

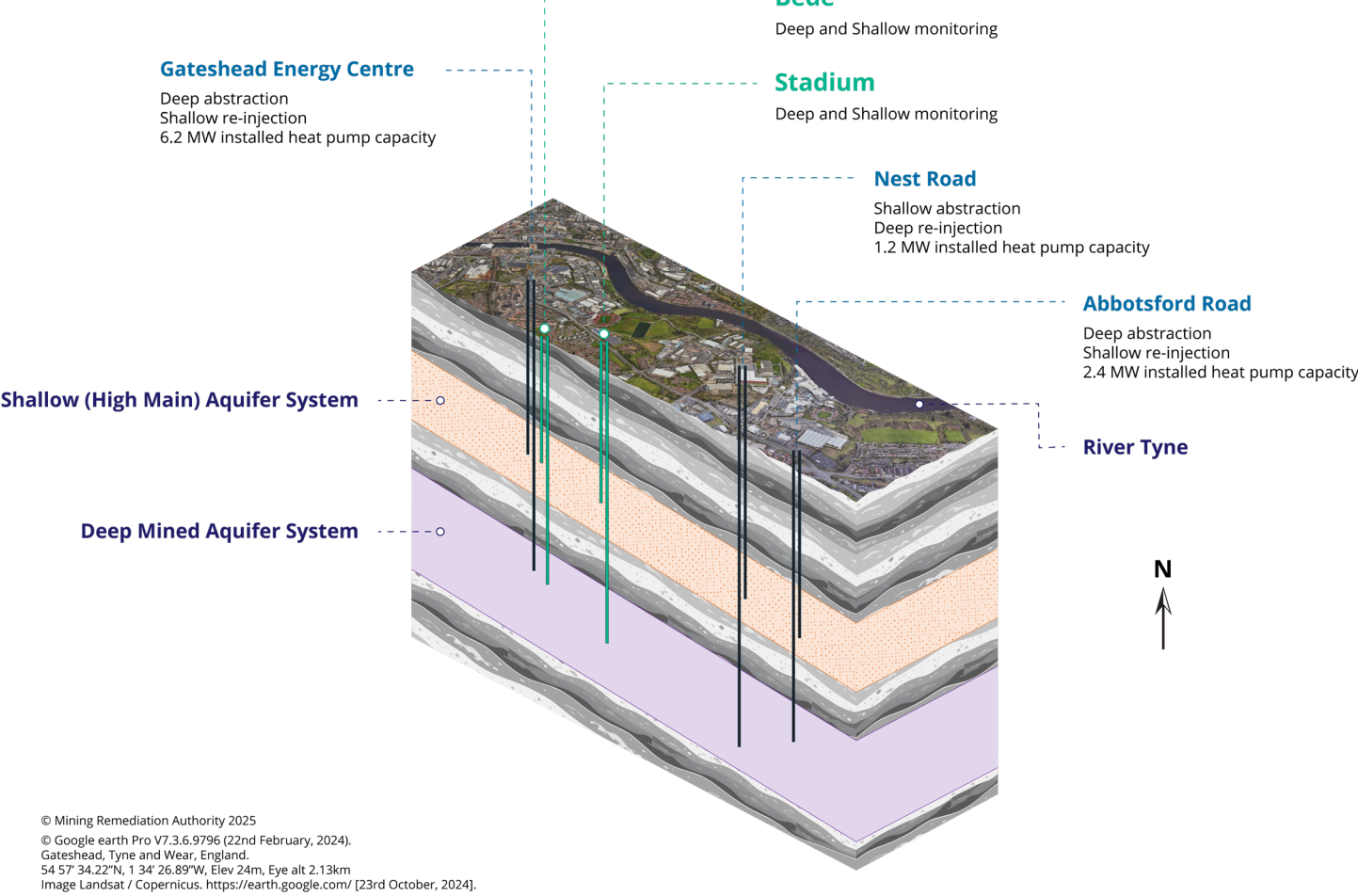


GATESHEAD

MINE WATER HEAT LIVING LAB

The Mining Remediation Authority's mine water heat living lab in Gateshead is a pioneering research initiative designed to explore the thermal and hydrogeological behaviour between operational mine water heat schemes in the same mine water block. The facility is located in the vicinity of three mine water heat schemes and will provide open-access data that will help optimise the use of mine water as a secure, low carbon heat source. The data gathered will provide evidence to inform future licensing, management and wider adoption of mine water heat schemes.

Conceptual cross section showing operational mine water heat schemes and Living Lab monitoring points



The Gateshead Living Lab consists of four boreholes across two sites (Bede and Stadium) installed with state-of-the-art monitoring equipment to allow crucial data to be collected from the below ground mine workings. The borehole names refer to the site and the coal seam that they are completed in.



