Mining Remediation Authority

Eastwood Phase 1 Mine Water Heat Feasibility

September 2025

Disclaimer

This report has been prepared by the Mining Remediation Authority for Broxtowe Borough Council under purchase order CED0016134 dated 8 July 2025.

Any conclusions or recommendations made are those based on information obtained for the report and our current knowledge and practices. Data used within the report, either obtained by the Mining Remediation Authority or 3rd Party, has been cited within the report. Limitations of the data are identified within the report. The Mining Remediation Authority does not accept liability for the accuracy of any 3rd party data. Should new data or information become available these results, conclusions and recommendations may require amending.

This report should only be used in the stated context.

Version	Produced by	Reviewed by	Approved by	Date
1	Lee Wyatt	Dan Mallin Martin Matthew Fox	Gareth Farr	8th September 2025

The Mining Remediation Authority, 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG

Executive Summary

The Mining Remediation Authority has been commissioned by Broxtowe Borough Council (CED0016134) to carry out a mine heat study to assess potential for a mine water heat source at Eastwood for a proposed new health suite and potential heat network for the local area.

We reviewed mine plan, mining information, and hydrogeological information, to identify areas for mine water heat schemes within Eastwood. We also summarised regulatory requirements along with mine water heat use risks.

A summary of the key findings of the study are as follows:

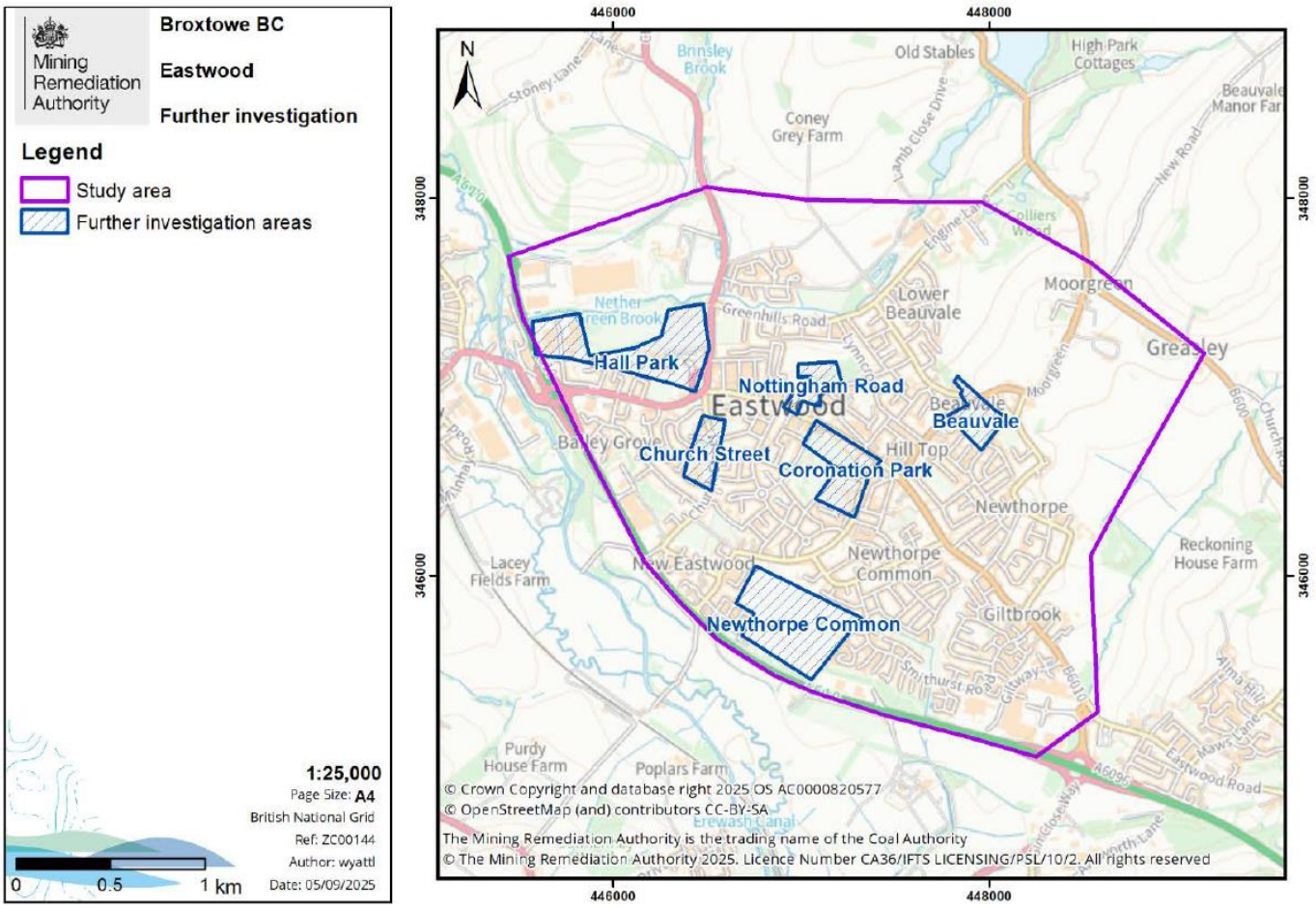
- Eastwood sits above 11 worked seams with a variety of extents from a few roadways to covering almost all of Eastwood; depth of mine workings ranging from near surface to 360 m below surface. Thus, mine workings extents and depths of mine workings make Eastwood an attractive proposition for mine water heat
- Most of the mine workings under Eastwood are expected to be flooded, which is a requirement for mine water use in heat schemes
- There are 3 mine water management blocks in the Eastwood area. Mine water levels may be different in each block, but should be around 20 to 70 mAOD (approx. 10 to 80 m below surface), which is favourable for pumping
- Mine water temperature based on depth of mine workings and actual data from Woodside is expected to be 11 to 17°C
- Water quality data across the area and adjoining areas suggests mine water with elevated iron and potentially brackish to saline water

Across nearly all of the study area there are mine workings in multiple seams, the majority of which are flooded; suggesting that almost the whole of Eastwood offers good potential for mine water heating, cooling, and storage

The study, based on potential current end-users highlighted 6 areas for further investigation:

- Nottingham Road: Wellington Court; Eastwood Library; Lawrence View Primary School
- Beauvale: Greasley Beauvale Primary School; Greasley Sports and Community Centre
- Church Street: Eastwood Primary Care Centre; Springbank Primary School
- Hall Park: Hall Park Academy; Meadowbank Way Industrial Estata
- Coronation Park: The Florence Nightingale Academy; Eastwood Community FC; Eastwood Fire Station; Commercial properties

Drilling depths in these recommended areas to suitable targets range from 50 to 265 m, with estimated drilling costs for pilot or small diameter operational boreholes of £50-£200k per borehole, depending on depth and geology / mining situation.



Eastwood offers good potential for mine water heat across most of its area, we recommend that the next steps are to:

- Confirm areas for further investigation
- Undertake Phase 2 studies for areas identified, to assess:
  - Areas or sites for possible boreholes in each study area, along with assessment of borehole option
  - Confirm mining and hydraulic connectivity between mine workings at a site – connectivity between seams is required for discharged water to return to abstraction borehole
  - Confirm potential pathway length between different mine workings for each site – short pathways can lead to thermal short-circuiting
  - Determine and site specific risks in respect mine workings for a mine water heat scheme