

General Rep No 9

AIRBORNE MAGNETOMETER LINE SPACING

GEOPHYSICS

57-134

Airborne Magnetometer
Line Spacing
A.G.E. - 8/1/57.

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GENERAL

GPI

8th January,

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Mr. G. F. Hudspeth,
Manager.

Airborne Magnetometer Line Spacing

1. The line spacing of any airborne geophysical programme must be related to the size of the anticipated orebody. There is obviously an optimum point to be reached, that is, where the advantages of the increased definition of the anomaly due to a closer spacing just balances the extra cost of the work involved. If the line spacing is too great an orebody of economic interest could be completely missed.

2. With a line spacing of 1760 feet (3 to a mile) and an orebody of 600 feet in length there is the probability of 1 in 3 of passing directly over the orebody if its strike is at right angles to the line of flight, if the strike is "random" to the line of flight this is reduced to 1 in 4.

Similarly, with a line spacing of 1300 feet (4 to a mile) the figures become 1 in 2 and 1 in 3 respectively.

3. It is appreciated that in order to locate the anomaly the aircraft would not have to pass directly over the orebody.

However, on the basis of 2) and with the existing line spacing of 1760 feet there exists a possibility that an anomaly associated with an

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orebody at or near to the minimum size/tonnage required may be:

- (a) So poorly defined that in the ground investigation of the anomalies next year considerable work may be involved in locating the true centre of the disturbance.
- (b) So poorly defined that a ground investigation may not be considered necessary.

4. Following, it is recommended that in a selected area, as given below, that the line spacing is 4 to one mile.

Recommended Area

South of Macquarie Harbour between reference lines 776,000N and 710,000N.

In detail: Big Creek - N. entrance to Birch's Inlet - Gordon River - Franklin River - junction of the Franklin and Gordon Rivers - Gordon River - summit of Mt. Lewis, Frederick Hill, View Hill - Giblin River - Elliott Bay.

This area includes the anticipated extent of the Dundas sediments south of Macquarie Harbour and the southerly extension of the Lyell Shear into this zone.

5. The remainder of the concession would still be flown at the line spacing of 3 to a mile.

6. Estimated Extra Line Miles and Cost.

Extra line miles under 4) above	=	850
Cost @ £3.75 per line mile	=	£3200
Extra flying time required	=	14 hours

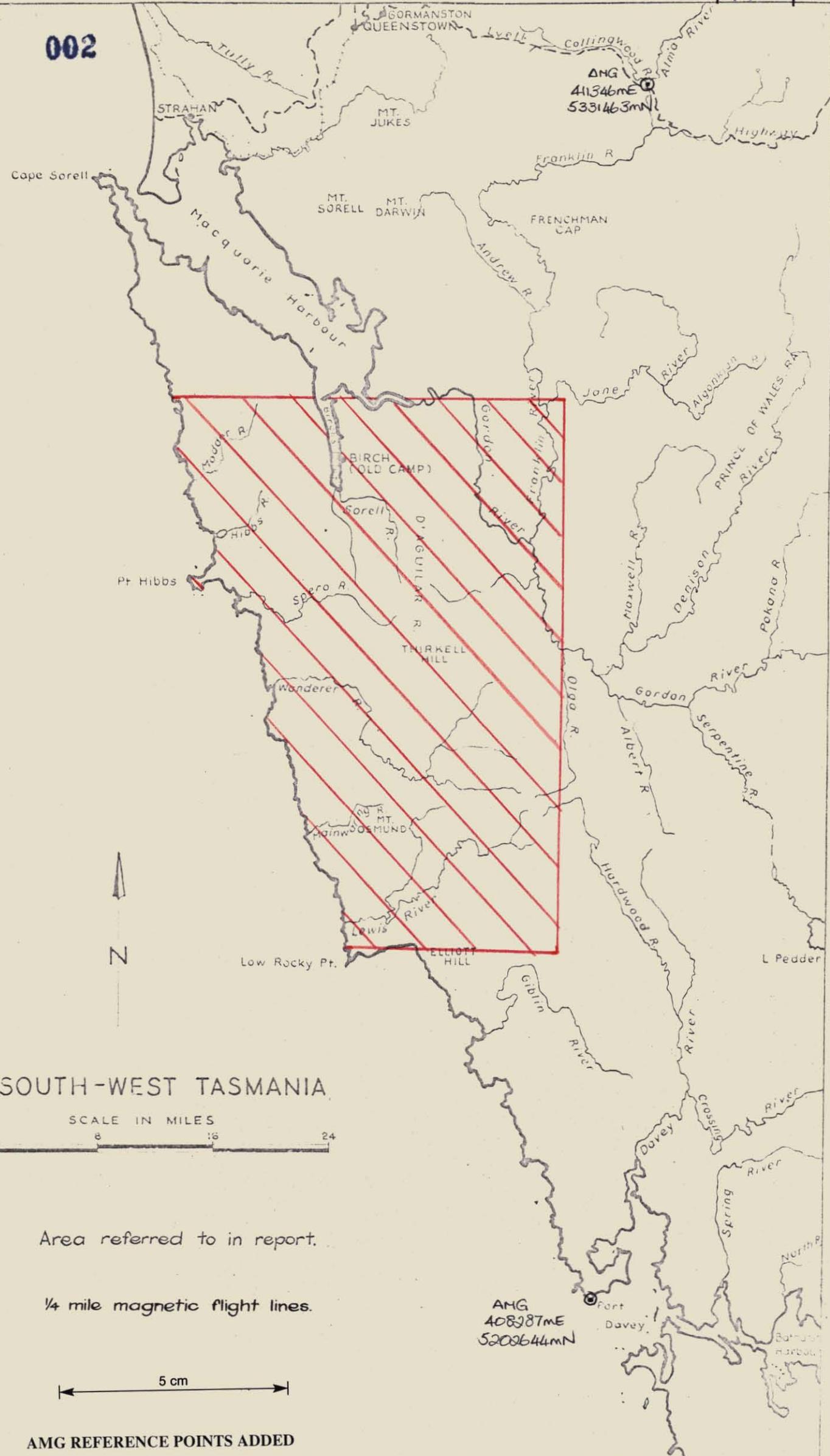
(Signed) B. Scott

(Signed) M. L. Wade

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AMG
411346mE
5331463mN

AMG
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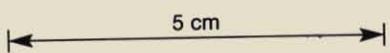
SOUTH-WEST TASMANIA

SCALE IN MILES



Area referred to in report.

1/4 mile magnetic flight lines.



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