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COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES,
GEOLOGY AND GEOPHYSICS.

RECORDS

1955 No. 106

PRELIMINARY REPORT ON
AEROMAGNETIC SURVEY
OVER
HAMPSHIRE and BLYTHE RIVER AREAS,
TASMANIA

by

P.E. Goodeve

Commonwealth of Australia
Department of National Development
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1. General.

In July, 1955 a request was received from the Tasmanian Mines Department for an aeromagnetic survey of several areas in Tasmania to determine whether ground surveys for iron ore might be justified. The first of the areas to be surveyed extends from Blythe River to Hampshire.

The flights were made on 5th October, 1955 in D.C.3 Aircraft VH-BUR equipped with airborne magnetometer, type AN/ASQ-1. Messrs. E. McCarthy, P. E. Goodeve and A. G. Spence, geophysicists of the Bureau of Mineral Resources, carried out the flights and they were accompanied by Mr. T. Hughes, geologist, of the Tasmanian Mines Department.

It was originally intended to make a comprehensive survey of the Blythe River-Hampshire area commencing at the coast and proceeding with east-west traverses to a point south of the Hampshire deposit. However, inclement weather caused the original programme to be abandoned after three of the coastal traverses, Nos. 7, 8 and 9, had been flown and the two areas were then traversed separately. The coastal traverses showed no anomalies of the type to be expected from a magnetite deposit.

The information in this preliminary report is to be regarded as tentative only, and may be modified when a full reduction of the data has been completed.

2. Blythe River area.

(a) Operations.

This survey consisted of one traverse in a general north east-south west direction over the Blythe River iron deposits and four short east-west traverses covering the region.

The total length of all traverses is approximately 20 miles.

A nominal height of 1,000 feet above ground level was used throughout.

(b) Results.

The position of flight lines is known only approximately at present and cannot be determined accurately until prints of the vertical strip film are available and have been plotted. However, it is believed that the north east-south west traverse passed over the known deposits as indicated by Mr. T. Hughes. Check points at the ends of traverses are the only definite positions known at this stage. This traverse showed one sharp positive anomaly in the region of the known deposits. All the east-west traverses were generally disturbed but one, No. 14, showed a sharp positive anomaly, also in the region of known deposits. The adjacent traverse to the south, No. 15, showed a positive anomaly of smaller magnitude and over a greater width than that on No. 14. This anomaly is slightly east of the known deposits.

3. Hampshire area.

(a) Operations.

Seventeen east-west traverses at a nominal half-mile separation were flown in this area. Also a

double north-south tie line was flown near the eastern edge and a single tie line near the western edge.

The total length of these traverses and tie lines is approximately 165 miles.

The nominal height throughout was 1,000 feet above ground level.

(b) Results.

The Hampshire magnetite deposit produced large sharp positive anomalies on two adjacent traverses, Nos. 39 and 40. Small anomalies were recorded on the adjacent traverses to the north and the south. If it is assumed that all four anomalies were produced by the same deposit then the field due to this deposit is detected over a distance of about a mile and a half. There is no definite indication of an extension of the deposit beyond the four traverses mentioned.

A group of similar anomalies occurred in an area about three miles west-north-west of the Hampshire deposit. This line of anomalies is in a general north-south direction, extending over a distance of about a mile and a half.

Several other anomalies occur in the western half of the area covered, but these are probably caused by basalt, the anomalies not being as sharp as would be expected from a magnetite deposit.

