COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

RECORD No. 1964/14

NATONE MAGNETIC SURVEY, TASMANIA 1962

by

E.N. EADIE

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SUMMARY

At the request of the Tasmanian Department of Mines, an aeromagnetic survey of selected areas in north-western Tasmania was done by the Bureau of Mineral Resources Geology and Geophysics during 1955 and 1956 to assist in the exploration for iron ore.

A ground magnetic survey of iron deposits at Natone was made by the Bureau during 1957.

During March 1962 some additional magnetic traverses at Natone were surveyed to obtain more detailed information about the anomalies observed during the 1957 survey.

The additional magnetic work has not in general modified the original indications very much, but has outlined the anomalies in more detail, and with greater certainty.

1. INTRODUCTION

At the request of the Tasmanian Department of Mines, an aeromagnetic survey of selected areas in north-western Tasmania was done by the Bureau of Mineral Resources, Geology and Geophysics during 1955 and 1956. The purpose of this survey was to assist in the exploration for iron ore.

Following this aeromagnetic survey, ground magnetic surveys were made of selected areas during 1957. Among these was a survey of iron deposits at Natone. The purpose of this survey was to determine more exactly the position of the deposits. The results of the survey were described by Keunecke (1959).

In order to outline in greater detail the anomalies observed during the 1957 survey some additional magnetic traverses were surveyed during March 1962 using an ABEM MZ-4 torsion magnetometer. Readings were taken along the traverses at intervals of 25 ft. As a check, some of the traverses from the 1957 survey were resurveyed; the magnetic results of both surveys were in good agreement.

The positions of additional traverses, and also of those which were resurveyed, are shown on Plate 1. As much of the Natone area is under cultivation, most of the pegs from the 1957 survey had been destroyed by 1962. The baseline was relocated and pegging was necessary not only of the new traverses, but also of those which were repeated. A permanent mark consisting of a length of piping, was inserted at 00 and at 2433S on the baseline (see Plate 1).

The magnetic readings were taken by E.N. Eadie, geophysicist of the Bureau assisted by one field assistant. Pegging of the traverses was done by surveyor R. Grace of the Department of the Interior, assisted by two chainmen.

2. RESULTS

The magnetic results for the Natone area are shown on Plate 1 as contours of vertical magnetic field using a contour interval of 500 gammas and a scale of 200 ft to 1 inch. These contours include the results of both the 1957 and the 1962 surveys.

A comparison of this contour plan with that given by the earlier survey (Keunecke, 1959, Plate 4) shows that the additional magnetic work has not resulted in any major change to the original results. The anomaly centred about 2000S/500W has been outlined more accurately. Two of the new traverses, viz. 2750S and 3250S, have given more-detailed information on the large anomaly previously recorded south of Traverse 2300S. On Traverse 3250S the body causing this anomaly is shown to be narrower than previously supposed. The results on Traverse 2750S support the suggestion by Keunecke (1959) that the anomaly at about 200E is due to a separate body.

3. REFERENCE

KEUNECKE, O. 1959 Magnetic survey of the Natone, Blythe River - Cuprona, and Highclere iron ore deposits, north-western Tasmania. Bur. Min. Resour. Aust. Rec. 1959/11 (unpubl).


TUFFIN
(Owner)
RUTHERFORD
(Owner)
SHEPPARD
(Owner)
Swamp
PERMANENT MARK
OLD WORKINGS
(Open-cut, trenches & shafts)
LARGE AMPLITUDES
LIMONITE OUTCROP
HAEMATITE OUTCROPS
LIMONITE OUTCROPS
RUTHERFORD'S COPPER PROSPECT
Creek
Natone P.O. a shop
Old Natone school
School residence
To Burnie
From Upper Natone
To Camena
43°00'
313°00'
LOCALITY MAP
MILES
BURNIE
Wivenhoe
Cooee
Somerset
Mooreville
Stowport
Ridgeley
AREA SURVEYED
Natone
Pine Road West
Camena
Highclere
Riana
Upr. Natone
Sth. Riana
BURNIE
LAUNCESTON
OATLANDS
QUEENSTOWN
PORT DAVEY
HOBART
REFERENCE TO AUSTRALIA STANDARD MAP SERIES: BURNIE
LEGEND
Less than 500 gammas
500 — 1000 gammas
1000 — 1500 gammas
1500 — 2000 gammas
Greater than 2000 gammas
Contours (thousands of gammas)
Traverses surveyed in 1957
Traverses surveyed in 1957 and resurveyed in 1962
New traverses surveyed in 1962
Permanent mark
Road
Fence
FEET
200 100 0 200 400 600
CONTOUR INTERVAL 500 GAMMAS
11°40'
M.N.
T.N.

NATONE, TASMANIA, 1962

LOCALITY MAP AND TRAVERSE
PLAN SHOWING VERTICAL MAGNETIC CONTOURS

GEOPHYSICAL BRANCH, BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS K55/B7-64
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