

PART B. A PRELIMINARY REPORT ON JOB NO. AH.125 - ARTHUR AREA.

Due to the extremely rugged nature of a large portion of the Arthur Area, certain parts considered to be operationally satisfactory were pre-selected and flown.

The portions flown exhibit generally flat magnetic contours and complex E.M. patterns, the latter being caused in large measure by the considerable areal extent of Tertiary Macquarie and Recent sediments.

The delayed arrival in Queenstown of the AH.125 charts hampered the assessment of these results so that these comments are of a tentative nature only.

I. PORTION OF SHEET 3.

It was only possible to cover such a minute area here that the results are inconclusive. An interesting magnetic high region is just commencing to show on the eastern side with a maximum magnitude anomaly of the order of 150 gammas.

II. SHEETS 5 and 6 - PORTION THEREOF.

An area has been flown near the join of these two sheets. This area contains regions with the most distinctive magnetic anomalies of the whole of AH.125.

Sheet 5.North of PP.86

A.5/1 - On Lines 34 and 35 two small unratioed E.M. anomalies of the order of 0.5 degree L.F. response. A preliminary chart examination suggested these to be of favourable appearance. They fall near the boundary of Cambrian (?) Carbine with Ordovician Owen, with a Tertiary Macquarie ± Recent junction nearby as well. There is a possibility of extending the E.M. trend to one line north and south. These anomalies also occur on a significant increase in magnetic gradient from west to east with a higher magnitude but flatter magnetic area further east. These anomalies are regarded as first order priority.

A.5/2 - Just east of A.5/1 on Lines 35, 36 and 37 there are three small, rather broad E.M. anomalies which form a trend paralleling a major NW-SE trending fault. To the south-west, Ordovician Owen outcrop and to the north-east Silurian Crotty and possibly Tertiary Macquarie, the junction between Tertiary Macquarie and Silurian Crotty in this area being doubtful.