

FLEET

The Lithium Era: fast-tracking Lithium mineral targets for the energy transition



The Lithium Challenge

One of the key challenges Core Lithium faced in terms of mineral exploration is the fact that no reliable geophysical technique could directly detect and target lithium pegmatite rocks below the surface. ExoSphere solves this challenge with a fast, cost-effective solution with minimal environmental impact to meet the current needs of the energy transition.

Who is Core Lithium?

Core Lithium is an Australian lithium producer and explorer, operating one of Australia’s most capital-efficient lithium projects. The Finnis mine is located in the Northern Territory of Australia and will be providing high-quality spodumene concentrate for use in lithium batteries to power electric vehicles and renewable energy storage.

The Solution

 <p>Surveys Conducted 1</p>	 <p>Survey Size 4km²</p>	 <p>No. of Geophones 100</p>
 <p>Project Duration 7 days</p>	 <p>Depth 500m</p>	 <p>Resolution ~30m</p>

“With ExoSphere we can make real time decisions very quickly, getting into positions that we can define drilling targets quicker. When you can accelerate exploration programs, what you are really doing is accelerating your discovery which is a game changer for exploration.”

Andrew Bennett | Exploration Manager, Core Lithium



The ANT Solution

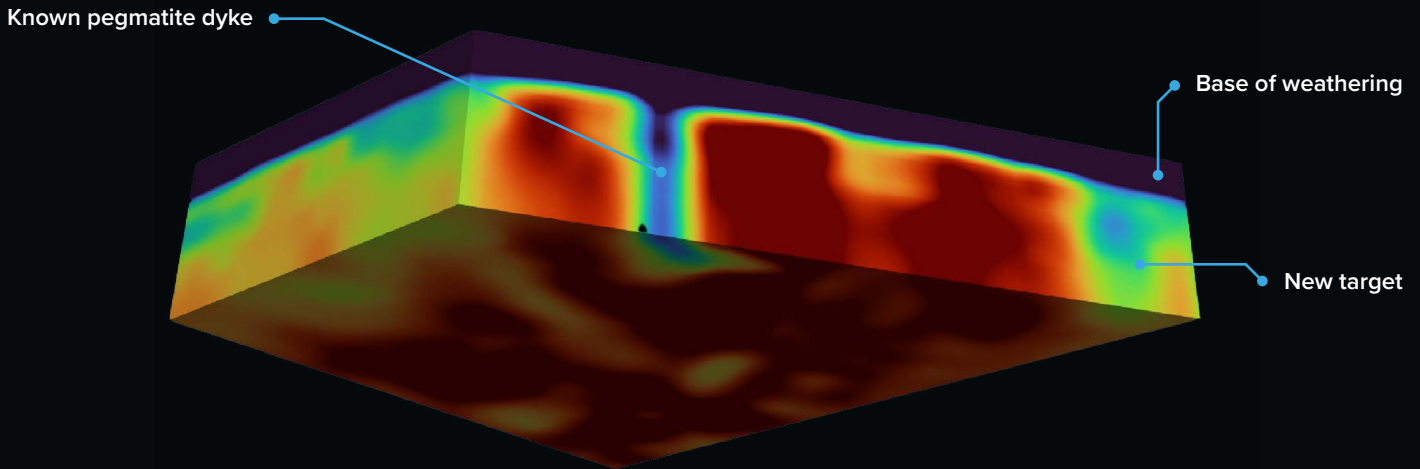
Fleet's mineral exploration solution, ExoSphere, utilises Real Time Ambient Noise Tomography (ANT) method to image Earth's subsurface. Drawing on faint background vibrations from natural and anthropogenic sources our technology is used to monitor and image the subsurface with a great degree of precision. The surveys are conducted in just a few days and once the data has been processed the result is a rich 3D survey image.

Successful results identifying new targets of Pegmatite

ExoSphere's survey data detected known pegmatites but also unknown ones in just 7 days of initial survey. No other viable geophysical method has been able to directly detect pegmatites at a greater depth, proving the effectiveness of the ANT method.

ExoSphere successfully imaged the known pegmatite dyke with only a 5% velocity contrast between the slower pegmatite and the surrounding sandstone, revealing that just a small contrast is enough to image the subsurface.

The technology perfectly imaged the pegmatite down to 500 metres depth with high resolution as well as determining the depth of base weathering. The 3D model of the velocity not only imaged the mineralised pegmatite but also identified new ones, which are now new drilling targets. This allowed Core Lithium to quickly develop high potential targets, reducing drilling costs and their overall exploration time frame. By doing early and targeted drilling, the potential to accelerate a mineral discovery is now much greater.



Tech Benefits



Low environmental footprint



Real time decision making



Accelerated mineral discovery



Lower exploration costs



Enhance gravity data, basement and depth without drilling



Deep surface accuracy

