MNP MiningNewsPremium.net Authoritative, insightful, timely
MiningNewsPremium.net

Stratigraphic drilling makes a long-awaited return

Monday, 17 February 2014

IN A move that will have explorationists cheering, government geoscience agencies are going back to stratigraphic drilling. By David Upton

The first of two major stratigraphic drilling programs gets underway in western Victoria in April, and will be followed by a program in the southern Thomson district straddling the Queensland and NSW border.

Stratigraphic drilling was a common practice by Geoscience Australia's predecessor, the Bureau of Mineral Resources. The BMR even had its own drill rigs.

Over the past two decades, pre-competitive data gathering has been almost exclusively through geophysical surveys.

While remote-sensing techniques have generated some remarkable exploration insights for private explorers, there is no substitute for drill core, especially in greenfields areas where subsurface reference points are few and far between.

Geoscience Australia's group leader of regional geology and mineral systems, Richard Blewett, told *MiningNewsPremium* that the return to stratigraphic drilling was part of the COAG-endorsed strategy to boost mineral exploration.

"One of the things that came out of COAG's Standing Council on Energy & Resources was that we should not just rely on pre-competitive geophysical data - we also need to drill."

He said GA's scientists, in collaboration with state and NT geological surveys and industry, come up with ideas about prospective areas based on geophysical surveys, which had produced increasingly high-resolution data in many areas.

"We have private explorers saying to us 'That's great, but we need more than that if we are going to invest our money'. So we have to go and drill.

"The state and NT geological surveys also have stratigraphic questions. They need answers in areas that companies are unlikely to drill. We need to know what is down there - the age of those rocks, the geochemistry, the structure - so we can peel off the cover."

The objective of the western Victorian drilling program, which is managed by Geoscience Australia's acting section leader for regional drilling, Tim Barton, is to establish whether the region has the potential to host an Andean-type belt of porphyry copper deposits.

The 16-18 hole program will cover an area extending from south of Hamilton to north of Horsham, drilling to depths of up to 350 metres.

Western Victoria has no base metal mines, but hosts two significant copper prospects known as Eclipse and Thursday's Gossan, held by Navarre Minerals and Stavely Minerals, respectively.

Both prospects have signatures of porphyry copper deposits, but drilling has been shallow and questions remain over the nature and the genesis of mineralisation.

The Geological Survey of Victoria, which is a partner in the western Victoria stratigraphic drilling program, has recently promoted a new geological model for the region.

Under the new model, the richest copper mineralisation begins at depths of 200-300m below the best drill intersections at Eclipse and Thursday's Gossan.

David Huston, an economic geologist from Geoscience Australia, said the drilling program was designed to produce more evidence of the existence of porphyry copper mineralisation.

"We are also hoping to establish a fairway of prospective rocks. We know where they are in some places, but where do they go under cover? We have information from geophysics, but we want to get rocks in our hands and say 'Yes, these are the prospective rocks and this is where mineral explorers should target their efforts'."

Huston said western Victoria was a Cambrian volcanic belt and the first of a series of subduction-related magmatic arcs that built eastwards from the Australian cratons during the Paleozoic.

Another example of such an arc is the Ordovician Macquarie Arc, which hosts major porphyry copper-gold deposits such as Newcrest's Cadia in New South Wales.

"Along those margins it is common to find porphyry copper. In the 1990s, and even back as far as the 70s, explorers had clued in that this could be an Andean-type margin with the potential for porphyry copper deposits.

"That's what brought people in and we are trying to help them out by understanding the system better in areas they would not normally drill."

Huston said there was a possibility the western Victorian volcanic belt extended into western NSW.

"We are looking at that scenario and trying to test those ideas. We are also looking at the relationship with the Mt Reid Volcanics in western Tasmania. These are of similar age, and some of the
mineralisation might be similar."

Huston said the exciting thing about porphyry copper deposits was they usually occurred in numbers.

"When you find one, you usually find a bunch of them. So if we can demonstrate there is one, that would open up the potential of the entire belt."

Another exciting aspect of the new drilling program is the use of innovative drilling technology developed by the Adelaide-based Deep Exploration Technologies Cooperative Research Centre.

DET CRC will extract conventional diamond core, and deploy for the first time a drill-site laboratory system that generates geochemical and mineralogical information on samples as they are recovered.

The ultimate aim with this technology is to make redundant the long delays and expense of trucking core to city-based labs for analysis.

HAVE YOUR SAY

Aspermont Limited
Street Address613-619 Wellington Street, Perth WA Australia 6000
Postal Address PO Box 78, Leederville, WA Australia 6902
Head Office Tel +61 8 6263 9100 Head Office Fax +61 8 6263 9148
e-mail contact@aspermont.com website www.aspermont.com ABN 66 000 375 048