

Mine water by-product unlocks city-centre brownfield site

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Ochre from mine water treatment is being used to stabilise contaminated soil at a former lead works in Chester, making way for 126 new homes.

A by-product from mine water treatment is being used to help unlock a long-derelict brownfield site in the heart of Chester, supporting the delivery of new homes in a safe and sustainable way.

The Mining Remediation Authority developed an innovative approach to repurpose ochre, a naturally occurring iron-rich material produced during mine water treatment, to support the remediation of contaminated land.

Ochre from the authority's Deerplay mine water treatment scheme in Bacup, East Lancashire, is being supplied and applied, working with remediation specialist Rhodar, as part of ground-breaking works to stabilise contaminated soils at a former lead works site in the city centre.

How mine water by-product is enabling city centre apartments

The 5,200 square metre site was historically occupied by the lead works before later being used as a car park. It has remained undeveloped for a number of years due to legacy contamination, including lead-impacted soils and asbestos-containing materials.

Using a chemical stabilisation process, ochre is mixed into the ground to bind contaminants within the soil. This limits the movement of lead and other heavy metals, allowing contamination to be managed safely on site rather than being excavated and removed.

This is not the first time the organisation has successfully used ochre to help treat contaminated material. The approach was previously applied during the Mersey Gateway infrastructure project, where ochre was used to support the safe management of arsenic-contaminated soils at scale: Awards success for Coal Authority and partners - GOV.UK.

The ochre by-product collected from our site.

The recent remediation works will enable a proposed residential development of 126 new apartments at a prime city-centre location, supporting regeneration while reducing environmental impact.

James White, Mining Remediation Authority project lead, said:

This project demonstrates how materials produced through mine water treatment can be reused to address complex contamination challenges.

Repurposing ochre to help stabilise heavy metals is reducing risk, cutting waste and supporting safe regeneration of an important city-centre site.

Repurposing ochre also supports circular-economy principles by giving a second life to a mine water treatment by-product, reducing waste, vehicle movements and carbon emissions associated with

traditional remediation approaches.

Deerplay mine water treatment scheme in Lancashire.

<https://www.gov.uk/government/news/mine-water-by-product-unlocks-city-centre-brownfield-site>