

The Leaman Geophysics models for the magnetic anomaly required the following parameters:-

1. An intrusive stock with a bulk susceptibility contrast of 0.003 c.g.s.
2. A stratigraphic unit 250m thick with a bulk susceptibility contrast of 0.005 c.g.s.
3. Massive sulphide bodies with 60m aggregate thickness and a bulk susceptibility contrast of 0.015 c.g.s.

The susceptibility contrasts required by the L.G. models are achieved by spot values measured over 0.2m only. The rocks intersected by DDH RRP 239 nowhere remotely achieve the parameters required by any of the L.G. models.

5. ALTERNATIVE MAGNETIC MODELS

After completion of DDH RRP 239 Geophysical Exploration Consultants (G.E.C.) were asked to review the magnetic anomaly. They were provided with the same data as L.G. with the additional information that the drill hole had not intersected anything which matched the anomaly models. (The core susceptibility measurements and the stratigraphic reinterpretation were not available at that time.)

G.E.C. did not attempt any mathematical modelling. Instead they undertook a qualitative interpretation of the magnetic profiles across the anomaly (refer Appendix 3 in E.Z. Report No. T178, i.e. this report). This resulted in a completely different interpretation of the feature. The G.E.C. interpretation proposes that the shape of the magnetic profiles can be entirely explained by multiple faulting continually bringing a more magnetic unit within the stratigraphy back to the surface. The large round anomaly is not a single feature but is a summation of several smaller features which are interpreted as shallow and narrow sources. The G.E.C. interpretation implies that there need not be any large or deep magnetic source.

The validity of the G.E.C. interpretation depends upon there being magnetic units within the stratigraphy which could be systematically repeated. The results from DDH RRP 239 suggest that this is possible. The Crimson Creek rocks are more susceptible than the other units and could perhaps be the source of small anomalies.