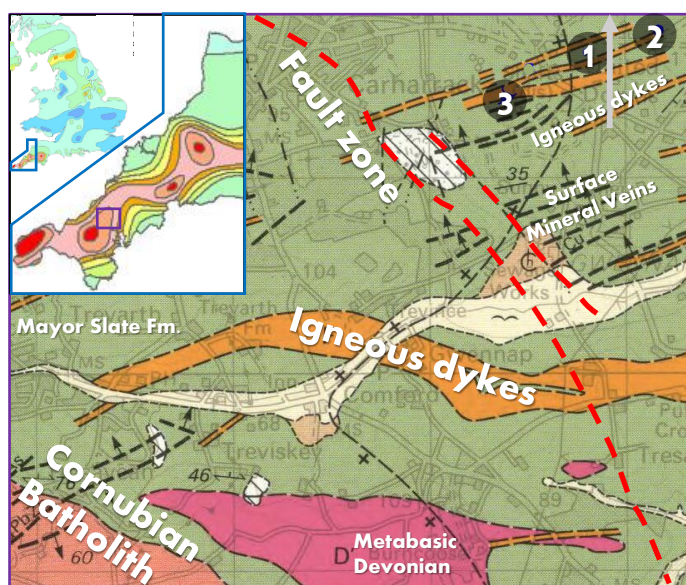


# Remote Geothermal Detection using Energy readings of Stacked Radio Waves

Adrok completed 3 scans over a prospective location for geothermal energy in United Downs (Cornwall). We were asked one question...

**Can we remotely detect temperature rises in the subsurface?**

A power plant is already due to start operations in 2021 very nearby that will use the very same structures that this study was able to map remotely.



**Figure 1:** Geological map of the area with key geological features. 1 is Site 1a&b, 2 is Site 2 and 3 is the United Downs Deep Geothermal site. [Source: BGS sheet 352 Falmout.](#)

The UK map on top indicates high geothermal potential with red. [Source: BGS \(NERC\).](#)

## How?

We measure the variations within the energy returns of the ADR signal.

$$Energy_{Gamma} = \frac{E_{max} - E_{min}}{E_{max} + E_{min}}$$

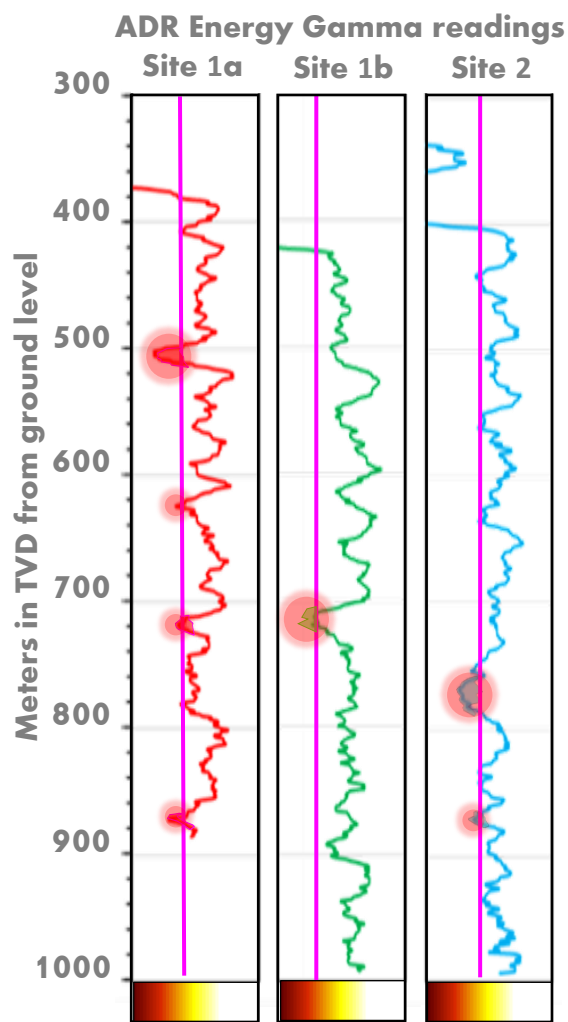
Intense troughs of Energy Gamma below a baseline of 0.9990 correlate with known levels of temperature anomalies in the subsurface.

## So what?

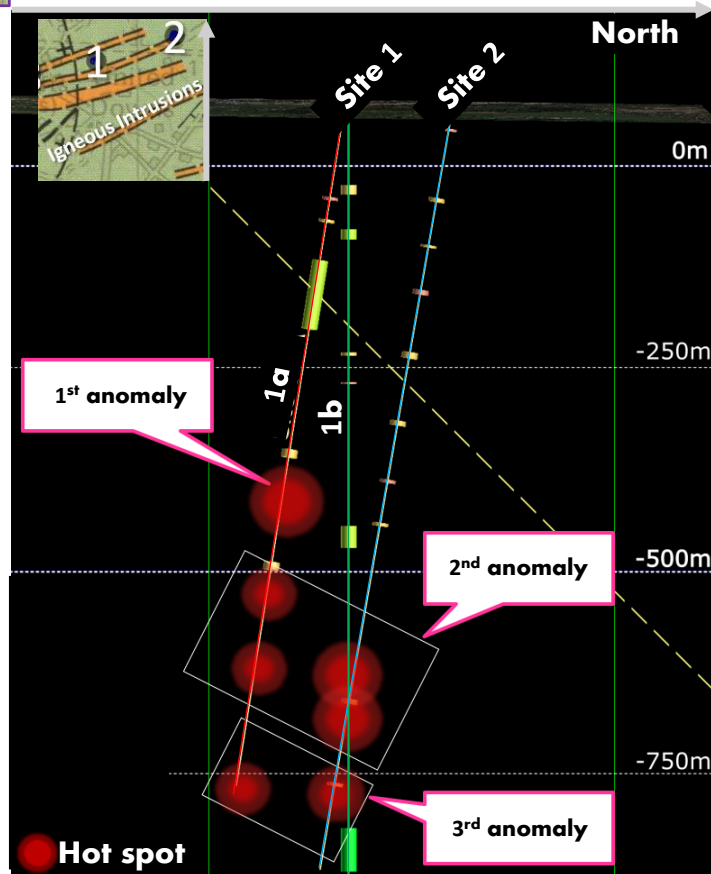
This technique allows for remote exploration of geothermal potential.

Adrok has experience on even deeper geothermal surveys.

For more field results and examples please email [gstove@adrokgroup.com](mailto:gstove@adrokgroup.com)



**Figure 2:** Sites 1a & 2 dip -80° towards 355°, Site 1b is vertical. Graphs show Adrok Energy Gamma readings with a pink baseline at 0.9990. Troughs detect likelihood of hot spots.



**Figure 3:** United Downs mineralisation overlaid with the temperature prognosis derived from E-Gamma, hot spots in red, depths in metres below sea level. The dotted line marks the general dip of the intruding dykes. The second anomaly is the one with the most evidence, comprising 4 likely spots at around 600m below sea level.