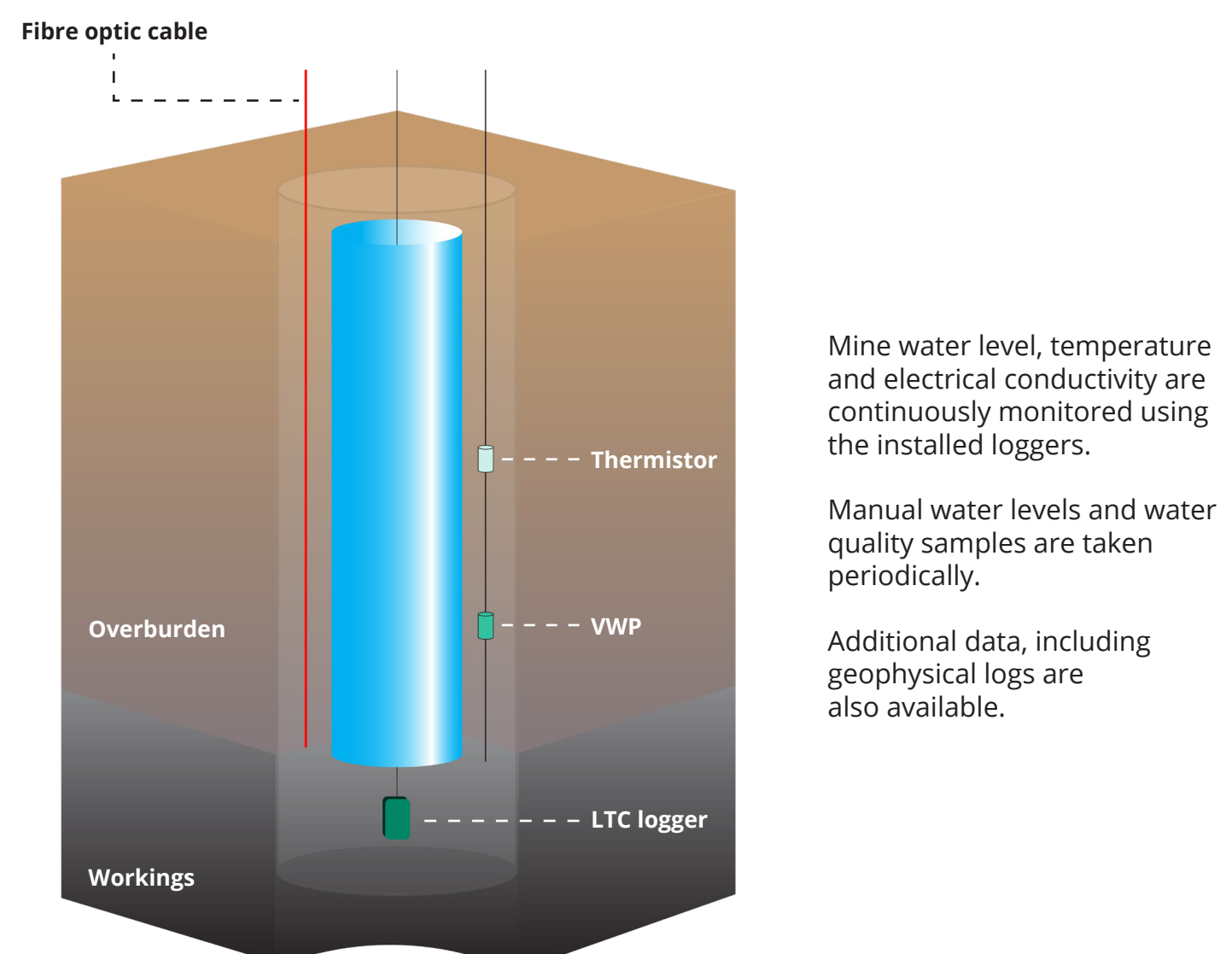
Bede



Stadium

Borehole construction

Each borehole is completed with 4" (102mm) plastic casing and are open into the workings. There are level, temperature and electrical conductivity (LTC) loggers installed into the open sections. The two deeper boreholes (Bede Brass Thill and Stadium Hutton) also have fibre optic cables, thermistors and vibrating wire piezometers (VWPs) installed outside the plastic casing.



Borehole and instrumentation details

	Bede High Main	Bede Brass Thill	Stadium High Main	Stadium Hutton
Borehole depth	56m	136m	82m	189m
Inner casing depth	50m	122m	61m	170m
Level, temperature, conductivity logger	~51m	~132m	~73m	~180m
Vibrating wire piezometer	-	12m 27m 80m	-	10m 48m 80m
Thermistor	-	49m 120m	-	120m 160m
Fibre optic	-	to 120m	-	to 160m

Note: depths in metres below ground level

Data is available on our data.gov site:
<https://www.data.gov.uk/dataset/0aab938a-07b5-4c95-9c11-1b09ac4e82da/gateshead-mine-water-heat-living-laboratory>

For further information on the Gateshead Mine Water Heat Living Lab, please contact:

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