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In June and July of 2019 ABI Equipment Ltd supplied BAM Nuttall with a Delmag RH28 drilling rig for use at a site in Rutherglen, Scotland. The rig was equipped with a BT280 Rotary Head, an 810D Kelly Bar and various other casing and tooling equipment.

This powerful, robust rig was required for the first stage of drilling of research boreholes for the UK Geenergy Observatory in Glasgow, which is being delivered by the British Geological Survey on behalf of the Natural Research Environment Council. At the research site, scientists will be able to investigate the viability of using geothermal energy from shallow mineworkings as a sustainable source of energy.

The site is located above an area of mine workings. Construction of the boreholes was carried out in three stages, the first stage through the made ground, the second stage to rockhead and the third stage to the termination depth. At each stage a permanent casing was installed and the follow on stage was then drilled at a smaller diameter. To achieve the required drilling diameter in rock the project team selected 880mm temporary casing to drill the first stage through the made ground.

The RH28 rig, with its 288kNm of torque and 420 kN of crowd force, was used to drill the first stage of a total of 11 boreholes through the made ground. The first stage was drilled up to 18m deep, which the RH28 drilled comfortably. The first stage drilling was completed on programme allowing the specialist drilling rigs to drill the deeper stages.

Geothermal Investigation, Glasgow

Our client:

BAM Nuttall

Equipment used:

Delmag RH28 with BT280 Rotary Head + 810D Kelly Bar

Application: Borehole Drilling



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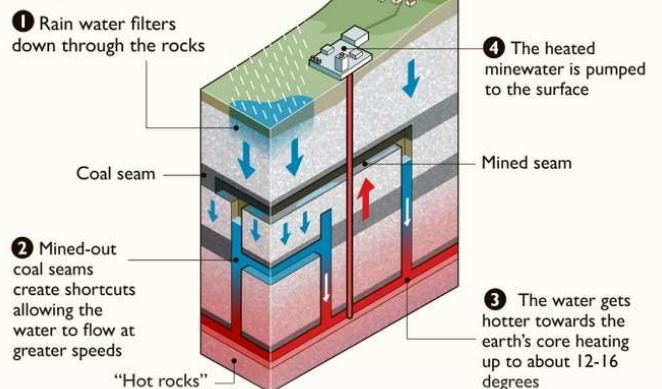
The boreholes range in depth between 13m and 94m, six of which intercept the disused mines below. Over 300 sensors and 200m of fibre optic cable have been installed in the boreholes to monitor the flow of the groundwater within the underground labyrinth of abandoned shafts and tunnels.

An obvious challenge to be met was drilling through the made ground which was in excess of 10m thick and comprised an unknown variety of demolition rubble and coal mine waste. The robust RH28 rig was chosen for this work because of its high power and agility to access the site and move between drill locations.



The Geothermal Concept

Deep heat



Ian Bannerman, Senior Geotechnical Engineer, BAM Nuttall

“ABI provided an excellent service both during the planning of the works and during the construction. The RH28 performed well drilling through the made ground and proved to be a good choice for the project.”

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