

GEOPHYSICAL INTERPRETATION OF THE BRAIDWOOD GRANODIORITE ON THE BRAIDWOOD 1:100 000 SHEET

Carlos Cevallos

*NSW Department of Primary Industries
Geological Survey of NSW
carlos.cevallos@dpi.nsw.gov.au*

Interpretation based on the Total Magnetic Intensity (TMI), gravity, radiometric and digital elevation data acquired as a part of the *Exploration NSW* initiative, focused on the northern part of the Braidwood Granodiorite and its extension to the north of the Shoalhaven River. The use of image processing Sobel filters on the TMI gridded data enhance characteristics such as faults and regional stress fields that would otherwise be very difficult to observe.

Compared to other granites, the Braidwood Granodiorite is unusually magnetic. Palaeomagnetic studies are being conducted along with petrographic work to determine whether the magnetite in the granite is a primary magmatic mineral or the result of secondary alteration.

The Dargues Reef gold deposit lies within the southern part of the Braidwood Granodiorite. It is a member of the intrusion-related gold deposit class that includes Timbarra in NSW and Kidston and Red Dome in Queensland. These four deposits are associated with potassic, oxidised I-type granites that contrast with other overseas intrusion-related gold examples (e.g. Alaska-Yukon), which are reduced and non-magnetic.

Technical Area: Geophysics in Government Surveys