

FLEET

Unlocking Copper exploration at greater depths and boosting ESG practices

The Challenge

In South Australia, Hillgrove Resources has an exploration program that aims to quickly assess a large tenement area to quantify the likelihood and location of significant copper deposits. The copper is difficult to locate in the tenement due to sand cover, the vast size of the area and large number of landholders involved in the process. ExoSphere addressed these challenges by collecting and modelling the data along public roads, drastically reducing the time frame from years to months to produce a map of priority zones for engagement with landowners.

Who is Hillgrove Resources?

Hillgrove Resources Limited is an Australian resources company listed on the Australian Stock Exchange (ASX) and owner of the Kanmantoo Copper Gold Mine.

The company has been operating within South Australia for 15 years with a strong operational experience and Award-Wining mining stakeholder engagement and recognition on best ESG practices.

The Solution



Surveys Conducted
2



Survey Size
258 km²



No. of Geodes
40 (per survey)



Project Duration
25 days



Depth
3.7 km



Resolution
>200 m

“We can do the survey within a week and the fieldwork for a detailed grid takes only a few months instead of years. We are saving years of exploration time and discoveries (...) There is nothing else in the market like ExoSphere at the moment.”

Peter Rolley | Chief Geologist and Exploration Manager,
Hillgrove Resources



Gather Data

The Geode sensors collect real time data on the ground through the passive Ambient Noise Tomography (ANT) method.

Connect

Fleet's Global Low Power Satellite Network receives the data in near real time, connecting the Geodes to the cloud.

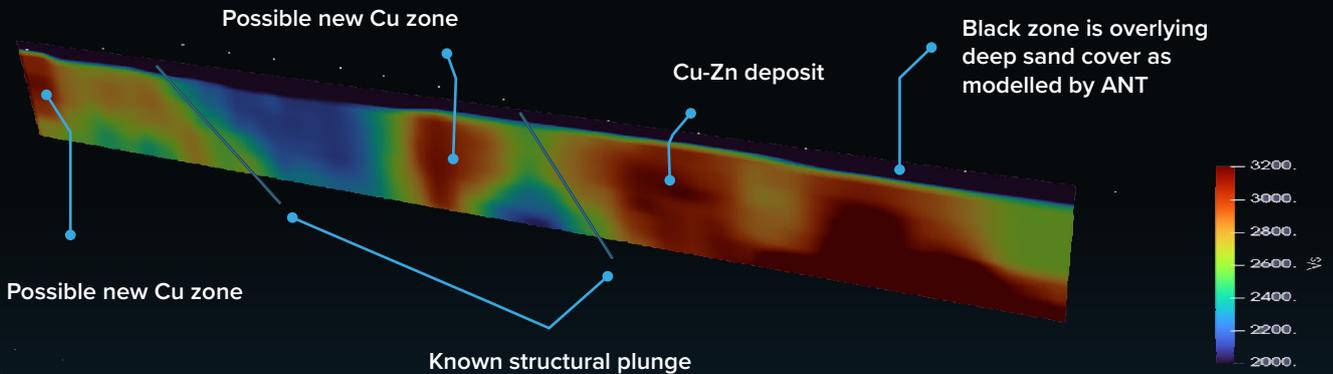
Visualise

Data is processed into a 3D model in a matter of days, allowing teams to access the results in the field and reprioritise areas.

Successful results mapping depth to basement

The survey was conducted by placing sensors, the Geodes, along the public roads to collect subsurface data without disturbing the numerous landowners and with the ability to modify the survey in real time. The 3D survey results identified a local shallow velocity anomaly at the Cu-Zn deposit, mapping the depth to basement and matching drilling results.

It also identified faults and structures at depth and potential deep intrusions that could become future drilling targets. The survey results were successful, fast-tracking mineral exploration in just a few months instead of years and with major ESG benefits for land access, minimal impact on the environment and on the local communities.



Tech Benefits



Low environmental footprint



Real time decision making



Fast-track exploration



Lower exploration costs



Enhance gravity data, basement and depth without drilling



3D velocity mapping

