COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

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RECORD No. 1963/29

BROWNS DEPOSIT GEOPHYSICAL SURVEY,

RUM JUNGLE, NT 1961

by

A. Douglas

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ILLUSTRATIONS

SUMMARY

This Record describes an electromagnetic survey over a portion of Browns Area, Rum Jungle, NT; this portion could not be surveyed in previous surveys because of the presence of buildings. The results show no anomalies of interest.

1. INTRODUCTION

Browns area extends westwards from Rum Jungle mine (Whites, etc.) for a distance of about 7000 ft (see Plate 1). The area is one of known copper and lead mineralisation and considerable geophysical work has been done in attempts to outline the main mineralised zones; this work has been described by Langron (1956) and Daly, Horvath, and Tate (1962).

Electromagnetic surveys had been made over the whole of Browns area apart from a portion about 600 ft wide where the presence of buildings made surveying impossible. Most of the buildings have now been removed and therefore Australian Mining and Smelting Co.Pty Ltd. which holds leases over the area requested the Bureau of Mineral Resources to make an electromagnetic survey over this unsurveyed portion. This work was done during August 1961 by A. Douglas, geophysicist, and the laboratory staff of the Bureau's Darwin Uranium Group.

2. GEOPHYSICAL RESULTS

Part of the 1957 Browns grid (Daly et al, 1962) from 7000W to 10,000W was reconstructed with traverses at 200-ft intervals over most of the area. However, between Traverses 8600W and 9200W, the portion not previously covered by electromagnetic surveys, traverses were laid at 8700W, 8900W, and 9000W. All the area from 7000W to 10,000W was surveyed using the Turam electromagnetic method; the results are shown on Plates 2 and 3.

No strong anomalies were outlined in the area between Traverses 8600W and 9200W. The maximum anomaly is a phase anomaly centred near 9000W/500N. This anomaly probably indicates a poor conductor as the ratio anomaly corresponding with it is only weak. There is no evidence from the geophysical results to suggest that extensive mineralisation is present in the region between Traverses 8600W and 9200W.

Over the remainder of the area surveyed the results are in general agreement with those of previous surveys and will not be discussed further here.

3. REFERENCES

DALY, J., HORVATH, J., and TATE, K.H. 1962 Browns Deposit geophysical survey, at Rum Jungle, NT 1957. Bur. Min. Resour. Aust. Rec. 1962/14 (unpubl.)

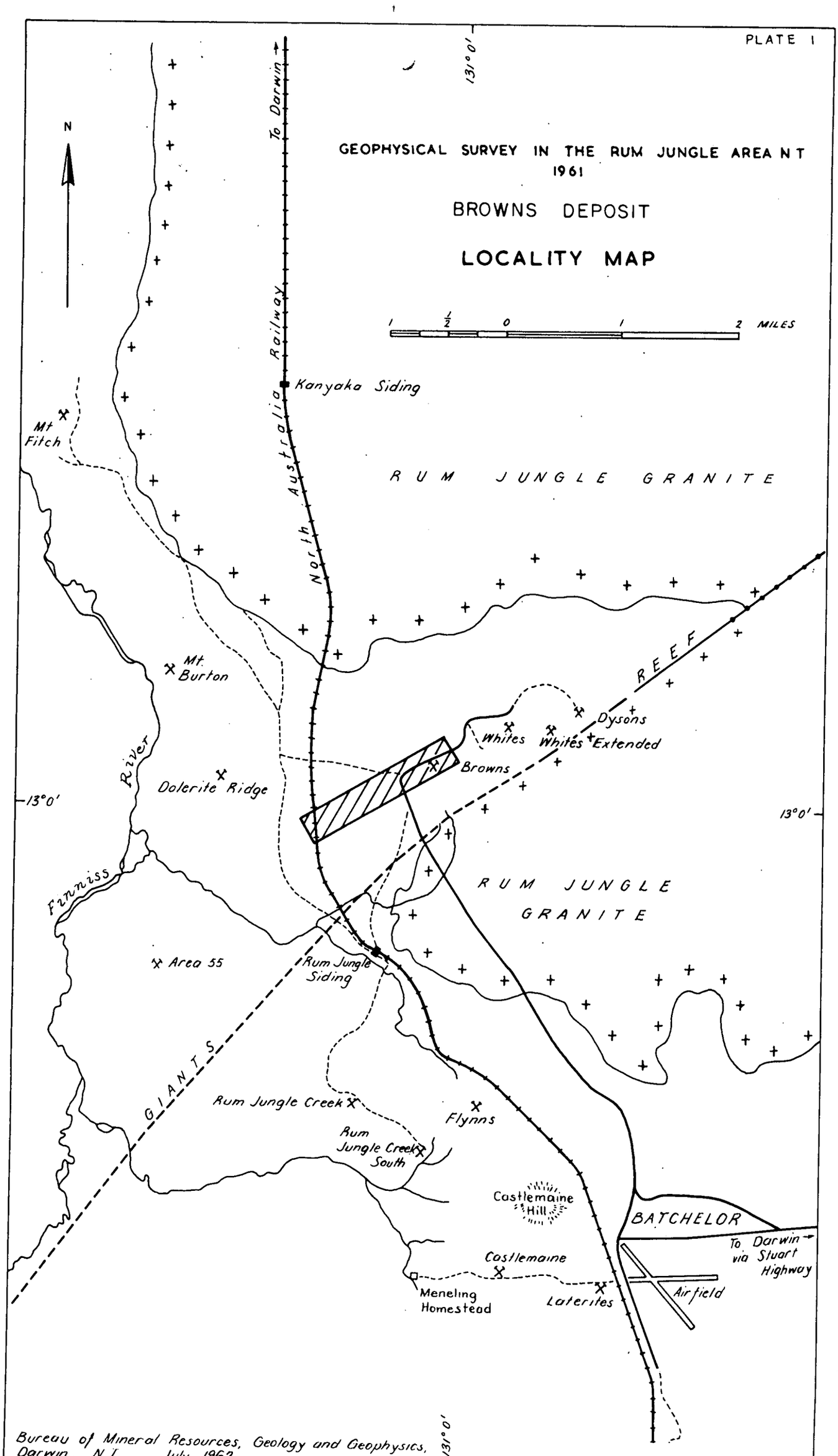
LANGRON, W.J. 1956 Geophysical survey in the Rum Jungle area, NT. Ibid. 1956/43 (unpubl.)

