Contact mapping and modeling using magnetics, Heath Steele Mine area, northern New Brunswick

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The Heath Steele property is approximately 50 km southwest of Bathurst in northern New Brunswick. Sulphide deposits at Heath Steele lie within a polydeformed sequence of felsic and mafic metavolcanic and metasedimentary rocks of the Tetagouche Group.

The stratigraphic succession is not well understood due to lack of outcrop, complex and rapid facies changes in volcanic units, polyphase deformation and the lack of well defined contacts. In this situation, conventional ground mapping techniques are limited and other methods must be sought. Total field, gradient and magnetic susceptibility measurements were therefore used in delineating contacts between magnetic and non-magnetic bodies in areas of little or no exposure.

The most significant magnetic anomaly was found to be associated with a gabbro intrusion. This body has a large magnetic susceptibility in comparison to its host rocks. This property makes the intrusion easily visible on magnetic profiles and contoured gradient maps.

Atlantic Geology, November 1990, Volume 26, Number 3