

TR12-43-44

9. IRON ORE AT PENGUIN CREEK: A MAGNETOMETER SURVEY

by D. J. Jennings

At the request of Mr A. Pearson of Mineral Supplies, Ulverstone, a reconnaissance magnetometer survey was carried out on his property on the Iron Cliffs Road about two miles SW of Penguin. The aim was to locate additional reserves of iron ore on the hilly ground E of the road. These could be exploited during periods of high rainfall when pits on the lower ground between the road and Penguin Creek are affected by poor drainage. A brief report on the area by Geologist M. J. Longman, appears in *Technical Reports of the Department of Mines, Tasmania*, No. 6, 1961.

The investigation was carried out with a portable Jalander Model 1957 magnetometer, with which no accurate levelling procedure is required. When it was used directly as a prospecting tool no calibration or diurnal variation corrections were applied, as readings duplicated at different times and on different days showed variations to be acceptably low. The same overall pattern of values was maintained so long as the instrument was held in the same orientation. A series of readings at twenty-five-foot intervals were taken along sixteen surveyed traverse lines. These lines, totalling some two-and-a-quarter miles, were at right angles to the general road direction and allowed areas of high magnetic reaction to be outlined and contoured to indicate the highest anomalies (see fig. 13).

Reconnaissance traverses in the paddocks on the low ground to the W of the road, in the vicinity of iron ore pits, established no direct correspondence between areas of highest magnetic anomaly and currently worked, good grade iron ore deposits. Variable proportions of limonite, haematite and magnetite in the iron ore (largely a factor of weathering), probably account for this as mainly the magnetite affects the instrument. Magnetic reactions were registered adjacent to working pits W of the road, and in the area of the old workings E of the road, so in searching for further iron ore reserves it seems that a prospecting programme centred on proven magnetic anomalies carries the greatest likelihood of success.

Reference.

LONGMAN, M. J., 1961.—Iron ore at Penguin Creek. *Tech. Rep. Tas. Dep. Min. Tasm.*, 6.

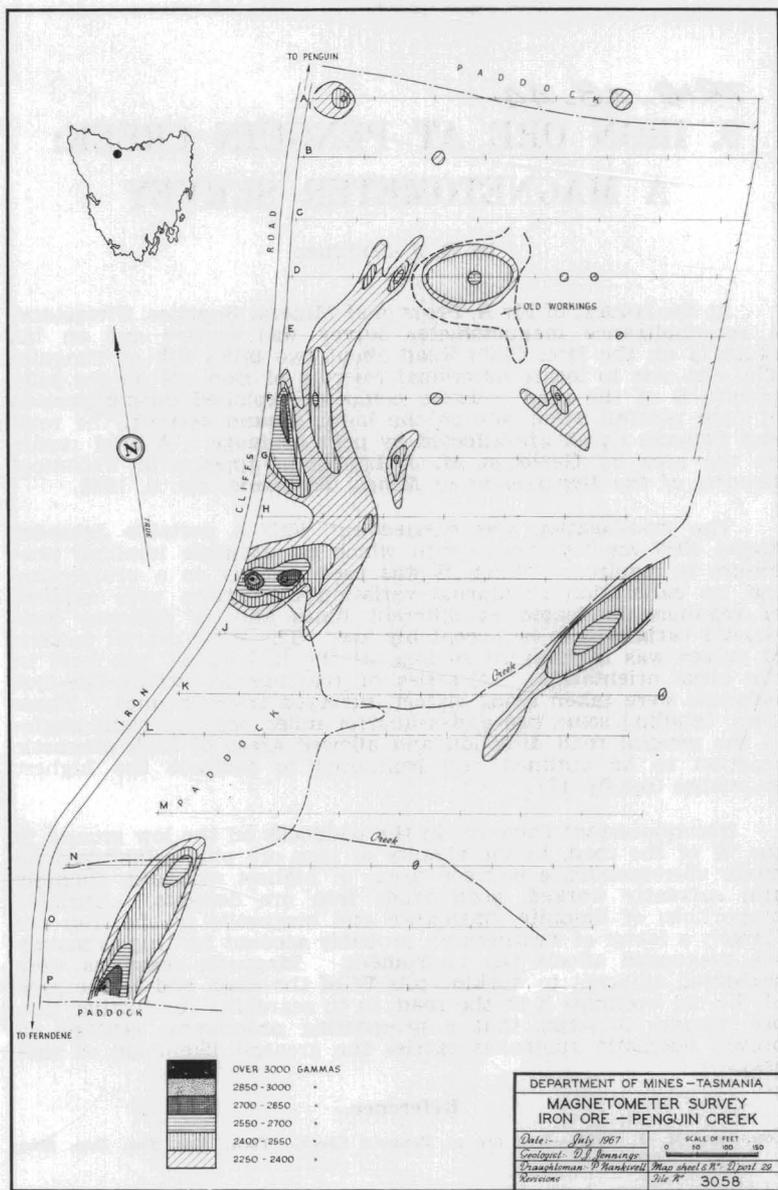


FIGURE 13