PLATE 1

GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA N T 1961

BROWNS DEPOSIT

LOCALITY MAP



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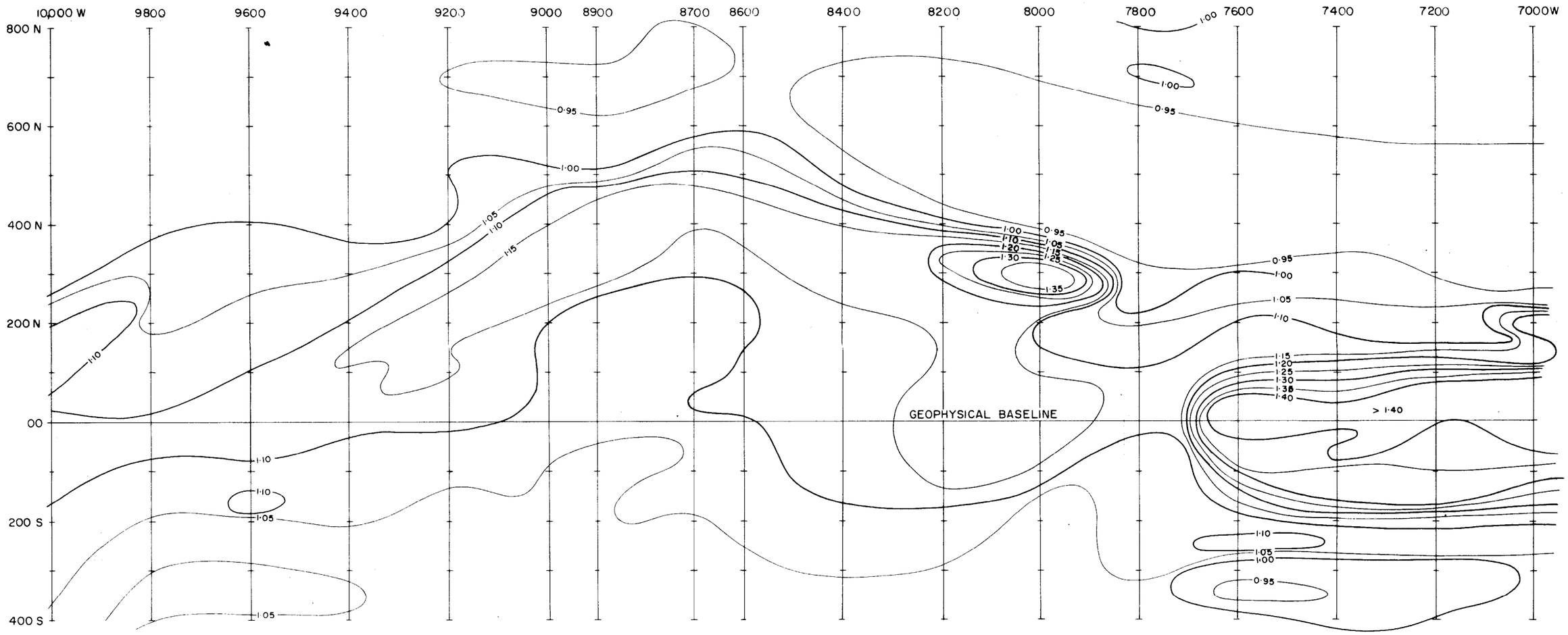
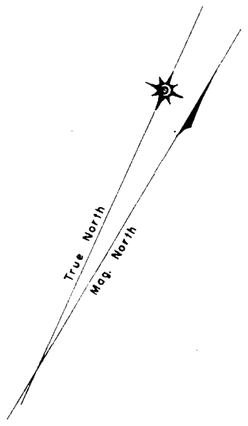
D52/87-11

