

COMMONWEALTH OF AUSTRALIA

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DEPARTMENT OF NATIONAL DEVELOPMENT  
BUREAU OF MINERAL RESOURCES  
GEOLOGY AND GEOPHYSICS

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PRELIMINARY REPORT

ON

AEROMAGNETIC SURVEY OVER NOWA NOWA AREA

VICTORIA

BY

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## 1. GENERAL

An area of about 400 square miles, centred on Nowa Nowa, was surveyed by airborne magnetometer in D.C.3 aircraft VH-MIN on 10th and 11th May, 1956. This report presents preliminary results and other relevant information. Positioning is only approximate because strip film from the vertical camera was not available when this report was prepared.

The instruments used were an AN/ASQ-1 magnetometer, an STR-30A radioaltimeter and a strip camera. A new vertical frame camera (Vinten Geological Camera) was tried but did not operate satisfactorily.

The survey was carried out by Dr. W.D. Parkinson, Senior Geophysicist in charge of the field party, and Messrs. F.J. Merrick, A. Turpie and M. Kirton, geophysicists of B.M.R. with Captain K. Duffield and F/O K. Worley of T.A.A.

## 2. OPERATIONS

The area extends from the south coast of Victoria northwards almost to Buchan, and from a line running north from Lakes Entrance it extends eastwards towards part of the Snowy River and Tostaree (see Plate 1). The survey was conducted along flight lines half-a-mile apart running north and south. Three east-west tie systems were flown to eliminate time variations, one in the north, one central and one in the south. The height of the aircraft above terrain varied greatly because of the marked topographical relief, but wherever possible it was kept at, or just above, 500 feet.

## 3. RESULTS

Most of the area shows moderate magnetic disturbance and gives a fairly complex pattern of profiles. Four anomalies stand out from this pattern.

The most intense of these lies on the northern slopes of Mt. Nowa Nowa. The maximum field recorded in this anomaly was about 1000 gammas above normal field. It is between one and

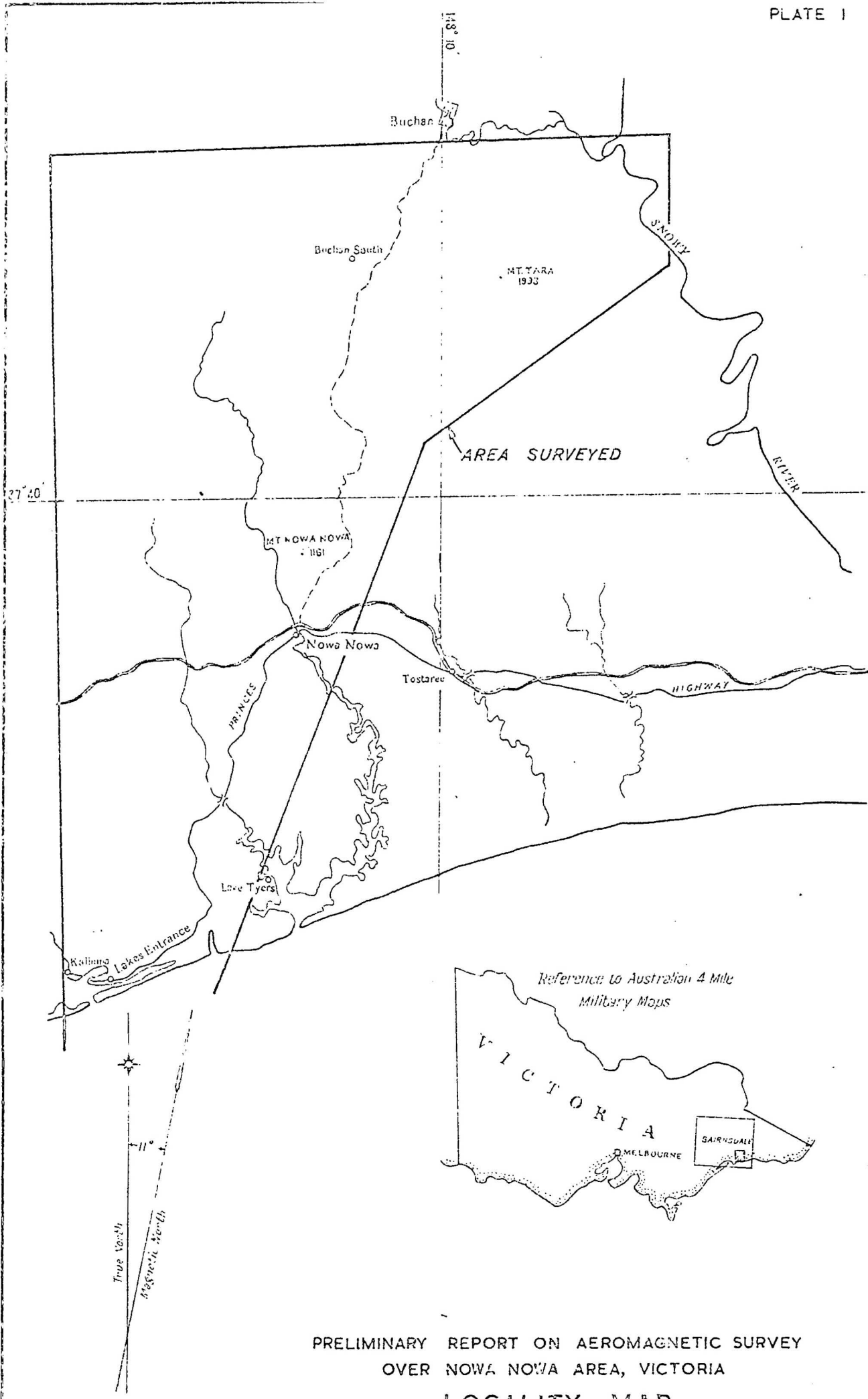
two miles long. There is a conspicuous negative anomaly on its south side where the minimum field recorded is 300 gammas below normal field strength.

A second anomaly is situated on Mt. Tara. It has a maximum intensity of 600 gammas above the normal field and a length of about one mile. There is a slight negative anomaly to the south-east of it.

There are two other small anomalies about 6 or 7 miles to the south-east of Buchan, with maxima some 360 gammas above the normal field. Each has a weak negative anomaly some distance to the south-east of it.

An interesting anomaly, also with a maximum of 360 gammas above the normal field, occurs about 5 miles north-north-west of Nowa Nowa. It has linear dimensions of two or three miles and much smaller gradients of magnetic field than the other anomalies. There does not seem to be a negative anomaly associated with it.

It will not be possible to assess the significance of any of these anomalies until the final map of total magnetic field strength has been prepared. The records of the survey have been handed over to the Reductions Group for analysis and plotting.



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OVER NOWA NOWA AREA, VICTORIA  
LOCALITY MAP

