation exposing how a small market town in Yorkshire is the most PFAS-polluted place in the country. Here are the key findings...



Bentham is home to Angus Fire

Angus Fire first began producing PFAS firefighting foams in Bentham, Yorkshire, in the 1970s. Its website states that it is “a global leader in firefighting technology”.

Angus Fire stopped selling PFAS fire fighting foams earlier this year and it now only tests PFAS-free foams in Bentham, with testing of PFAS foams believed by staff to have halted “at some point in 2022”.

Groundwater on the site contains the 'highest levels of PFAS ever recorded' in the UK

Data obtained by ENDS under a series of freedom of information (FOI) requests reveals that testing of groundwater on the Angus Fire site in 2008 recorded a PFAS sum of 1,199,000 ng/l.

Within the total PFAS sum there was 18,100 ng/l of PFOA and 36,100 ng/l of PFOS. These samples were taken from the groundwater near Angus Fire's wastewater lagoons, which have historically contained contaminated run-off created during the testing of PFAS firefighting foams.

Read the full God's own Dark Waters investigation



PART 1: How Bentham became the most polluted place in the UK

PART 2: How the Environment Agency let it happen

Angus Fire told ENDS in a statement that it has “never manufactured foam containing PFOS and ceased manufacturing foam that may have contained trace amounts of PFOA in 2016”.

The firm is permitted to discharge the wastewater from its lagoons to the sewer

Angus Fire is currently permitted by United Utilities to discharge this contaminated water directly to the Bentham sewage treatment works.

The permit does not mention PFAS, but it does describe the effluent as “waste water derived from the manufacture and testing of firefighting foam and hose”.

The firm stopped sending contaminated water to these lagoons in 2020.

Issues were raised with these lagoons last summer

In June 2023 following an inspection, Environment Agency officers told Angus Fire they were “not satisfied that you have demonstrated that the lagoons are fit for purpose and also do not present a risk of causing groundwater pollution”.

They said the problem with the lagoons means there is an “increased risk of fluorinated hydrocarbons [PFAS] being released to sewer.”

As such, the EA said it was “minded” to suspend Angus Fire’s permit insofar as it was allowed to use the lagoons. However, because the agency said this “may have a significant impact” on business, the EA gave the firm the opportunity to submit an action plan and complete any necessary remedial work. ENDS understands that the permit was never suspended.

Angus Fire told ENDS that its wastewater lagoons “have been managed to ensure no off-site release of PFAS”, adding that “in the event that any water overflows the lagoons, due to heavy rainfall, it remains on-site via a closed loop drainage system, as validated by the recent testing undertaken by the EA. So we do not agree that water overflowing from the lagoons would get into the sewer system”.

Residents said firefighting foam from the test area used to make its way onto the street

Multiple residents told ENDS that foams from the test area used to make their

way onto Duke Street, a narrow residential road just metres away from the lagoons.

Angus Fire told ENDS that this scenario is “unlikely” and said it has not received or been made aware of any evidence of this.

Angus Fire’s borehole is polluted with PFAS

Publically available testing of the Angus Fire borehole in October 2022 recorded a PFAS sum of 3,560 ng/l and 210 ng/l of PFOS.

According to Angus Fire, its own borehole is now capped off and has never been used for drinking water. The public drinking water supply for Bentham comes from a reservoir more than nine miles away from the town, the firm pointed out.

This borehole penetrates to the Millstone Grit aquifer

This is a class one aquifer that provides potable drinking water to other private abstractors in the local area.

An Environment Agency document obtained by ENDS notes that the PFAS detected in this borehole “indicates that either the groundwater within the Millstone Grit aquifer is contaminated with PFAS, or potentially this borehole is acting as a pathway for contaminated groundwater to reach the deeper aquifer”.

This prompted concerns over the safety of drinking water in the area

In February 2023, the EA wrote to the local council to warn that it had detected “PFAS substances in raw water associated with private groundwater supplies”.

On the advice of the EA, in April 2024, North Yorkshire Council conducted testing of the drinking water on the Riverside Caravan Park, which receives its drinking water from a borehole. The results came back showing a total PFAS sum of <165ng/l.

While lower than the Drinking Water Inspectorate's acceptable levels for PFAS, Dr Shubhi Sharma from CHEM Trust said the PFAS levels are nevertheless "very concerning".

Commenting, a spokesperson from Riverside Caravan Park said that drinking water at the site is "tested regularly by North Yorkshire Council, and the supply has never failed to be found anything other than safe for consumption, and falls well under the statutory requirements".

The council will now test this water supply on an annual basis

North Yorkshire Council's corporate director for environment, Karl Battersby, said the water supply was tested for a range of PFAS substances and that "levels for each of these were found to be well below 0.01µg (micrograms) per litre, the 'low risk' threshold set out by the DWI".

"However, residents should be assured that we will continue to test the water supply on an annual basis," he said.

An Angus Fire spokesperson said: "As Bentham's biggest employer, we actively address all concerns related to local environmental impact and compliance. We are committed to continuous improvement in our operations, transparency, and working collaboratively with regulatory bodies to protect public health and the environment."

"We no longer manufacture or test any PFAS-containing foam products at Bentham, or anywhere else in the world. The business is focused on developing environmentally-friendly products, including JetFoam, the world's first ever fluorine-free firefighting foam capable of extinguishing aviation fuels.

To read part two of this investigation to learn how the Environment Agency hamstrung local authority investigations into the safety of drinking water in the region, and offered Angus Fire reputation management advice, read the second part of this investigation here.



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