

SHEET 20 REGIONAL CONTD.

(3) A north eastern magnetically flattish area of Ordovician Owen and Tertiary Macquarie cover, a zone of faulting evident between 2 and 3.

This change in magnetic pattern within the Ordovician Owen syncline could be explained in terms of thickening sedimentation to the north due to pitch and/or changes in lithology due to pitch and faulting.

The Tertiary cover near Line 565 (E-W margin) has little effect beyond being the probable cause of a slight broadening of magnetic contours of the high peak. The somewhat triangular area is an overlap of sediments.

Region (1) contains a main N-S magnetic high trend, which appears to continue south from the main N-S trend under Tertiary cover on Sheets 17 and 14 (from Birch Inlet) and considered to be ultra-basic intrusives. Hence the first suggestion is that this trend originates from a similar cause. While this explanation cannot be ruled out, it is believed that the following evidence supports a more probable alternative.

(i) The nature of the magnetic contours is different from that known or considered to be associated with ultra-basic rock types in other portions of the AH.117 coverage.

This difference expresses itself in a broader, more complex "broken" pattern than the distinctly thin elongated or smooth, rounded modes of the ultra-basic intrusives. With a few minor exceptions, there is a tendency for the ultra-basics to possess higher magnitudes (greater than 1000 gammas) whilst these Cambrian Dundas exhibit lower magnitudes (less than 1000 gammas).

(ii) Description of an E-W traverse across this region contained in Marshall Penney's Report G.41, points to the existence of a greywacke conglomerate-basic lava type association in this area with which the magnetic pattern could well conform.

(iii) Pinching of magnetics near PP 48 together with other suggestions on Sheet 17 of major NW-SE trend (See Moore's Valley Area for more detail on these arguments) support the concept of a major transgressive fault which could account for the proposed change in rock type and structure.

With two sets of rock types of relatively high magnetic susceptibility, both with N-S trends, an extending magnetic high trend would be anticipated.

DETAILED:

Magnetics agree well in detail with known (photogeological) faults and linears.