PLATE 2





SCALE IN FEET

200 100 0 200 400 600

GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA, N T, 1961

BROWNS DEPOSIT

TURAM RATIO CONTOURS

FREQUENCY 440 c/s COIL SEPARATION 50ft

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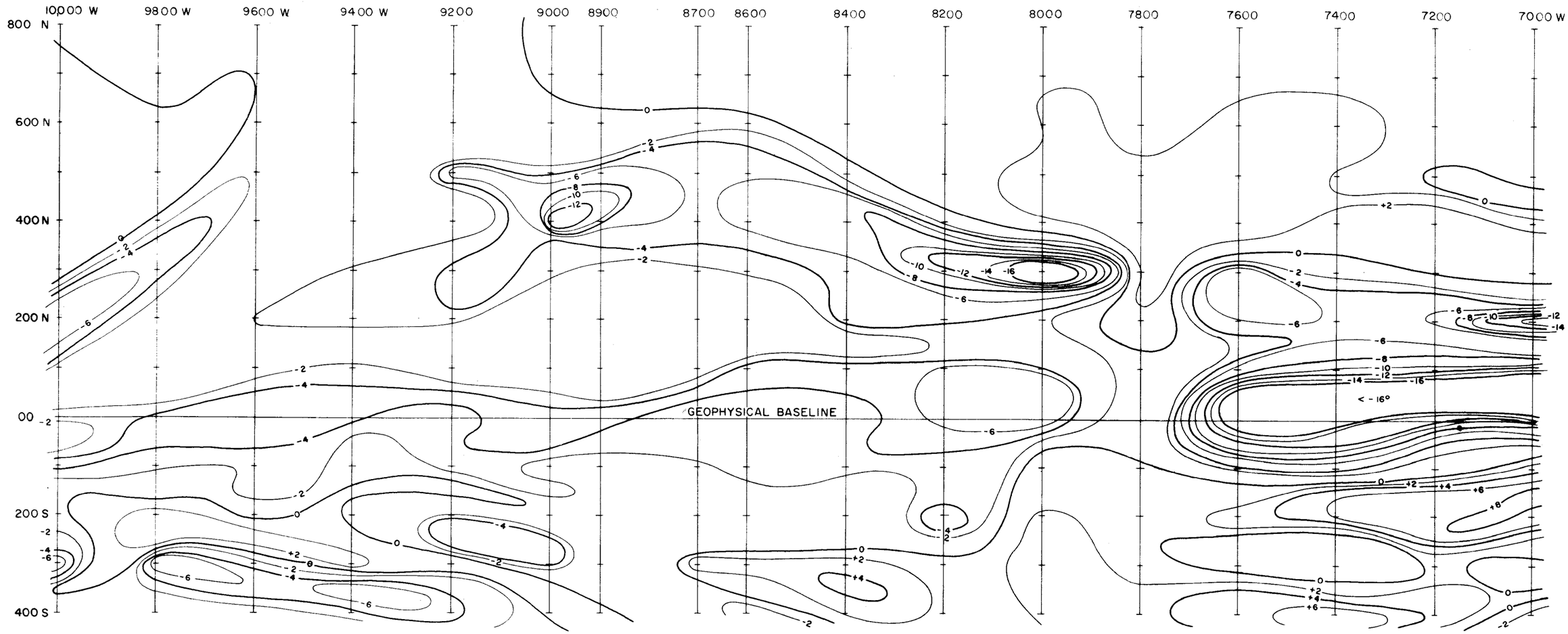
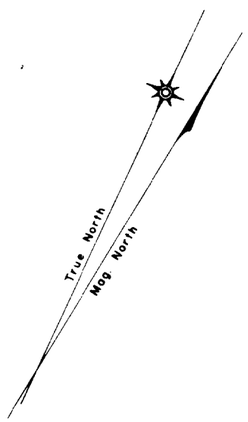
PLATE 3





SCALE IN FEET

200 100 0 200 400 600

GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA, N T, 1961

BROWNS DEPOSIT

TURAM PHASE DIFFERENCE CONTOURS

FREQUENCY 440 c/s COIL SEPARATION 50 ft

—10— -10° contour

Bureau of Mineral Resources, Geology and Geophysics, Darwin, N T, November 1961

TO ACCOMPANY RECORD No 1962/29

D 52/B7-13